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Demographic and Financial Determinants of Risk Tolerance in Indian Retail Investors

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ABSTRACT

There has been a significant growth in the investment scene in India, particularly among individual retail investors. This study examines the elements affecting investment choices and willingness to take risks among retail investors in India, with a specific focus on demographics, financial reliance, professional guidance, and sources of income. A study conducted in Mumbai with a sample size of 70 participants aged 20-69 used chi-square tests to explore the links between risk tolerance and factors like age, gender, income stability, relationship status, and salary. Findings showed strong connections between risk tolerance and gender and income stability, with age, relationship status, and salary having little influence. Men showed greater risk tolerance than women, while those with consistent income displayed higher levels of risk acceptance. These results emphasize the significance of taking into account demographic and financial factors when planning investments. The constraints of the study, such as sample size and distribution, indicate a necessity for additional research with broader, more varied samples. Financial advisors can apply their skills by customizing investment plans according to gender and income reliability, as well as using psychological evaluations to gain insight into clients' risk tolerance.

Keywords: *Risk Tolerance, Investment Decision-Making, Demographics, Socioeconomic Factors, Financial Factors.*

1. Introduction

India's investment landscape has grown significantly, especially regarding retail investors. There are some important data about the investment activity of the Indian populace: According to The Economist there is a boom in retail investment - The National Stock Exchange (NSE) of India reported over 90 million unique accounts by March 2023, indicating a significant rise in retail stock market participation. Compared to 31 million accounts at the end of March 2020, this is a sharp increase, suggesting that the public is becoming more and more invested. Another measure of stock trading accounts in India shows a strong move towards equities investing among Indians, with the number nearly tripling from 41 million in 2019 to 140 million in 2023. Indians have historically preferred low-risk investments like gold, which made up approximately 16% of household wealth in 2023. But the proportion of stocks has been rising—it went from 2.2% in 2013 to 4.7% in 2023.

Multiple aspects of this shift have been studied in recent studies. A study by Bose et al. (2021) found that increased access to digital trading platforms and better financial literacy both had an impact on the rise in stock market participation. Agarwal et al. (2022) have conducted another study that emphasises the influence of demographic variables, including income, education, and age, on investing choices. Due to their higher risk

tolerance and greater financial literacy, younger and more educated investors are more inclined to invest in stocks.

To better understand how these elements affect a person's risk tolerance and investment decision-making, this research article will take a closer look at the following factors: financial dependency, professional advisers, influence from spouses or partners, income source, and demographics. This study aims to provide a thorough overview of the factors influencing investment decisions in India by referencing previous research and analysing new data. This will contribute to a wider understanding of retail investment behaviour in emerging markets.

2. Literature Review

Age and risk tolerance are strongly correlated, according to research. Because they have longer investment horizons and more potential for income development, younger investors tend to be more risk tolerant. As an illustration, Agarwal (2024) points out that younger investors can afford to take on more aggressive stock holdings, whereas older investors typically gravitate towards safer options as they get closer to retirement, indicating a decline in risk tolerance as financial objectives get closer. Furthermore, Subramaniam (2016) highlights that risk tolerance is highly influenced by age, education, and investment experience, with older people typically having lower risk tolerance since they need to preserve their capital.

Research has shown that there are gender variations in risk tolerance, with men typically exhibiting a higher risk tolerance than women. This discrepancy could be the result of socialisation as well as different perspectives on risk and investing. According to research, women may favour cautious investing approaches, which may result in a reduced tolerance for risk overall. Financial advisors must comprehend these gender characteristics to customise investing plans.

Risk tolerance can be strongly influenced by one's financial source. others who earn a high and steady income from their jobs can be more willing to take on more risk than others who depend on other sources of income, such investments or freelancing. A steady income acts as a safety net, enabling people to make riskier investments without endangering their ability to make ends meet. On the other hand, people with variable incomes could favour safer investments to lessen the risk of future financial volatility.

The state of a relationship may also influence one's risk tolerance. When it comes to risk profiles, married people, or those in committed relationships may differ from single people. According to research, people in committed relationships tend to make financial decisions together, which may result in a more cautious attitude to investing. On the other hand, since they alone bear the responsibility for their financial results, solitary investors might feel freer to take chances.

Risk tolerance and salary level are positively correlated. Higher incomes may afford to take on more risk in their investing portfolios since they usually have more financial freedom. On the other hand, those who make less money could place a higher priority on saving wealth and choose safer investment options. This association emphasises how crucial financial capability is in dictating investing behaviour and risk tolerance.

An individual's risk tolerance is directly related to the kind of investment they select. While investors with lower risk tolerance could choose fixed-income securities or cash

equivalents, higher risk tolerance investors are more inclined to allocate a bigger share of their portfolios to stocks and other volatile assets. Individual risk profiles have an impact on the decision-making process related to asset allocation, and these profiles vary over time as financial circumstances and objectives do. The presence of financial dependents has a major effect on risk appetite. People who oversee other people's finances, such parents, or older children, typically make more cautious investing decisions. This prudence is a result of their need to provide a solid financial future for their dependents, which makes them favour assets with reduced risk.

Risk tolerance is greatly influenced by investment choice aids, such as financial literacy and advisory services. Having access to high-quality financial education can improve someone's comprehension of risk and investing techniques, which may result in better decision-making. Higher financial literacy increases an individual's propensity to make riskier investments since it helps them better comprehend the risks and rewards involved. Risk tolerance and a variety of financial and demographic characteristics interact in a complicated and multidimensional way. An individual's risk profile is shaped by a variety of factors, including age, gender, income source, relationship status, salary, kind of investment, dependents who need to be supported financially, and investment choice guides. Financial professionals who want to offer individualised guidance and assistance to customers with a range of financial circumstances and backgrounds must have a thorough understanding of these elements.

3. Methods

3.1 Sample

The sample studied includes participants from the age range 20- to 69-year-olds from Mumbai fulfilling the criteria which were: a) Invests money b) 20 years and above c) able to read and write English. The demographic data included age, gender, salary,

3.2 Tools Used

3.2.1 Risk Tolerance Scale

A financial risk-tolerance scale that was created, evaluated, and published in Financial Services Review by Grable and Lytton (1999) has subsequently been used extensively by researchers, financial advisors, and customers to assess an individual's propensity for risky financial behaviour. Based on an analysis of data (n = 160,279) from 2007 to 2013, it can be concluded that the risk-tolerance scale's validity and reliability have held steady since its creation. During this period, the estimated Cronbach's α for the scale was 0.77. High scale scores, which indicate a stronger readiness to take risks, were shown to be negatively correlated with cash and bond holdings and positively correlated with equity ownership, in line with the literature.

3.3 Procedure

Participants aged between 20 and 69 years from Mumbai, were recruited through friends and colleagues via convenience sampling method. Participation in the study required subjects to complete the questionnaires taking approximately six to ten minutes. The participants were assured of confidentiality of the information given to the researcher.

3.3. Results and Discussion

Data was analyzed with Jamovi version 2.5.6, and chi-square tests of independence were carried out. These tests were conducted to investigate the associations between risk tolerance and various factors such as age, gender, income stability, relationship status, and salary, with the significance level set at $p < 0.05$.

H1: Age is significantly associated with risk tolerance in investment decision-making.

An analysis was carried out using a chi-square test to explore the association between age and risk tolerance. The findings showed no significant link, $X2(16, N=70) = 12.4$, $p=.714$, indicating that age and risk tolerance are not related in this group. The table displays how often risk tolerance levels are seen in various age groups. Most participants belonged to the "Average Risk Tolerance" group, with the 20-29 age bracket being the most common in this group. Although the chi-square test did not show a significant association between age and risk tolerance, it is worth mentioning that the sample size was small (N = 70), which might have impacted the ability to detect a significant effect. Furthermore, some categories had lower than expected cell counts, which could affect the chi-square test results' reliability. Previous studies have shown varied findings on the connection between age and willingness to take risks. Certain research has indicated a negative correlation, with elderly individuals typically exhibiting decreased risk tolerance. Nevertheless, some research has not discovered a noteworthy correlation among these factors. Overall, the present research found no significant link between age and risk tolerance. Additional research with increased sample sizes and better distribution of expected cell counts is needed to draw a more conclusive outcome on the nature of this connection.

H2: Gender differences significantly impact risk tolerance.

A chi-square analysis was carried out to investigate the correlation between gender and risk tolerance. The findings showed a meaningful connection, with $X2(4, N=70) =12.6$, $p=.014$, indicating that gender and risk tolerance are not unrelated variables in this group. The observed frequencies of risk tolerance levels across genders are displayed in the contingency table. Most female participants were classified as having "Average Risk Tolerance," whereas male participants showed a more balanced distribution across different risk tolerance levels. A greater proportion of men were classified in the "Above Average Risk Tolerance" and "High Risk Tolerance" groups than women. These results align with prior studies that have identified gender disparities in willingness to take risks. Research consistently indicates that men generally exhibit greater willingness to take risks than women in a range of areas, such as making financial choices. The latest research offers additional proof of the gender gap in risk tolerance. The important chi-square value shows that there is a significant difference between the observed frequencies in the table and the expected frequencies if gender and risk tolerance were independent. This implies that gender plays a significant role in determining a person's level of risk tolerance. To sum up, the recent research discovered a notable correlation between gender and willingness to take risks, with males showing greater risk tolerance than females. These findings are consistent with previous studies and underscore the significance of factoring in gender when evaluating an individual's risk preferences

H3: Individuals with unstable income sources show significant differences in their risk tolerance.

A test of independence, the chi-square test, was performed to investigate how income source is related to risk tolerance. The findings showed a notable correlation, X2(24, N=70) =37.4, p=.040, indicating that people with diverse sources of income demonstrate different levels of risk tolerance. The observed frequencies of risk tolerance levels across various income sources are shown in the contingency table. Most people who have a fixed salary are more likely to have higher risk tolerance levels, especially in the "Above Average Risk Tolerance" and "Average Risk Tolerance" groups. On the other hand, individuals with irregular incomes like freelancers tend to show lower occurrences in these categories.

These results are consistent with earlier studies that have shown notable variations in risk tolerance depending on the stability of income. For example, people who have unpredictable income, like freelancers or those who depend on fluctuating investments, usually have less risk tolerance because of the uncertain nature of their earnings. This aligns with research indicating that financial security affects individuals' propensity to take risks in financial choices and investments. In summary, the study discovered a strong correlation between income sources and willingness to take risks, showing that individuals who depend on steady income sources have higher levels of risk tolerance. This research adds to our knowledge of how income stability impacts risk attitudes and emphasizes the significance of factoring in income sources when evaluating risk tolerance in financial choices.

H4: Relationship status significantly influences risk tolerance.

Chi-square test of independence was performed to investigate the link between relationship status and risk tolerance. The findings X2(8, N=70) =7.87, p=.446, indicate that the level of risk tolerance in this sample is not significantly affected by relationship status. The observed frequencies of risk tolerance levels across different relationship statuses are displayed in the contingency table. Most married people indicated "Above Average Risk Tolerance," whereas single people displayed a more diverse spread among the risk tolerance categories. Nevertheless, the absence of a notable chi-square outcome suggests that these discrepancies do not hold significant statistical significance.

These results align with prior studies that have examined how marital status relates to financial risk tolerance. For example, certain research indicates that being married or single may not have a substantial impact on risk tolerance, suggesting that personal characteristics might have a greater influence on risk preferences than marital status. Different studies have yielded varied findings, indicating that unmarried individuals may have higher risk tolerance levels attributed to having fewer financial obligations compared to married individuals.

H5: Salary is significantly associated with risk tolerance.

A chi-square test analyzed how salary and risk tolerance are related. The findings showed no significant correlation, X2(16, N=70) =17.6, p=.348, indicating that salary does not greatly impact risk tolerance in this group. The contingency table shows how risk tolerance levels vary among various salary ranges. Most people earning between 0 to 6 lakhs reported having an "Average Risk Tolerance," while individuals in higher salary ranges had different distributions, with fewer people falling into the "Above Average" and "High Risk Tolerance" categories.

Schooley and Worden (1999) discovered that income level had little impact on risk tolerance, indicating that personal factors could play a larger role in determining risk preferences than just salary. Similarly, Grable (2000) noted that demographic variables, such as income, only explained a small portion of the variation in risk tolerance, highlighting the significance of psychological and situational factors in influencing an individual's willingness to take financial risks. Hallahan, Faff, and McKenzie (2004) also confirmed that income was not a major predictor of risk tolerance in their study, reinforcing the idea that salary alone may not be the primary determinant of an individual's risk preferences. In a more recent study, Yao, Gutter, and Hanna (2005) investigated the connection between income and risk tolerance across various age groups. They discovered that the link between income and risk tolerance varied depending on the respondents' age, showing inconsistent results.

CONCLUSION

The results of the study indicate that risk tolerance is largely influenced by gender and income stability, with age, relationship status, and salary having minimal impact. Men are more likely to have a higher tendency to take financial risks compared to women, as shown in earlier research such as the study conducted by Byrnes, Miller, and Schafer in 1999. Similarly, the research showing that individuals with stable earnings exhibit higher levels of risk acceptance supports the conclusions of Grable and Joo (2004), who found a connection between financial security and a willingness to engage in risky behaviors. Nevertheless, research by Yao, Gutter, and Hanna (2005) indicates that age does not have a significant impact on risk tolerance, contrary to the widespread view that older people are less willing to take risks. The findings of this study go against earlier research by Hallahan, Faff, and McKenzie (2004) which suggested a link between income and risk tolerance, suggesting that there may be other significant factors affecting a person's risk preferences.

Limitations

The limitations of the study involve a limited number of participants and problems with anticipated cell numbers in the chi-square tests, potentially impacting result accuracy. These restrictions indicate that the results might not apply to broader or more varied groups. In order to improve the reliability of the findings, future studies need to overcome these constraints by utilizing bigger and more diverse samples. Additionally, delving into other factors like psychological aspects or situational circumstances could offer a more thorough comprehension of risk tolerance. For instance, by incorporating qualitative research methods or advanced statistical techniques, more profound insights could be revealed on how various factors interact to impact financial risk preferences.

Practical Application

The findings have important practical implications for financial advisors and investment planners. Recognizing how gender and financial stability impact risk tolerance can assist in customizing investment strategies more efficiently. For example, financial planners may opt for a more cautious investment strategy for clients with inconsistent earnings or females, due to their noted lower willingness to take risks. This tailored method could result in improved financial results and increased client contentment. Furthermore, advisors can utilize this data to create educational resources and risk evaluations that take into

consideration these disparities, aiding clients in making better-informed financial choices.

Nevertheless, taking into account the psychological factors of risk tolerance is just as crucial. An individual's willingness to make risky financial decisions can be greatly affected by their psychological characteristics, including their level of risk aversion, confidence, and financial anxiety. For example, how a person reacts emotionally to losing money or their anxiety levels during changes in the market can affect their willingness to take risks. Advisors should integrate psychological assessments into client evaluations in order to obtain a better insight into their clients' risk preferences. Methods like risk tolerance surveys and psychological evaluations can assist in recognizing these characteristics and customizing guidance accordingly.

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