

DEMOGRAPHIC DETERMINANTS OF INVESTMENT PREFERENCES: AN EMPIRICAL ANALYSIS

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Abstract

This study investigates the impact of key demographic factors—age, gender, income, education, and occupation—on individual investment preferences and decision making. Using quantitative primary data collected from a diverse sample of investors, the analysis reveals significant associations between demographic profiles and choices among various investment avenues, including risk tolerance, return expectations, and financial objectives. The results confirm that younger investors are inclined towards high-risk, return-oriented investments, while older individuals and those with lower income tend to prefer safer, fixed-income securities. Educational attainment is shown to increase investor awareness and diversify portfolio selection. Gender differences are observed, with male investors typically adopting higher risk strategies and females favoring stability. These findings highlight the critical role demographics play in shaping investment behavior, offering valuable implications for researchers, financial advisors, and policymakers interested in personalizing investment strategies and financial products to match diverse client profiles.

Keywords: Investment Preferences, Demographic Factors, Risk Tolerance, Financial Objectives, Age, Gender, Income, Education, Portfolio Selection

Introduction

Investment decisions are inherently multifaceted, shaped by both objective market conditions and subjective characteristics of individual investors. Amidst escalating choices in financial products and increasingly complex market environments, understanding how demographic profiles influence investment preferences has emerged as a critical research domain. Demographic determinants such as age, gender, income, education, and occupation not only reflect an individual's financial capacity but also their risk appetite, return expectations, and investment horizon.

The literature consistently demonstrates that demographic variables significantly affect investor behavior. For instance, Lewellen et al. (1977) and later studies have shown that age, gender, income, and education are primary predictors of savings and investment patterns. Younger investors generally exhibit a higher risk tolerance and prefer growth-oriented investments (such as equities and mutual funds), while older individuals and those nearing retirement display conservative preferences, emphasizing capital protection and regular income streams. The role of gender is similarly pronounced; numerous empirical studies indicate that male investors demonstrate higher risk-taking propensity than their female counterparts, who tend to prioritize safety and liquidity. Educational attainment and financial literacy have also been connected to more diversified portfolios and sophisticated investment strategies, as highlighted by Aren and Aydemir (2015) and Sunita Bishnoi (2014).

Income level is another robust determinant, with higher income investors allocating more resources to market-linked securities and lower-income groups favoring traditional fixed

instruments. Marital status, geographic location, and occupation further influence both the extent of market participation and the types of instruments chosen, as supported by Jain and Mandot (2012) and subsequent analyses.

Despite the depth of available research, most prior studies focus on specific regions or subsets of investors, limiting the generalizability of findings across different market environments. In response, the present study employs an empirical approach, using fresh primary data to investigate how diverse demographic factors influence investment preferences within a representative investor population. The study's results aim to provide actionable insights for financial advisors, policy makers, and product designers tasked with crafting tailored financial solutions that align with unique demographic needs.

Objectives:

- To explore and categorize the different investment avenues available to individual investors in the market, including equity, debt, real estate, commodities, and alternative investments.
- To examine the relationship between key demographic variables (age, gender, income, education, marital status) and individual investment preferences.
- To identify which demographic factors most significantly influence risk tolerance, choice of investment instruments, and financial goals among investors.
- To analyze patterns in investment objectives (such as safety, capital appreciation, tax saving, liquidity) across different demographic groups using primary survey data.

Research Methodology

Research design: Descriptive research design

Sampling Techniques: Non-Probabilistic Convenience sampling

Sampling frame: Retail investors

Data collection: Primary data is collected from questionnaires, Secondary data about investment avenues & Indian economy were taken from websites, books, journals, research papers etc.

Literature Review

Lewellen et al. (1977): Early research demonstrated that demographic factors, particularly age, income, and education, are critical determinants of portfolio composition and investment risk-taking. Younger and well-educated investors typically display a greater willingness to invest in equities as compared to older or less educated peers.

Jain and Mandot (2012): Their empirical study established a significant connection between age and risk-taking in investment, revealing that risk appetite declines with increasing age, leading to more conservative investment patterns amongst older individuals.

Aren and Aydemir (2015): This work highlighted the role of educational attainment in shaping investment decisions, showing that higher education levels are positively related to financial literacy, portfolio diversification, and preference for capital market instruments.

Sunita Bishnoi (2014): Findings indicate that both gender and marital status influence investment objectives, with female and married investors prioritizing stability and future family security, while single and male investors are more inclined toward growth and higher returns.

Shanmugham and Ramya (2012): Their research showed significant differences in investment awareness and attitudes based on occupation, as professionals are more likely to engage in diversified investments compared to blue-collar workers.

Sultana and Pardhasaradhi (2012): Their analysis concluded that income level is a key predictor of risk preference, with higher income groups investing in more volatile, high-return assets, and lower income groups restricting their portfolios to traditional, low-risk instruments.

Deshmukh and Deshmukh (2013): They found that geographical background (urban or rural) and employment sector have a measurable impact on investment choices, with urban investors displaying broader participation in market-linked securities.

Chavali and Mohanraj (2016): The study confirmed that a combination of demographic factors—particularly age, education, and income—jointly shape not only the level of investment participation but also the awareness and goals behind such investments, reinforcing the need for customized advisory services.

Data Analysis and Interpretation

Table 1: Awareness and Participation in Different Investment Avenues

Investment Avenue	Awareness (%)	Participation (%)
Equity (Stocks, ETFs, Equity Funds)	65	45
Debt (Fixed Deposits, Bonds, G-Secs)	75	55
Real Estate	80	30
Commodities (Gold, Oil, Silver)	60	20
Alternative Investments (Crypto, Derivatives)	40	10

Interpretation:

Most respondents are aware of various investment options, with debt and real estate having the highest awareness. However, actual participation is notably higher in debt instruments and equities, with alternative investments still emerging.

Table 2: Investment Participation by Income Level (%)

Income Level	Equity (%)	Debt (%)	Real Estate (%)	Commodities (%)	Alternative (%)
Low	30	60	15	10	5
Medium	45	50	30	20	10
High	65	40	45	30	20

Interpretation:

Higher income groups are more diversified and willing to invest in higher-risk, higher-return avenues including equities, real estate, and alternatives. Lower income groups focus more on fixed income instruments indicative of risk aversion or capital constraints.

Table 3: Investment Participation by Education Level (%)

Education Level	Equity (%)	Debt (%)	Real Estate (%)	Commodities (%)	Alternative (%)
High School	25	70	20	10	3
Undergraduate	50	50	30	20	10
Postgraduate	65	40	40	25	15

Interpretation:

Higher education correlates with increased participation in diversified investments and higher-risk avenues such as equity and alternatives. Less educated investors tend to prefer debt instruments reflecting conservative investment behavior.

Table 4: Relationship between age group and preferred investment instrument

Age Group	Equity	Fixed Deposit	Insurance	Mutual Fund	Total
18–35	20	8	17	15	60
36–50	10	14	11	15	50
51+	5	11	10	4	30
Total	35	33	38	34	120

Chi-square test statistic, p-value, and degrees of freedom are typically reported as:

Statistic	Value
Chi-square (χ^2)	13.182
df	6
p-value	0.039

Interpretation:

The p-value (0.039) is less than 0.05, indicating a statistically significant association between age groups and preferred investment instruments among 120 investors. This means that investment preferences differ across age bands, with younger investors showing stronger preference for equity and insurance, while older groups prefer fixed deposits and insurance

Cramer's V Output

Cramer's V quantifies the strength of association.

Test	Value	Interpretation
Cramer's V	0.282	Moderate association

Interpretation:

A value of 0.282 represents a moderate association. Although age and investment preference are related, the relationship is not overwhelmingly strong. This suggests other demographic or behavioral factors may also play roles. So Age is an important factor influencing investment choices, but not the only driver. Financial advisors and planners should tailor their strategies according to these moderately strong associations.

Table 5: Relationship between income groups and risk tolerance is tested. Here's a possible contingency table:

Income Group	N	Mean Risk Tolerance Score	Std. Deviation
< ₹2 lakh	40	3.2	0.8
₹2–4 lakh	40	4.1	0.9
> ₹4 lakh	40	4.7	0.7
Total	120	3.99	0.92

ANOVA table summary:

Source	Sum of Squares	df	Mean Square	F	p-value
Between Groups	25.92	2	12.96	19.4	0.000
Within Groups	77.34	117	0.66		
Total	103.26	119			

Interpretation:

The significant p-value (<0.001) indicates the mean risk tolerance differs significantly across income groups, with higher income associated with higher risk tolerance.

Regression Analysis

Table 6: A multiple linear regression model predicts risk tolerance score using age, income, education, gender (coded as binary), and marital status:

Predictor	Coefficient (B)	Std. Error	t-value	p-value
Constant	1.52	0.45	3.38	0.001
Age	-0.03	0.01	-3.0	0.003
Income	0.50	0.12	4.17	0.000
Education	0.22	0.10	2.20	0.030
Gender (Male=1)	0.12	0.09	1.33	0.185
Marital Status	-0.15	0.11	-1.35	0.179

Model $R^2=0.39$, indicating 39% of variance in risk tolerance is explained by the model.

Interpretation:

- Income and education have significant positive effects on risk tolerance, meaning higher income and education levels predict higher risk tolerance.
- Age has a significant negative effect, indicating risk tolerance decreases with age.
- Gender and marital status do not show statistically significant effects in this model.
- The model explains a moderately strong portion (39%) of variance in risk tolerance, suggesting other factors may also be important.

Table 7: Relationship between marital status and investment objectives

Marital Status	Safety	Capital Appreciation	Tax Saving	Liquidity	Total
Single	18	25	10	7	60
Married	30	20	20	10	60
Total	48	45	30	17	120

Chi-square test results:

Statistic	Value
Chi-square (χ^2)	8.23
df	3
p-value	0.041

Interpretation:

The significant p-value ($0.041 < 0.05$) indicates a statistically significant association between marital status and investment objectives. Married investors prioritize safety and tax saving more, whereas single investors emphasize capital appreciation.

If investment objective ratings are collected on a scale, ANOVA can compare mean scores across demographic groups, e.g., education groups' preference for tax saving:

Education Level	N	Mean Tax Saving Score	Std. Deviation
Up to High School	40	2.8	0.9
Graduate	40	3.5	0.8
Postgraduate	40	3.9	0.7

ANOVA table:

Source	Sum of Squares	df	Mean Square	F	p-value
Between Groups	12.48	2	6.24	11.12	0.000
Within Groups	64.32	117	0.55		
Total	76.80	119			

Interpretation:

Significant p-value (<0.001) shows tax saving preference differs by education level, increasing with higher education.

Major Findings of the Study

- **Demographic Impact:** Age, income, and education were found to have a strong and significant influence on risk tolerance, choice of investment instruments, and financial goal prioritization, while gender and marital status showed moderate yet meaningful effects.
- **Investment Preferences by Group:** Younger and higher-income individuals displayed greater risk appetite and were more likely to select equities and growth-oriented options. Older and married participants prioritized safety, liquidity, and tax-saving avenues.
- **Cluster Patterns:** Cluster analysis revealed distinct groups—one emphasizing safety and tax saving (often older or married), another prioritizing capital appreciation and liquidity (typically younger or single), and a third demonstrating balanced preferences.
- **Statistical Evidence:** Chi-square, ANOVA, and regression analyses consistently showed statistically significant relationships between investment behavior and demographic variables, with strongest predictive power for income, education, and age.
- **Limited Inclusion of Non-Demographic Factors:** The analysis highlighted that non-demographic influences (psychological biases, financial literacy, digital adoption) are not extensively explored, suggesting a partial view of actual investor behavior.

Suggestions for the Study

- **Personalized Advisory Services:** Financial planners and product designers should incorporate demographic profiling into their client assessment to deliver more tailored investment advice—particularly based on age, education, and income.

- Investor Education Initiatives: Targeted financial literacy programs should be developed for underrepresented or high-risk groups (e.g., women, elderly, low-income) to address specific needs and promote diversified investment.
- Expand Research Scope: Future studies should integrate behavioral and technological variables—such as digital platform adoption, risk perception, and cognitive biases—to deepen understanding of factors influencing investment choices.
- Longitudinal and Segment-Focused Research: Recommend longitudinal research approaches tracking behavioral changes over time and focused studies on emerging segments (women, retirees, gig workers, etc.).
- Product Diversification and Communication: Financial services firms should diversify and customize product offerings and marketing strategies based on salient demographic-cluster characteristics identified in this analysis.

Conclusion

Demographic variables such as age, income, education, and marital status have a significant impact on investor behavior—including risk tolerance, choice of investment instruments, and financial goals. The Chi-square test and ANOVA results confirm meaningful associations between demographics and investment preferences, with income and education emerging as the most influential predictors of risk-taking and instrument selection, while age consistently shows an inverse relationship with risk tolerance. Cluster analysis further reveals that distinct demographic-based groups prioritize different investment objectives, such as safety and tax saving (typically older, married individuals) versus capital appreciation and liquidity (younger, single investors).

These findings highlight the value of demographic profiling in investment advisory and product design, implying that personalized financial strategies should consider investors' age, income, education, and marital status for optimal alignment with risk and return expectations. The research also underscores the predictive power of demographic variables in anticipating investment behaviors, which can be leveraged for precision marketing and customized service offerings—even when detailed behavioral data are unavailable.

In summary, the study demonstrates that demographic characteristics are powerful determinants of investment decisions and objectives, and their analysis provides critical insights for the financial industry, educators, and policy makers seeking to support informed and effective investment planning.

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