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INVESTOR RISK TOLERANCE AND PORTFOLIO MANAGEMENT: A LITERATURE REVIEW

*Dr. H.K. Manjula, **Dr. Suresh Nadagouda, #Dr. Shashidhara H S

***Assistant Professor, Dept of Management, SJR College, Bengaluru**

****Assistant Manager-Marketing, The Ramco Cements Ltd**

#Lead Business Analyst, Societe Generale Global Solution Centre Pvt. Ltd. Bengaluru, Karnataka, India

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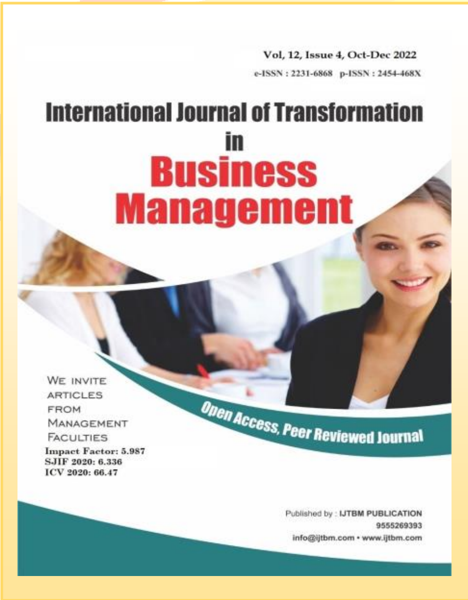

ABSTRACT

Risk tolerance is the level of risk that an Investor believes they are willing to accept. Risk Tolerance must be measured simply because it is an aspect of utility for any investment decision and maximizing the expected utility is considered to be the ultimate goal in any financial activity. The research paper is completely based on secondary sources of data, which has been prepared by reviewing various research articles from journals, magazine and books. Further, attempts are been made to explore the reviews on Investor Risk Tolerance and Portfolio Management in various sectors/industries. The man aim of this study is to examine the various researches carried out on Investor Risk Tolerance and Portfolio Management, to identify the various elements determining Investor Risk Tolerance, to provide suggestions for optimal management of Portfolios. The present research paper tries to give few suggestions for policy makers and like the policy-makers needs to conduct researches on an ongoing basis and investigate whether there are any changes in the biases that are perceived by Indian investors that could affect many stakeholders severely.

Keywords: *Portfolio Management, Investment, Risk Tolerance, Investors, Rate of Return, Returns.*

INTRODUCTION

Investment is one of the pivotal terms used in the day-to-day life of each individual. Mainly, people with savings enter into the world of investment to earn a positive return. People save money by sacrificing the current consumption and invest them for the purpose of future consumption. Bodie, Kane and Marcus (1998) defined the term investment as the current commitment of money and other resources in the expectation of gathering future benefits. Expected return and risk are the two major aspects related with an investment. Investors invest their money with the objective of earning a certain return. The rate of return expected to be earned from the investment is called as expected return. However, the actual return from the investment may differ from the expected return and this situation is called as risk. According to the standard finance rational investors try to maximize their returns for a given level of risk they bear, or minimize their risks for a given level of return. According to Grable (2008) financial risk tolerance is the willingness of a person to engage in a financial transaction in which the outcomes are uncertain.

In India, many investment avenues are available where some are marketable and liquid while others are non-marketable and some of them are highly risky while others are almost riskless. The investor has to choose Proper Avenue depending upon his specific need, risk preference, and returns expected. So decision making process of investor is more critical and complex.

Investment behavior is defined as how the investors judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis. The whole process is called "Investment Behavior" Each individual investor selects the investment option for certain time period looking at their personal financial goals. Investment Behavior of an individual investor reveals how he/she wants to allocate the surplus financial resources to various instruments for investment available. The investment behavior consists of why they want to invest, how much of their disposable income they want to invest, for how many years/months they want to invest and most importantly the timing of such investment. In various empirical studies, it has been found that information being an important factor on taking decision to invest, which influences them on choice of investment and later on how they act after investment (Kasilingam & Jayabal, 2008).

Risk is an inevitable component of capital market investment. Every investor takes a considerable amount of risk according to their ability and affordability while making an investment (Yao et al., 2005). An individual investor varies based on an assortment of economic, social and personal factors. This variation in the risk tolerance of investors eventually affects their decision to invest and ultimately decides how their investment will perform in the market (Gilliam et al., 2010). An investor's risk tolerance refers to his/her willingness to make investment decision with a certain objective, but the achievement of this objective is uncertain coupled with the possibility of incurring financial risks (Pak and Mahmood, 2015). This risk tolerance has an inevitable impact on the investors' decision to invest in particular avenues and achievement of profits. Irrespective of how closely they understand the market, investors exhibit varying levels of risk tolerance and thus make different kinds of investment decisions (Zhuan).

BACKGROUND OF THE STUDY:

Risk has been an interest of research since the 18th century. One of the earliest researchers in the field is the mathematician Bernoulli (1738) who created the Expected Utility Theory, which has been referred to in multiple researches ever since. Many of the terms in the field of risk profiling have, in fact, been introduced by the Expected Utility Theory by Bernoulli and the Prospect Theory by Tversky and Kahneman (Bernoulli, 1738/1954, cited in Corter & Chen, 2006; Tversky & Kahneman, 1992). Additionally, Weber and Hsee (1999) created the Cushion Hypothesis, which aims to explain cultural differences in risk preferences.

According to the Expected Utility Theory, people tend to be naturally risk-averse, at least when making decisions with outcomes that can include gains, losses or a combination of these (Bernoulli, 1738/1954, cited in Corter & Chen, 2006). The Expected Utility theory has later been advanced to focus more on expected outcomes (Von Neumann & Morgenstern, 1947). Investors tend to select choices that provide the highest expected outcomes (ibid). The theory argues that individuals take different degrees of financial risk, referred to as the risk propensity, which the theory 'ascribed to differences in the wealth of investors, with wealthier investors being willing to incur more risk' (Bernoulli, 1738/1954, cited in Corter & Chen, 2006: 370). This view is supported by other studies (e.g. Finke & Huston, 2003). Additionally, studies take the view of wealth affecting financial risk taking further. It has been argued that education, and hence a promise of higher income, can lead to investors tolerating more risk (Finke & Huston, 2003; Gumus & Dayioglu, 2015; Sriharsha & Mahapatra, 2017).

The Prospect Theory, created by Tversky & Kahneman, introduces an approach that people tend to outweigh small probabilities and underweigh high probabilities (Tversky & Kahneman, 1992). Hence, investors do not always act rationally. This approach has been further researched by Odean (1998), who concluded that investors are more reluctant to realize their losses. In fact, investors tend to keep losing investments too long and sell winning ones too soon, referred to as the Disposition Effect (ibid). Kalb (n.d.) argues that 'selling winners works like an insurance against falling stock prices, whereas holding losers works like a gamble to get lucky and earn a gain'. The Prospect Theory claims that investors show loss aversion, hence, a financial loss might have a greater impact, even though the gain would be an identical amount (Tversky & Kahneman, 1979, cited in Corter & Chen, 2006).

The Prospect Theory explains this as an investor's reluctance to accept losses (Tversky & Kahneman, 1992). Thus, it can be more pleasing for an investor to gain a small amount of money, compared with losing money and then gaining it back, even though the end result would be the same. People make investment for the purpose of earning money to finance their future consumption. Future consumption and standard of living of them highly depend on the success of their investments. But due to the risk associated with investments investors may not be able to obtain expected return. In some situations, they may be unable to recover capital. It will affect the future life of the investors.

Consequently, investors provide more attention to the risk factor associated with investment and by considering these facts they decide their risk tolerance level. Demographic factors play a major role in deciding the risk tolerance level of investors. Better understanding about the relationship between demographic factors and risk tolerance helps investors to improve the quality of their investment decisions and standard of living of them. It will also support financial institutions and policy makers in designing new financial products.

Objectives of the Study

The present research paper aims to explain the following objectives:

1. To examine the various researches carried out on Investor Risk Tolerance and Portfolio Management
2. To identify the various elements determining Investor Risk Tolerance
3. To provide suggestions for optimal management of Portfolios

RESEARCH METHODOLOGY:

The contemporaneous study is descriptive in nature and absolutely based on secondary sources of data. For the preparation of this research paper, Journals, Research articles, newspapers and various relevant websites have been accessed to make the study an effective one.

Analysis of Data:

This study is trying to analyze and search several research papers and articles which explain various elements and Variables that influence the Risk Tolerance among the investors and provides suggestions for restored Portfolio Management though Literature Review on Investor Risk Tolerance and Portfolio Management.

1. **S Ponmuthumari and M Senthil Mathi (2019):** The authors through their study try to create an awareness for the investors to identify and to understand the risk level in various investment avenue namely Life Insurance, mutual fund, Public provident fund and National saving certificate. To understand the wide investment avenues and the risk involved in the choice, T-test and paired sample T test were used as statistical tool, the study has also made to compare the risk involved among the investment avenue comparing Life insurance with other investment avenues. The public provident fund and national savings scheme faces under same category. They concluded, that higher the risk, higher the returns, the investor runs the investors marathon, to beat inflation, therefore it always

depends upon the individual investors to tolerate risk.

2. **Zandri Dickason and Sune J Ferreira (2018):** The researchers' aimed to identify the accurate risk profiling of South African investors based on their level of risk tolerance considering their gender and age. This study can be used as a future forecasting tool for investment companies to predict risk tolerance levels based on gender and age levels. Results from this study correspond to previous studies where male investors are more risk tolerant than female investors. A statistical difference was also found between male and female investors within the age categories of 35-49 years and investors older than 50 years. All age categories were found to be more risk tolerant for investors older than 50 years based on the binary regression.

3. **Elsa Huhtala & Roman Stepanov (2018):** The study intended to explore the risk tolerance of Singaporean college students, explore the risk tolerance of Finnish college students, Gauge if there are differences in the risk tolerance between the countries, Explore the risk tolerance of females, Explore the risk tolerance of males and Gauge if there are differences in the risk tolerance between the genders. The authors used the questionnaire developed by Grable and Lytton and combining the answers for a total score. The sample of this study consisted of Finnish and Singaporean university students. The findings concluded that there were no significant differences between the financial risk tolerance of Finns and Singaporeans. However, there were significant differences between female and male investors.

4. **Mahalakshmi T N and Anuradha N (2018):** Researchers studied the impact of psychological biases, spouse effect and level of engagement in investment decision making and investment performance through review of literature from secondary sources like Journals, magazines & periodicals. The findings of the literature review indicated the mediating effect of level of engagement and the moderating effect of spouse effect on investment decision making and investment performance. Investment advisors must frame strategies depending on these factors to ensure better investment decisions. This research paper is the first of its kind to include spouse effect and level of engagement in the role of mediating and moderating effects in decision making and investment performance.

5. **Herve et al (2018):** Authors explored the various determinants of investment decisions in the context of investment-based, i.e., equity or bond crowd funding campaigns, (equity refers to investments in entrepreneurial start-ups and bonds refers to investment in real estate projects).
6. **Ansari and Pathak (2017):** In their study authors**,** identified the impact of investors risk tolerance on their decision to investing a particular avenue of the stock market. The findings of the study revealed that a majority of capital market investors belong to the average risk tolerance category, i.e., they take risks readily, nor are they entirely averse to market risks. Further, the study also found that a majority of investors choose to invest in insurance companies in comparison with other alternative avenues.
7. **Sarfaraz Ansari and Yogeshwari Phatak (2017):** they have assessed the financial risk tolerance of Investors in present scenario and then analyzing their preferred investment avenues. The result of study found that most of the investors belong to average risk tolerance category which means that they were neither risk taker nor risk averse in nature. Study also found that Insurance as an investment avenue was the most preferred investment alternatives.
8. **Rajeshkumar V and Kasilingam R (2017):** An attempted to study the association of the demographic and selected profile factors of investors with one of the important psychological variable namely financial risk tolerance using the chi square test. Further by using the correspondence analysis/crosstabs, researcher attempted to gain more insight in to the association. Finally, the extent of influence of the demographic and investor profile variables on the financial risk tolerance cluster was studied using the canonical correlation. The research design followed in this study was the descriptive research design. Using the Multi stage random sampling technique, the primary data for the study was collected from 470 respondents (investors) in the State of Tamilnadu, India. The results of this study confirmed the existence of significant association between all the Demographic and Investor profile variables with the financial risk tolerance. Also, the results further revealed that variables such as gender, age, marital status, type of family, dependents, religion, occupation, number of earning members and amount spent for

recreation/entertainment exert significantly strong influence on the financial risk tolerance cluster.

9. **Subramaniam VA & Athiyaman T (2016):** The authors aimed to identify the relationship between demographic factors and investor's risk tolerance. It is found that demographic factors such as age, education, investment experience and income of the investors are correlated with their risk tolerance and gender, occupation and civil status are not related with risk tolerance and found that demographic factors such as age, education, investment experience and income of the investors are correlated with their risk tolerance. However, gender, occupation and civil status are not related with risk tolerance.

10. **Mishra M & Mishra S (2016):** The study discovered that the discriminant function comprising materialism, age, gender, and ratio of members of number of earning members to total family members, which collectively act as a good discriminator of risk tolerance levels. The discriminant function accounted for approximately 21 percent of the variance between risk tolerance groups. In other words, financial risk tolerance, as a construct, could best be described by a linear combination of respondents' materialistic tendencies, age, gender, and ratio of earning to total members in the family. Therefore, it was concluded that above-average risk tolerance is associated with a higher level of materialism, lower age, male gender, and higher ratio of earning to total members in the family. Occupation and family income explained a comparatively smaller percentage of the variation in financial risk tolerance. The analysis based on the values of Wilks' lambda and canonical correlation led to the conclusion that the linear combination of variables worked to separate the two levels of risk tolerance from each other.

11. **Kavita Chavali and Prasanna M (2016):** The researchers explored the investment pattern and financial decision making of individuals and their risk tolerance. The study was adopted financial risk tolerance scale proposed by Grable and Lytton to measure the different dimensions of financial risk. Kendall's W test was used to ascertain the preferred source of investment of individuals. Chi-square test is used to determine the demographic variables and their relationship with investment pattern. The study revealed that gender has an impact on the investment pattern and decision making of respondents.

12. **Prabha (2016):** They investigated the financial risk tolerance and the influence of socio-demographic characteristics of retail investors then classify the investors according to their risk profiles. He also studied relationship between various socio demographics factors like gender, age income etc. on the basis of their risk tolerance profiles. The researcher found that maximum investors whose age lying under 25 years falls under average risk profile and investors between 26 years to 30 years of age were lying between high risk tolerance profiles. He also found that there is significant association between gender and risk tolerance level and further concluded that females were more risk averse in nature than male investors. His study also revealed that high income investors take more risk than low income group of investors married investors take less risky asset investment as compared to single investors. The study was finally concluded that maximum respondents fall under average risk tolerance category. Demographic parameters such as gender, age, education, income, occupation have been of particular interest to researchers as independent variables shaping investors' financial risk tolerance (MacCrimmon and Wehrung, 1986; Riley and Chow, 1992).
13. **Bhattacharjee and Swaminathan (2016)**: the study found that the importance for authorities in India and the USA to maintain transparency and stability in the implementation of economic policies to prevent their impacts on stock markets and help create a more favorable investment environment. They also concluded that during the period of policy announcement market remains volatile in US and India.
14. **Chavali and Raj (2016):** In their study, the authors undertook a study to measure the pattern of investment and its impact on individuals' financial decision making of individuals and their risk tolerance. The authors opined that the demographic variables and risk tolerance of investors indeed affected the pattern of investment and investment decisions. The findings of the study further revealed that gender of the investor had a significant impact on the pattern of investment and investment decision making.
15. **Sandip Chattopadhyay & Ranjan Dasgupta (2015):** The preset study investigated the critical role that age, gender, marital/social status, number of dependents, educational qualifications, employment and income status, savings

pattern, future monetary planning, investments amount and returns from investments play in influencing risk tolerance and thereby finding whether the individual investors are risk averse or risk prone. To fulfill these objective 12 questions representing hypotheses were asked to 200 individual investors investing regularly in the Indian stock markets. A risk tolerance points scale is prepared to analyze the risk attitudes overall and each factor wise, and a Binary Logit Model is applied to validate these results. On an overall basis, this study found that the investors have a lower risk tolerance level which makes them highly risk averse. In line with the hypotheses drawn, this study proved that aged investors are more risk averse than their younger, inexperienced counterparts; married investors with children and other dependents are more risk averse than their unmarried and with less dependents counterparts; higher education brings risk tolerance attitude and thereby makes investors risk prone; higher income and savings also decrease risk aversion whereas future planning approach increases risk aversion.

16. **Heena (2015):** The researcher has examined the relationship between demographic variables and personality traits on investors' attitude towards risk. The author ascertained that there is a positive relationship between income and risk tolerance level. Education and personality types were found to be irrelevant and did not have any impact in determining investor's attitude towards risk.

17. **Kannadhasam (2015):** studied on financial risk tolerance level of retail investors by taking demographic characteristics as one of the important variables. He found that risk tolerance level have a significant impact on investment decision making. The result of his study also confirmed that demographic characteristics play an important role in risk taking capacity of investors.

18. **Prabhakaran and Karthika (2015):** Revealed in their study, that every investor have risk perceptions regarding investment alternatives which determine their return in future. They also found that investors' awareness level was very poor because of which they generally do not understand financial risk and because of this misjudgments they suffer loss in investment.

19. **Rahmawati et. al. (2015):** studied the determinants of the risk tolerance of individual investors with an objective to evaluate various factors which were

responsible related to financial risk tolerance and affects investment decisions. They have taken gender, education, age, wealth as independent factor. They found that all these factors have significant impact on financial risk tolerance of investors and it affects investment decision also. Their main findings includes that male investors were more risk taker than female hence they possess higher risk tolerance level than female investors. Age of investors was also identified as main factor and financial risk tolerance decreases as the age of investor increases. Highly educated and financially literate investors take more risk as compared to uneducated investors and also it was concluded that education has direct impact on risk tolerance level as awareness about financial market and products develop confidence among investors. Lastly they found that higher income investor's takes more risk and have high risk tolerance as compared to low income group investors.

20. **Rakesh Parkash et al (2014)** examined that the risk taking behavior considers various socio-economic characteristics like income, age, gender, occupation, education and marital status. This study is carried across different communities. Survey method was used to collect the primary data through snowball sampling. 200 respondents participated in the survey. For hypothesis testing chi-square test was applied using SPSS and results revealed that marital status, age, income, education and occupation is significantly associated with risk taking behavior whereas gender has no association with risk taking behavior. Further, it is also explored that risk taking behavior across the communities is not significantly different.

INTERPRETATION OF DATA:

Researcher has recorded out few interpretations, which are applicable for all types of portfolios and time from the above literatures:

a) It is also found from this study that higher investments amount and returns from such investments increase the risk tolerance level and thus reduces risk aversion of these investors.
b) Women investors are more risk prone than their male counterparts, and employment status of the respondents is immaterial in regard to their risk attitude
c) Through the study , it's found that there is a positive relationship between income and risk tolerance level

d) Individual's ability to tolerate risk has been found to be contingent on characteristics such as age, time horizon, liquidity needs, income, investor knowledge, and attitude toward price fluctuations

e) It is found that the five investment avenues are more popular among investors and they expose less tolerance to the investors. among the five investment avenues Insurance was an investment avenue that were the most preferred investment alternatives

f) Binary Logit Model validate the that there is no impact of number of dependents, educational qualifications, employment status, FMP and investments amount on the risk tolerance levels of the Indian investors.

SUGGESTIONS:

The behavioral factors have become a central point of discussion for many reasons today as it influences the overall market mood of the country. Biases have become a synonym for the risk for investors. The subsequent suggestions are put forth after reviewing various research articles,

a) The policy-makers needs to conduct researches on an ongoing basis and investigate whether there are any changes in the biases that are perceived by Indian investors that could affect many stakeholders severely.

b) Hence, policy makers and regulatory bodies need to design a mechanism to measure such biases and monitor it on a regular basis so that there will be smooth conduct of market operations.

CONCLUSION:

Indian capital market is presently witnessing an important historic phase due to economic developments. In the last one-decade or two, significant changes were brought in the field of banking and finance, international trade, information technology, real estate and consumer goods industry. The policy initiatives were robust in the above-mentioned industries and seen greater growth during that period as well. The policy measures and regulations that were undertaken had significant impact on the performance of stock market and stock price behavior. Investor risk tolerance level, risk awareness level, investor's investment decisions, investor's behavior and their equity decisions in the stock market have become central point of study as the efficiency of capital market for channeling the required financial resources for the productive uses and economic growth.

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