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ASSESSING FINANCIAL RISK TOLERANCE: DO DEMOGRAPHIC, SOCIOECONOMIC AND ATTITUDINAL FACTORS WORK?

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ABSTRACT

Every investor and investment planner talk about risk tolerance and what people think is appropriate because there's so much more to risk tolerance than what you can capture. Defining and understanding risk are important challenges for financial planners for their clients because it can be relate with their demographic variables. This paper has significant implications in the area of personal financial planning. An assessment of a client's risk tolerance, typically through a questionnaire, is the major basis for a financial planner's recommendation on portfolio asset allocation. This article investigates the relationship between selected demographic, socioeconomic, and attitudinal characteristics and financial risk tolerance level. 500 equity investors were chosen randomly to collect data from Surat city (Gujarat) using risk tolerance questionnaire. The result supported the proposition about being the relationship of demographic, socioeconomic and attitudinal characteristics with risk tolerance. The risk tolerance score is significant related with marital status, housing ownership, self esteem, personality type, age, annual income, education, occupation, number of dependents, expectations from stock market. The factors called gender and liabilities are insignificant.

Key Words: Risk Tolerance, Financial Planner, Demographic, Equity Investor

Introduction:

Investor risk tolerance referred to the maximum amount of uncertainty that an individual willing to accept while making investment and someone was comfortable taking it. For an investor making portfolio allocation decisions, having a sound understanding of financial risk tolerance is one of several essential components leading to successful investment decisions. In recent years, investment managers and researchers have taken a renewed interest in understanding investor risk tolerance. Much of this interest has coincided with advances in the conceptualization of investment management models. Modern investment management decision making models require investment managers to use, at a minimum, four factors as inputs into the development of financial and investment plans. These inputs include an investor's: (a) goals, (b) time horizon, (c) financial stability, and (d) risk tolerance (Garman

& Fogue, 1997; Hallman & Rosenbloom, 1987; Trone, Allbright, & Taylor, 1996). The first three inputs (i.e., goals, time horizon, and financial stability) tend to be objective and relatively easy to measure. Investor goals include plans to use investment principal and earnings for purposes such as educational expenses, retirement, future gifts, and estate transfers. Time horizon refers to the anticipated time span the investor will need before beginning to use investment returns; financial stability refers to concepts such as the nature and stability of an investor's employment, assets, liabilities, and net worth, and the extent to which current income is needed for current living expenses. The fourth input, investor risk tolerance, refers to how well an investor is able "to weather the ups and particularly the downs in the securities markets with an emphasis on an investor's attitudes and emotional tolerance for risk" (Hallman & Rosenbloom, 1987, p. 169). Unlike the other inputs into the investment management decision making process, investor risk tolerance tends to be subjective rather than objective, and somewhat difficult to measure. Although difficult to measure, Trone et al. (1996) have suggested that an ability to achieve desired investment objectives is influenced most significantly by an investor's emotional ability to accept possible losses in portfolio value.

An interesting related matter is appreciation of the factors that cause investors to misunderstand, or conversely to understand, their individual risk tolerance. Significant research has attempted to identify the determinants of risk tolerance. Risk tolerance is a behavioral finance term that can be inversely related to the economic concept of risk aversion. Proper measurement of client risk tolerance is essential for suitable asset allocation.

Literature Review

Assessment of risk tolerance is now generally recognized as a prerequisite to the development of a sound financial plan for the client. Demographic factors previously proposed and researched as possible drivers of investor risk tolerance include age, gender, marital status, number of dependents, education (or investment knowledge), income, and wealth.

Robert W. Moreschi (2005) suggested that, in general, gender and education were the most significant factors in explaining the ability of individuals to accurately forecast their own risk tolerance score.

Lujer Santacruz (2009) identified that the inherent risk tolerance of investors was not affected by general economic mood of Australian investor and therefore this would indicate that it was not necessary to adjust risk tolerance scores to account for changes in the investment climate.

Robert Faff, Terrence Hallahan and Michael McKenzie (2009) supported that the nonlinear role of age, income and number of dependents. They observed that age and gender differences were clearly evident and were maintained as income and wealth increase. While their finding of quadratic effects does not guarantee that they were economically important in every situation, it does raise linearity/nonlinearity as a potential issue in these types of models.

John E. Gilliam, Swarn Chatterjee and Dandan Zhu, Macquarie (2010) investigated differences between baby boomers and trailing baby boomers sub-cohorts in perceived risk tolerance and measured risk tolerance as determined by the FinaMetrica Risk Profiling System. Variables with a positive association with risk tolerance for both groups include higher educational attainment, income, net worth, and gender with men having higher risk tolerance than women. There was dissimilarity between married for leading boomer and trailing boomer. Being married was negatively associated with risk tolerance for leading boomers and positive for trailing boomers. It was also found that leading boomers, those with less educational attainment, lower income earners and those with a greater number of financial dependents tend to underestimate their risk tolerance.

Objective and Significance

The purpose of this paper is to investigate the relationship between selected demographic, socioeconomic, and attitudinal characteristics and financial risk tolerance level. The research question that this paper attempt to answer is whether these characteristics of age, education, occupation, gender, marital status, annual income, number of dependents, liabilities, economic expectations, housing ownership, self esteem and personality types have any relationship with the level of financial risk tolerance. This study is important for financial service provider and personal financial planner to understand the risk tolerance level their clients to offer better products which suit them as per their risk tolerance level.

Data and Methodology

The data were collected from the investors in Surat city using risk tolerance questionnaire. The samples of 500 investors chosen for the inclusion were randomly selected. Respondents were asked to complete twenty self directed questions. Fifteen questions were used to

measure each respondent’s risk tolerance while five questions were used to assess respondent demographic characteristics.

Dependent Variable: The risk tolerance score of each respondent’s used as a dependent variable calculated by summing up the score of fifteen risks tolerance questions.

Independent Variable: The demographic characteristics like age, education, occupation, gender, marital status, annual income, number of dependents, liabilities, economic expectations, housing ownership, self esteem and personality types are used as independent variable measured on ratio and nominal scale. The data obtained on nominal scale were coded as dummy variable.

Statistical Analysis: Independent T test and ANOVA is used to perform analysis of data. The both the test is to find out the relationship between demographic, socioeconomic and attitudinal variables and risk tolerance of equity investors. The variables measured with two categories is analyze through independent t test and ANOVA for more than two categories.

Data Analysis

Table: 1 Relationship between Demographic, Socioeconomic & Attitudinal Factor and Risk Tolerance Score

Factors		Risk Tolerance Score					
	Gender	N	Mean	Std. Deviation	T	Sig. (2-tailed)	
Demographic Factors	Female	238	37.74	14.55	-1.311	0.190	
	Male	262	39.47	14.911			
	Marital Status						
	Unmarried	189	42.78	15.19	5.004	0.000	
	Married	311	36.13	13.912			
Socioeconomic Factor	Housing Ownership						
	No	264	35.61	14.128	-4.982	0.000	
	Yes	236	42.04	14.721			
Attitudinal Factors	Self Esteem						
	Low Self Esteem	286	36.65	14.225	-3.536	0.000	
	High Self Esteem	214	41.31	15.05			
	Personality Type						
	Type B Personality	264	35.38	13.831	-5.370	0.000	
Type A Personality	236	42.29	14.922				

The table shows various factors wise risk tolerance score with number of observations, mean, standard deviation, t statistic, and associated their significant value. The t value of gender, marital status, housing ownership, self esteem and personality type is -1.311, 5.004, -4.982, -3.536 and -5.370 and their respective associated significance value is 0.190, 0.000, 0.000, 0.000 and 0.000. Hence researcher has failed to reject the null hypothesis for gender and accepted alternative hypothesis for other four variables. There is no statistically significant difference in risk tolerance score of male and female. There is statistical difference in risk tolerance score of married & unmarried person, having own house & not, having high & low esteem, and type A & B personality.

Table: 2 Relationship between Demographic factors and Risk Tolerance Score

Factors	Risk Tolerance Score					
		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	6991.5	3	2330.5	11.379	0.000
	Within Groups	101587	496	204.813		
Education	Between Groups	1306.58	2	653.291	3.027	0.049
	Within Groups	107272	497	215.84		
Occupation	Between Groups	2142.81	3	714.27	3.329	0.019
	Within Groups	106436	496	214.589		

The table shows various demographic factors wise risk tolerance score with number of observations, mean, F value and associated their significant value. The F value of age, education and occupation is 11.379, 3.027, 3.329 and their respective associated significance value is 0.000, 0.049, and 0.019. Hence researcher has accepted the alternative hypothesis for all three factors. There is statistical difference in risk tolerance score of any age group, education level and having particular occupation.

The table 3 shows various socioeconomic factors wise risk tolerance score with number of observations, mean, F value and associated their significant value. The F value of annual income, number of dependents, liabilities and economic expectation is 3.027, 29.688, 2.093, 19.081 and their respective associated significance value is 0.049, 0.000, 0.1000 and 0.000. Hence researcher has failed to reject the null hypothesis for liabilities and accepted the alternative hypothesis for all three factors.

Table: 3 Relationship between Socioeconomic factors and Risk Tolerance Score

Factors	Risk Tolerance Score					
		Sum of Squares	df	Mean Square	F	Sig.
Annual Income	Between Groups	1306.58	2	653.291	3.027	0.049
	Within Groups	107272	497	215.84		
Number of Dependents	Between Groups	11587.5	2	5793.76	29.688	0.000
	Within Groups	96991.4	497	195.154		
Liabilities	Between Groups	1357.48	3	452.495	2.093	0.100
	Within Groups	107221	496	216.172		
Economic Expectation	Between Groups	7742.82	2	3871.41	19.081	0.000
	Within Groups	100836	497	202.89		

There is no statistically significant difference in risk tolerance score based on amount of liabilities. There is statistical difference in risk tolerance score of any annual income group, number of dependent and having different economic expectation from stock market.

Conclusion

The results supported the proposition about being the relationship of demographic, socioeconomic, & attitudinal characteristics with risk tolerance. The ten factors shows significant relationship with risk tolerance while only two shows insignificant relationship out of total twelve variables taken into consideration for the study. The risk tolerance score is significant related with marital status, housing ownership, self esteem, personality type, age, annual income, education, occupation, number of dependents, expectations from stock market. The factors called gender and liabilities are insignificant.

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