Library Progress International
Vol.44 No.3, Jul-Dec 2024: P. 7720-7733

Print version ISSN 0970 1052
Online version ISSN 2320 317X

Original Article

Available online at www.bpasjournals.com

Examining the Impact of Economic and Non-Economic Variables on Willingness to Invest in the Indian Stock Market: A Structural Equation Modeling (SEM) Investigation

[1]Chhaya Devi*, [2]Dr. Manoj Sharma, [3]Dr. Yogesh Gupta

[1]PhD Research Scholar, DoHSS, National Institute of Technology Hamirpur, India
[2]Associate Professor, DoHSS, National Institute of Technology Hamirpur, India
[3]Associate professor, DoHSS, National Institute of Technology Hamirpur, India
Corresponding Author: chhayadadhwal597@gmail.com/ .

How to cite this article: Chhaya Devi, Manoj Sharma, Yogesh Gupta (2024) Examining the Impact of Economic and Non-Economic Variables on Willingness to Invest in the Indian Stock Market: A Structural Equation Modeling (SEM) Investigation. *Library Progress International*, 44(3), 7720-7733.

ABSTRACT

This study delves into the diverse array of economic and non-economic elements shaping individuals' inclinations towards investing in the Indian stock market. Utilizing a survey-based approach, data was collected from 400 participants residing in the Hamirpur and Una districts of the mountainous Indian state of Himachal Pradesh. Utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM), to explore the proposed relationships among the variables, while confirmatory factor analyses were conducted to ascertain the interrelations among the variables and validate the constructs. The findings of this research indicate that non-economic factors significantly influence the individual's willingness to invest in the Indian stock market, while economic factors demonstrate an insignificant relationship with investors willingness in stocks. This underscores the potential of Structural Equation Modeling (SEM) as a valuable instrument for dissecting the intricate interplay between various economic and non-economic factors and an individual's inclination to invest in stocks. SEM offers a robust framework for evaluating complex theoretical models, allowing researchers to scrutinize both the direct and indirect impacts of multiple variables on investment decisions. In the realm of stock market investment willingness, SEM emerges as a potent tool for analyzing how non-economic factors sway investment inclinations. Present study aims to bridge this gap by investigating the relationship between individuals' investment towards stock and their inclination to invest in the stock market. Focused on participants who invest in stock market, this research represents an initial step towards understanding the non-economic underpinnings of investment behaviour in India. However, future research endeavours should encompass a broader demographic spectrum to provide a more nuanced understanding of investor behaviour across different age groups and educational backgrounds.

KEYWORDS

Economic factors, non-economic factors, willingness to invest (WI), PLS-SEM.

1. Introduction

Behavioral finance has become a crucial field that integrates insights from economics and psychology to understand investor behavior and decision-making processes in financial markets (Aregbeyen, 2012). Grounded in sociological and psychological theory, behavioral finance aims to explain inconsistent phenomena through behavioral science theories. It highlights socio-psychological factors that influence investor sentiment and its relationship with the real economy (Lacalle, 2018). Proponents argue that investor decisions are often biased due to various factors (Baker and Nofsinger, 2002, 2010; Baker and Ricciardi, 2014). Numerous scholars, including Heaton and Lucas (2000), Barber and Odean (2013), and Sivaramakrishnan et al. (2017), have explored the factors

influencing stock market participation. Research has emphasized the importance of understanding determinants such as demographic factors, psychological traits, and cultural influences. Key determinants identified include demographics, education, income levels, and behavioral biases like herding and heuristics. Despite extensive research, the dynamics of stock market participation remain complex, involving intricate interplays of psychological and external factors. This interdisciplinary approach highlights the significant impact of human psychology on investment choices, challenging traditional economic theories that assume rational decision-making (Chandra, 2008). Pioneered by scholars such as Pompian (2006), behavioral finance encompasses both macro and micro perspectives. The macro view questions market efficiency, while the micro perspective examines individual decision-making, exploring rationality, cognitive biases, and emotional influences. Investor attitudes towards money and investment are pivotal in shaping investment decisions (Adam and Shauki, 2014; Tang and Baumeister, 1984).

In India, research on stock market participation and investment behavior is relatively sparse. Limited studies focus on the broader spectrum of investors and investment avenues beyond equities, often overlooking quantitative factors like past performance, risk assessment, and economic indicators. Over the past 150 years, the Bombay Stock Exchange, Calcutta Stock Exchange, and Ahmedabad Stock Market have been central to India's financial markets. The economic reforms of the early 1990s transformed Indian capital market, marked by a shift towards privatization and an open economy. In India, retail investor behavior is influenced by overconfidence, anchoring, loss aversion, herd behavior, and market factors (Vijaya, 2014). Indian individual investors often rely on heuristics and exhibit mental accounting behavior (Chandra and Kumar, 2012). Research by Anju and Anuradha (2017) on IT professionals in Bengaluru suggests investigating other investor categories based on age, gender, education, occupation, and geographical region. Nadeem et al. (2020) highlighted the impact of financial self-efficacy and money attitudes on stock market participation, suggesting future research with larger samples and additional variables like personal values. Recent studies emphasize the nexus between financial literacy, psychological factors, and investment behavior, underscoring the need for a comprehensive understanding of investor psychology. The establishment of SEBI in 1992 as the regulatory body for Indian capital markets led to various initiatives to encourage individual investor participation (Business Standard, 2015). Behavioral finance has been prominently advocated in investment decision-making. Ricciardi and Simon (2000) discussed critical aspects of behavioral finance, exploring investment and finance from a human perspective. Traditional financial studies emphasize the economic viewpoint, considering individuals as rational decision-makers (Schiffman and Kanuk, 2007). Factors influencing investor behavior have been categorized into psychological, social, economic, and demographic sections (Ahmad et al., 2017; Obamuyi, 2013). Household stock market participation often increases with family wealth, and financial literacy positively affects investor behavior (Vissing-Jørgensen, 2002; Bayer et al., 2009). The importance of the stock market to a country, firms, and individuals is significant. Studies have linked economic growth performance to stock market activities (Rousseau and Wachtel, 2000; Beck and Levine, 2004; Masoud and Hardaker, 2012; Miguel et al., 2013; Nguyen and Pham, 2014). Research Questions: On the basis of above information this research analysis aims to answer the following research questions given below:

1) What are the economic factors affecting individual investor's willingness toward stock market participation in India?

2) What are the non- economic factors affecting individual investor's willingness toward stock market participation in India?

3) What is the impact of economic and non-economic factors on individual investor's willingness toward stock market participation in India?

The objective of this study is to enhance the understanding of the factors influencing the willingness to invest in stocks, specifically identifying key determinants of this willingness. Given the current ambiguities in literature, the study aims to investigate the impact of various behavioral biases on individual investors' decisions. Additionally, it examines the relationships between economic variables—such as income, interest rates, and financial institutions—and non-economic variables like financial literacy, attitude, and social norms on willingness to invest (WI). These variables are expected to play a significant role in predicting investment decisions. By highlighting the intricate interplay between economic and non-economic factors and their influence on stock investment willingness, this study seeks to contribute to both academic discourse and practical applications for policymakers, educators, and investors. It aims to offer a nuanced understanding of investor behavior within the dynamic financial market landscape. For researchers analyzing the determinants of individual

investors' stock investment decisions, the study ensures a balanced representation of respondents across various characteristics. This research article is organized into six sections: the second section reviews the literature on major economic and non-economic factors affecting investor behaviour; the third section explains the methodology, descriptive statistics, and various tools and techniques used; the fourth section includes partial least square structural equation modelling, the fifth section discusses the findings and their implications; and the sixth section concludes the study.

2. Objectives

The objective of this study is to enhance the understanding of the factors influencing the willingness to invest in stocks, specifically identifying key determinants of this willingness. Given the current ambiguities in literature, the study aims to investigate the impact of various behavioral biases on individual investors' decisions. Additionally, it examines the relationships between economic variables—such as income, interest rates, and financial institutions—and non-economic variables like financial literacy, attitude, and social norms on willingness to invest (WI). These variables are expected to play a significant role in predicting investment decisions. By highlighting the intricate interplay between economic and non-economic factors and their influence on stock investment willingness, this study seeks to contribute to both academic discourse and practical applications for policymakers, educators, and investors. It aims to offer a nuanced understanding of investor behavior within the dynamic financial market landscape. For researchers analyzing the determinants of individual investors' stock investment decisions, the study ensures a balanced representation of respondents across various characteristics. This research article is organized into six sections: the second section reviews the literature on major economic and non-economic factors affecting investor behaviour; the third section explains the methodology, descriptive statistics, and various tools and techniques used; the fourth section includes partial least square structural equation modelling, the fifth section discusses the findings and their implications; and the sixth section concludes the study..

3. Scope and Methodology

Existing literature highlights numerous factors influencing individual investor behavior, with studies examining the impact of both economic and non-economic elements, which vary among individuals. This study employs structural equation modeling (SEM) to investigate the key factors affecting investor behavior in a developing economy. Given that the study involved responses from prospective investors proficient in either Hindi or English (or both), two versions of the questionnaire were used to ensure accuracy (Cha et al., 2007). The questionnaire was translated from English to Hindi using a forward translation technique (Maneesriwongul and Dixon, 2004) and reviewed by three Hindi academics specializing in behavioral economics and finance. Both language versions were pre-tested by financial professionals, and a pilot study with 50 investors led to minor revisions for finalization. The target population for this study comprised individual stock market investors, specifically from the Hamirpur and Una districts of Himachal Pradesh. The survey, conducted from May to July 2023, focused on individuals who invest in the Indian stock market. Hamirpur was selected for its high literacy rate of 88.15%, followed by Una at 86.53%, according to the 2011 Census of India. The sample was drawn using convenience sampling (Mrunal and Yashika, 2017) with a sample size of 384, as recommended by Meyer (1979) for populations over 500,000 (Fox et al., 2007). Of the 450 distributed questionnaires, 400 usable responses were collected.

The survey method involved a structured questionnaire designed to collect data on economic determinants (10 items), non-economic determinants (11 items), willingness to invest (4 items), and demographic characteristics (gender, age, marital status, educational level, employment status, and monthly income). Responses were measured using a 5-point Likert scale ranging from totally disagree (1) to totally agree (5). Statistical analyses included Descriptive Statistics, Cronbach's Alpha test, and Structural Equation Modeling (SEM). Partial least squares structural equation modeling (PLS-SEM) was applied using SmartPLS 4.0 software (Yan, 2022). PLS-SEM is increasingly popular across various fields, including marketing and behavioral sciences, due to its ability to model latent constructs under non-normality and with small to medium sample sizes (Hair et al., 2014a). Recently, several authors have utilized this method in investor behavior research (Haritha and Rashmi, 2019).

3.1 Respondent Profile

Preliminary analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 20.0 to gather basic information and summarize the structure and characteristics of the sample. Table 1 provides an overview of

the respondents' profiles. Descriptive analysis was employed to examine the frequencies of various demographic characteristics.

Table 1 Respondents profile

Category	Characteristics	Frequencies (N=400)	Percentage (%)
Gender	Female	125	31.3
	Male	275	68.8
Age (years)	18-30	38	9.4
	31-40	111	27.8
	41-50	179	44.8
	51-60	64	16.0
	Above60	8	2.0
Marital Status	Married	249	62.2
	Unmarried	143	35.8
	Divorced	4	1.0
	Widow	4	1.0
Educational level	Matric/+2	16	4.0
	Graduate	114	28.4
	Postgraduate & above	219	54.8
	Diploma	51	12.8
Employment status	Government employed	238	59.5
	Private employed	117	29.3
	Self Employed	45	11.2
Monthly Income	Below Rs. 25000	94	23.5
	Rs. 25001 to Rs. 50000	154	38.5
	Rs.50001 to Rs. 100000	121	30.2
	More than Rs.100001	31	7.8
Type of family	Nuclear family	181	45.2
	Joint family	219	54.8

Source: author's calculation.

The respondents' profiles have been categorized based on demographic characteristics, highlighting the importance of variables such as gender, age, educational level, employment, monthly income, type of family, and marital status, as emphasized by several studies (Barber and Odean, 2001; Jorgensen, 2007; Owusu et al., 2021). Table 1 presents these demographic characteristics, showing that the majority of the individual investors surveyed are male (68.8%, n=275) compared to female investors (31.2%, n=125). Out of 400 participants, 9.5% (n=38) were aged 18-30, 27.8% (n=111) were aged 31-40, 44.8% (n=179) were aged 41-50, 16.0% (n=64) were aged 51-60, and 2% (n=8) were above 60, with most participants falling within the 41-50 age group. Regarding education, the sample was predominantly postgraduates (54.8%, n=219), followed by graduates (28.5%, n=114), diploma holders (12.8%, n=51), and those with a matriculation/plus two level education (4.0%, n=16). Employment-wise, the majority were government employees (59.5%, n=238), followed by private employees (29.3%, n=117), and self-employed individuals (11.3%, n=45). In terms of monthly income, 38.5% (n=154) earned Rs. 25,001 to Rs. 50,000, 30.3% (n=121) earned Rs. 50,001 to Rs. 100,000, 23.5% (n=94) earned below Rs. 25,000, and 7.8% (n=31) earned more than Rs. 100,001. Additionally, 54.8% (n=219) of the participants were from joint families,

while 45.3% (n=181) were from nuclear families. Regarding marital status, 62.3% (n=249) of the participants were married, 35.8% (n=143) were unmarried, and both divorced and widowed participants comprised 1% (n=4) each.

3.2 Data analysis technique

This study analyzed the data using various statistical methods. Respondents' views on the research instruments, which were used to measure the constructs, were initially assessed by examining their agreement or disagreement with the statements. For hypotheses testing, the structural equation modeling (SEM) technique was employed. Specifically, the partial least square structural equation modeling (PLS-SEM) technique was utilized to analyze the data.

4. Literature Review

Kahneman, a pivotal figure in behavioral finance, has highlighted that investors are not rational and that psychological factors significantly influence their decisions. Behavioral finance, focusing on the link between investor sentiment and stock returns, has garnered increasing attention in finance literature. Investor sentiment, or market sentiment, represents investors' attitudes in the stock market (Baker and Wurgler, 2006; Thorp, 2004). Unlike classical financial theory, behavioral finance posits that investors are often swayed by herd behavior, relying on sentiment and noise rather than market fundamentals. This theory examines psychological factors driving investment sentiment and decision-making, drawing from behavioral economics and cognitive psychology. Empirical studies support behavioral finance theory can substantially explain the effect of investor sentiment on stock values (Baker and Wurgler, 2006, 2007; Baker et al., 2012). Additionally, demographic factors such as age and gender also play a crucial role in investor behavior (Fung and Duand, 2014).

Behavioral finance identifies several economic factors influencing investor decisions, including trading activity, taxes, income level, savings, risk level, past performance, dividends, affordability, liquidity, growth rate, and price fluctuations (Asad et al., 2018). Numerous studies have explored how demographic factors like age, gender, occupation, education, marital status, and income level impact investment decisions. For instance, a study in Rajasthan, India, found that age, income, language, and education significantly influence investment styles (Kaleem et al., 2009). Demographic factors include personal income, age, education, marital status, employment status, family size, and home ownership (Gutter et al., 2007; Whitaker et al., 2012). According to Remble et al. (2014), an individual's saving ability depends on their earnings and expenditure. Savings tend to increase with age, education, and income (Aktas et al., 2012; Fisher and Montalto, 2011; Yilmazer, 2010). Higher-income individuals are more likely to save (Perry and Morris, 2006; Herring et al., 2012). Financial institutions, particularly banks, play a vital role in the savings and investment process (Gorton, 2003; Jappelli, 2011; Hill, 2020; Amoako et al., 2012). Economic factors such as expected corporate earnings, dividend policy, and get-rich-quick influences are also significant. Higher income levels increase investment diversity and risk tolerance. Taxes on capital gains mainly affect frequent traders, with only a small percentage of investors holding shares for long-term purposes (Asad et al., 2018). Macroeconomic experiences, like bull markets or financial crashes, significantly influence household risk-taking and stock market participation (Mauris et al., 2017). Amoako et al. (2012) noted that individuals who save spend less on consumption than their disposable income allows. Economic factors such as expected corporate earnings, dividend policies, and get-rich-quick influences also affect investment decisions. Income is a key determinant, with higher-income individuals investing more and having a greater risk tolerance due to more diverse investment options. Taxes on capital gains also play a role, though they have less impact on daily traders. Recent positive macroeconomic experiences, such as bull markets, correlate positively with stock market participation, while negative experiences, like financial crashes, reduce it (Mauris et al., 2017).

$H0_1$: Economic factors do not significantly influence an individual's willingness to invest in stocks.

H1: Economic factors significantly influence an individual's willingness to invest in stocks.

Behavioral finance, which combines psychological and sociological factors, offers a comprehensive framework for understanding investor behavior, contrasting with traditional finance's rational approach (Gazel, 2014; Zhang and Zheng, 2015). Psychological and demographic factors significantly influence investment decisions (Mahmood et al., 2011). Understanding the factors driving stock market investment is crucial for developing strategies to encourage participation, particularly in developing countries where stock market involvement is low (Sutap Kumar Ghosh, 2022). Behavioral finance has highlighted psychological factors like overconfidence, which

affect investment decisions (Jain et al., 2015; Tekee and Yilmaz, 2015). Men tend to exhibit overconfidence in stock market participation (Barber and Odean, 2001; Hira and Loibl, 2008), with overconfidence and sensation-seeking positively correlated with stock market participation (Grinblatt and Keloharju, 2009). Financial literacy, including overconfidence in financial knowledge, also impacts stock market participation (Xia et al., 2014). Attitudes towards money significantly influence investment decisions (Tang, 2002; Ajzen, 1991; Keller and Siegrist, 2006; Lee et al., 2015). Social factors, such as family and peer influence, affect investment behavior, with childhood financial socialization playing a critical role (Kim and Chatterjee, 2013; Kim et al., 2011). Behavioral finance incorporates psychological, sociological, and demographic factors to better understand investor behavior (Mahmood et al., 2011). Behavioral finance suggests that individual investment behavior is influenced by psychological factors like overconfidence. Empirical research has shown that these factors help explain stock market fluctuations and investor behavior. Additionally, sociological factors, such as family and social norms, are significant. Subjective norms, or the perceived influence of significant others, play a role in investment decisions (Ajzen and Driver, 1992b).

$H0_2$: Non-economic factors do not significantly influence an individual's willingness to invest in stocks.
H2: Non-economic factors significantly influence an individual's willingness to invest in stocks.
Willingness to invest is affected by macroeconomic experiences, financial literacy, and attitudes towards money. Financial literacy positively correlates with stock market participation, suggesting that improving financial literacy through educational campaigns can promote stock investment (Owusu et al., 2021). Conversely, low risk tolerance negatively affects the willingness to invest (Tigges et al., 2000; Wärneryd, 2001; Clark-Murphy and Soutar, 2004; Wood and Zaichkowsky, 2004; Keller and Siegrist, 2006). Economic and non-economic factors alike play vital roles in shaping willingness to invest in stocks (Fraile and Ehrmann, 2014). Understanding the factors driving investment willingness is crucial for designing strategies to encourage stock market participation. Future research should explore additional variables and demographic characteristics to provide a more comprehensive understanding of investor behavior (Sutap and Ghosh, 2022; Mark and WH, 2017; Sista et al., 2018). This study differs by incorporating social factors and examining the combined effect of psychological and social factors as non-economic influences on investment behavior. This research considering a broader range of respondents and variables for better understanding of investor behavior (Mark and WH, 2017; Sista et al., 2018). This study differs by incorporating both psychological and social factors as non-economic influences on investment decisions.

5. Result and Discussion

In evaluating the measurement model, reliability and validity assessments were conducted on the constructs to determine their suitability for inclusion in the structural model analysis. To assess the reflective measurement model, convergent validity was initially examined. This involved scrutinizing factor loadings, composite reliability (CR), and average variance extracted (AVE). The table demonstrates that all item loadings exceed the acceptable value of 0.5, as per Chin (1998). Moreover, the composite reliability results indicate robust internal consistency reliability for all measures, with values surpassing the acceptable threshold of 0.7. Additionally, the average variance extracted values, representing the proportion of variance in the indicators explained by the latent construct, exceed the recommended threshold of 0.5, as suggested by Hair et al. (2014).

4.1 Discriminant Validity and Reliability of Constructs

A reliability test was conducted to gauge the consistency of the indicators within each construct. The internal consistency of each construct was evaluated using Cronbach's alpha (CA) and the Fornell-Larcker measure of composite reliability. As shown in Table 2, the reliability scores for all constructs were deemed appropriate, with CA coefficients exceeding the recommended threshold of 0.70 (Nunnally et al., 1967). Additionally, convergent validity tests were performed by examining the average variance extracted (AVE) values for each construct. A valid construct typically explains at least 50% of the total variance with its items (Hair et al., 2014). The AVE scores presented in Table 3 were all above 0.50, indicating satisfactory convergent validity. Furthermore, the composite reliability (CR) test results are considered satisfactory when the value exceeds 0.7 (Ghozali, 2012).

Table 2 Fornell-Larcker criterion, AVE, CR, and CA

Constructs	Economics factors	Non Economic Factor	WI	AVE	CR	CA
Economic factors	**0.708**			0.501	0.893	0.890
Non Economic Factor	0.778	**0.749**		0.560	0.853	0.843
Willingness to invest	0.510	0.593	**0.795**	0.631	0.825	0.809

Source: author's calculation

Finally, discriminant validity tests were conducted using the Fornell–Larcker criterion (Fornell and Larcker, 1981) to determine the distinctiveness and lack of correlation among the constructs. According to this criterion, the square root of the AVE scores for each construct should exceed the inter-construct correlations to ensure validity. The results of this test, displayed in Table 3, confirm that discriminant validity is established, as the AVE scores for the constructs surpass the squared cross-correlations between them.

4.2 Measurement Model

An examination of respondents' perspectives on the key constructs of the study is outlined in Table below. As depicted, both economic and non-economic factors serve as reliable predictors of willingness to invest in stocks. The analysis of the data was conducted using the partial least squares structural equation modeling (PLS-SEM) technique. This method, based on regression, aims to minimize the residual variances of the endogenous variable (Hair et al., 2011). PLS-SEM entails two path models: the measurement model and the structural model. The measurement model elucidates the relationship between latent variables and their respective indicators, while the structural model elucidates the relationships among the latent variables (Henseler et al., 2016; Tenenhaus et al., 2005).

Table 3 measurement items on constructs, VIF, Mean, Standard Deviation and loadings.

Constructs	Measurement variables	VIF	loadings	Mean	Standard deviation
Economic factors					
Income	In general, as income level increase, saving amount also increase.	2.144	0.730	2.013	0.991
	If there is an increase in income, I would like to save the increased amount whole.	1.897	0.728	1.960	1.043
	I would like to save money for wealth creation.	2.066	0.741	2.055	1.083
	I want to save money for investment opportunities to earn income	1.635	0.693	1.980	0.951
	I would like to invest money for wealth creation.	1.325	0.620	2.595	1.237
Rate of interest	I consider interest rate for saving amount in bank deposits or post offices etc.	1.871	0.698	2.005	1.046
	I would like save more amount at higher interest rate rather than usual.	1.811	0.693	2.013	1.009
	I got benefited by saving schemes and willing to save for benefits	1.761	0.687	2.233	1.153
Financial institutions	I consider the service charges levied by on saving amount	1.733	0.724	2.108	0.975
	I would prefer a saving account near to my resident	2.001	0.758	1.950	0.947
Non-economics					
Social Norms	I often like to save in the same scheme my friends and colleagues done.	2.351	0.832	2.418	1.294

	I hear about investment opportunities from friends and colleagues	2.001	0.772	2.420	1.146
	I am confident that my investment will pay higher profits as compared to others investment	2.227	0.762	2.288	1.046
Attitude	I feel capable of using my future income to achieve my investment goals.	1.913	0.724	2.273	1.148
	I give importance to saving money from rather than investment	1.487	0.758	2.043	0.952
Financial literacy	I believe in investing my money rather than savings.	1.739	0.700	2.300	1.158
	I try to keep track of general economic trends.	1.638	0.649	2.105	0.994
	I regularly look for interesting investment opportunities for my money.	2.073	0.688	2.180	0.984
	Iget information from T.V. and newspapers about saving.	1.935	0.713	2.123	1.026
	I am not attracted to the financial part of my life.	1.888	0.724	2.513	1.147
Willingness to invest	Stock markets are unpredictable, which is why I would never invest in stocks	2.090	0.806	2.763	1.148
	I would invest a larger sum of money in stocks	1.358	0.771	2.555	0.952
	The uncertainty of whether the markets will rise or fall keeps me from buying stocks	1.714	0.765	2.695	1.300
	When I hear the word ‘‘stocks’’, the term ‘‘possible loss’’ comes to mind immediately	2.121	0.835	2.770	1.143

Source: author’s calculation

After confirming the adequacy of the constructs through reliability and validity tests, the study proceeded to evaluate the structural model to discern patterns in the data relationships. Before conducting this analysis, however, the model underwent testing for collinearity issues to ensure that the estimated path coefficients would not be biased by multicollinearity problems. Multicollinearity testing was performed using the variance inflation factor (VIF). The results of this assessment suggest that the structural model analysis would not be adversely affected by collinearity issues, as the VIF values were well below the maximum threshold of 10 (O’Brien, 2007). As depicted in Table 5, the VIF values for the constructs ranged from a minimum of 1.07 to a maximum of 2.195, indicating the absence of multicollinearity issues. Based on this, the hypothesized relationships illustrated in Figure 1 were analyzed. The significance level of the proposed relationships was determined by employing the bootstrapping procedure with 5,000 subsamples, as recommended by Hair et al. (2014).

6. Findings

Figure 1 Determinants of Willingness to invest

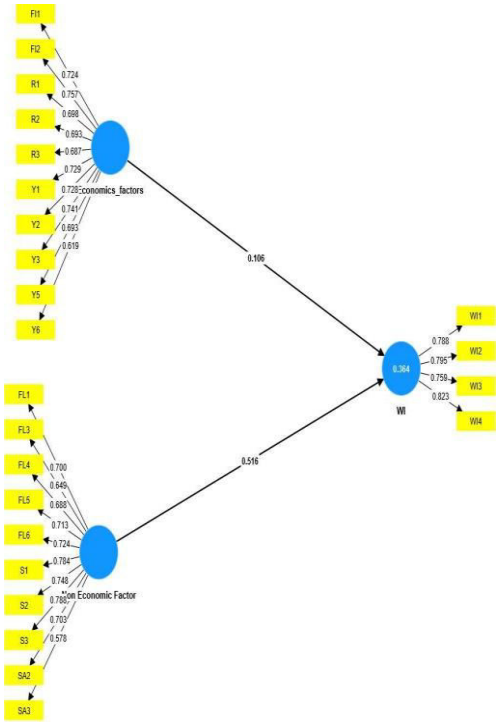

Figure 1 illustrates the structural model depicting the relationship between the exogenous and endogenous constructs based on the PLS algorithm.

As per Hair et al. (2014), the structural model is estimated by analyzing various parameters such as path coefficients to determine the strength and direction of relationships between latent variables, t-values, coefficient of determination (R2), predictive relevance (Q2), and effect sizes (f2). The output is presented in Table 4. Additionally, the R2 value of the dependent variable (Willingness to invest) was examined to assess the combined effect of exogenous variables on the endogenous variables. The obtained R2 value of 0.364 indicates that 36% of the variance in willingness to invest is accounted for by this model. Following Cohen's (1988) criteria, where values of 0.26 denote substantial effects, 0.13 represent moderate effects, and 0.02 indicate weak effects, the explanatory power of the dependent variable in this context is substantial. Furthermore, effect sizes (f2) were estimated by calculating the change in R2 value when a specific construct is omitted from the model. According to Cohen's guidelines, effect sizes of 0.02 signify small effects, 0.15 denote medium effects, and 0.35 indicate large effects. For economic factors on willingness to invest, the effect size was calculated as (0.009), indicating a small or negligible effect, while for non-economic factors on willingness to invest, it was determined as (0.152), indicating medium effects.

Table 4 Path coefficients

Hypothesis path	**Path coefficient(B)**	**f-square**	**T-values**	**P-values**	**Results**
Economics_factors -> Willingness to Invest	0.122	0.009	1.643	0.100	rejected
Non Economic Factor -> Willingness to Invest	0.498	0.152	8.048	0.000	accepted
R-square (0.364)					

Source: author's calculation.

Table 4 offers a comprehensive overview of the R-Squared values, f-square, T-values, and P-values concerning the chosen economic and non-economic factors. The results of the hypotheses test, conducted through bootstrapping analysis, are synthesized and presented in Table 4. An examination of the p-values and path coefficients reveals that the study lends support to one hypothesized relationship while not supporting another. Among the two dimensions of factors, non-economic factors exhibit a positive and significant relationship with individuals' willingness to invest in stocks, and they were accepted at significance levels of 1% and 5%, respectively. Conversely, economic factors displayed an insignificant relationship with the willingness to invest in stocks and were rejected at significance levels of 1% and 5%, respectively.

Table 5 Model fit

	Saturated model	Estimated model
SRMR(standardized root mean square residual)	0.084	0.084
d_ULS (the squared Euclidean distance)	1.467	1.467
d_G(the geodesic distance)	0.379	0.379
Chi-square	853.236	853.236
NFI(normed fit index)	0.791	0.791

Source: author's calculation.

Smart PLS 4.0 employs an adapted Bollen–Stine bootstrapping procedure (Dijkstra and Henseler, 2015; Bollen and Stine, 1992; Yuan and Hayashi, 2003) to generate confidence intervals for d_ULS, d_G, and SRMR criteria. The distinction between saturated and estimated models in PLS-SEM is still in its nascent stage. The saturated model evaluates correlations between all constructs, while the estimated model is a more stringent version of the fit measure. Regarding fit indices, an NFI value equal to or greater than 0.90 is preferable, and an SRMR value between 0.00 and 0.05 indicates a good fit, whereas our results fall within the range of 0.05 to 0.10, which is deemed acceptable. For the bootstrap-based test to determine the exact overall model fit measure, d_ULS and d_G are considered for inference statistics assessment.

7. Limitations and Research Gaps

The study delves into two dimensions: economic factors and non-economic factors. While economic factors exhibited an insignificant relationship, non-economic factors showed a significant association with the endogenous construct. The link between non-economic variables and willingness to invest in stocks demonstrated a positive and statistically significant correlation. Hence, in line with our expectations, this outcome suggests that the level of non-economic determinants in an individual positively influences their willingness to invest in stocks. Consequently, an individual's comprehension and behavior regarding investment matters are pertinent in shaping their decision to invest in stocks. Considering that stock market operations are generally perceived to be technical, a thorough understanding of financial issues will be crucial for individuals aspiring to invest in stocks.

This inquiry solely focuses on individual investors, but future research will extend its scope to include institutional investors. Additionally, there is potential to enhance the study by incorporating behavioral aspects within the stock market. This study adds to the existing body of knowledge in several ways. Firstly, it elucidates significant determinants that elucidate the influence of both economic and non-economic factors on the willingness to invest in stocks. Furthermore, it sheds light on the intricate ways in which investor decision-making is influenced by these factors and their willingness to invest.

The present study is subject to several limitations. Firstly, the predictors utilized in the research model might be inadequate or unsuitable for fully explaining investor willingness. Additionally, data collection for this study has been restricted to northern India. Given India's diverse culture with varying traditions, languages, etc., which significantly influence investors' behaviors, future studies could benefit from including data from other regions of the country. Furthermore, the study has generalized the financial advertisement effect for all financial and investment products, but variations in banking, insurance, and mutual funds could exist. Moreover, data collection has been confined to two most literate districts, Hamirpur and Una of Himachal Pradesh, while incorporating urban areas from different perspectives could offer valuable insights. A comparative study could be conducted to evaluate the impact of individual institutional investors in rural and urban settings.

8. Conclusion

The current study focuses on Indian investors and delves into various economic and non-economic factors related to their willingness to invest in the stock market. Its primary objective is to assess the economic and non-economic determinants shaping the willingness to invest among Indian investors. By scrutinizing these determinants, the study aims to enhance comprehension of investor behavior and willingness to invest in the stock market, potentially leading to improved investment behavior. A burgeoning body of literature in this field suggests that investor behavior is influenced by a wide array of factors, ranging from purely economic factors like income, interest rates, and financial institutions, to non-economic factors such as financial literacy, social norms, and attitudes toward saving and willingness to invest. By examining three economic and three non-economic determinants, this study offers comprehensive insights into the investment decision-making process of 400 Indian investors. This research posits that income, interest rates, financial institutions, financial literacy, saving attitudes, and social norms serve as indicators of willingness to invest. Its contribution lies in identifying economic and non-economic factors crucial for bolstering willingness to invest in India, while also testing the impact of established economic and non-economic factors on willingness to invest.

Regarding practical implications, the research findings deepen our understanding of investor behavior and shed light on non-economic determinants influencing willingness to invest. This can aid in enhancing cooperation within the investment system and predicting future investor behavior, all geared toward promoting willingness to invest in stocks. Furthermore, these results underscore the significance of political and technological factors, such as day trading and government policies, in shaping investor behavior. By confirming the influence of non-economic factors on willingness to invest, this research underscores the importance of exploring additional factors to gain a comprehensive understanding of investor behavior and inform investment strategies in the stock market. Despite drawing from existing literature on behavioral finance in India, this study has limitations. Primarily, it was conducted in India's northern region, and unique characteristics specific to this region may not be representative of other parts of India or emerging markets. Future studies could explore experimental approaches and theories like service quality to assess fund quality and providers, as well as examine the interrelationships between various psychological variables.

References

[1] Adam, A. A., & Shauki, E. R. (2014). Socially responsible investment in Malaysia: behavioral framework in evaluating investors' decision making process. *Journal of Cleaner Production*, *80*, 224–240. https://doi.org/10.1016/j.jclepro.2014.05.075

[2] Ahinful, G. S., Otieku, J. K., Anokye, F. K., & Owusu, G. M. Y. (2021). What influences the willingness of university students to invest in stocks. *International Journal of Education Economics and Development*, *12*(2), 116. https://doi.org/10.1504/ijeed.2021.10035302

[3] Ahmad, Z., Ibrahim, H., & Tuyon, J. (2017). Institutional investor behavioral biases: syntheses of theory and evidence. *Management Research Review*, *40*(5), 578–603. https://doi.org/10.1108/mrr-04-2016-0091

[4] Aktas, N., De Bodt, E., Lobez, F., & Statnik, J. (2012). The information content of trade credit. *Journal of Banking & Finance*, *36*(5), 1402–1413. https://doi.org/10.1016/j.jbankfin.2011.12.001

[5] Anju, K. J., & Anuradha, P. S. (2017). Saving and investment behaviour of information technology professionals – an Empirical analysis. *Asian Journal of Research in Business Economics and Management*, *7*(6), 71. https://doi.org/10.5958/2249-7307.2017.00071.8

[6] Aregbeyen, O., & Mbadiugha, S. O. (2012). Factors Influencing Investors Decisions in Shares of Quoted Companies in Nigeria. *Pakistan Journal of Applied Economics, 22*, 53–65. https://ideas.repec.org/a/pje/journl/article12iii.html

[7] Aregbeyen, O., & Ogochukwu, S. (2011). Factors influencing investors decisions in shares of quoted companies in Nigeria. *˜the œSocial Sciences*, *6*(3), 205–212. https://doi.org/10.3923/sscience.2011.205.212

[8] Baker, H. K., & Nofsinger, J. R. (2002). Psychological Biases of Investors. *Financial Services Review*, *11*(2), 97. https://www.questia.com/library/journal/1P3-977801141/psychological-biases-of-investors

[9] Baker, H. K., & Ricciardi, V. (2014a). *Investor Behavior: The psychology of financial planning and investing*. http://ci.nii.ac.jp/ncid/BB15819178

[10] Baker, M., & Wurgler, J. (2006a). Investor sentiment and the Cross-Section of stock returns. *the Journal of Finance/ the Journal of Finance*, *61*(4), 1645–1680. https://doi.org/10.1111/j.1540-6261.2006.00885.x

[11] Baker, M., & Wurgler, J. (2007). Investor sentiment in the stock market. *˜the œJournal of Economic Perspectives/˜the œJournal of Economic Perspectives*, *21*(2), 129–151. https://doi.org/10.1257/jep.21.2.129

[12] Baker, M., Wurgler, J., & Yuan, Y. (2012). Global, local, and contagious investor sentiment. *Journal of Financial Economics*, *104*(2), 272–287. https://doi.org/10.1016/j.jfineco.2011.11.002

[13] Barber, B. M., & Odean, T. (2001). The internet and the investor. *˜the œJournal of Economic Perspectives/˜the œJournal of Economic Perspectives*, *15*(1), 41–54. https://doi.org/10.1257/jep.15.1.41

[14] Barber, B. M., & Odean, T. (2013). The behavior of individual investors. In *Handbook of the economics of finance* (pp. 1533–1570). https://doi.org/10.1016/b978-0-44-459406-8.00022-6

[15] Bayer, P., Keohane, N., & Timmins, C. (2009). Migration and hedonic valuation: The case of air quality. *Journal of Environmental Economics and Management*, *58*(1), 1–14. https://doi.org/10.1016/j.jeem.2008.08.004

[16] Beck, T., & Levine, R. (2004). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance*, *28*(3), 423–442. https://doi.org/10.1016/s0378-4266(02)00408-9

[17] Behavioral finance. (2010). In *Wiley eBooks*. https://doi.org/10.1002/9781118258415

[18] Bollen, K. A., & Stine, R. A. (1992). Bootstrapping Goodness-of-Fit measures in structural equation models. *Sociological Methods & Research*, *21*(2), 205–229. https://doi.org/10.1177/0049124192021002004

[19] Cha, E., Kim, K. H., & Erlen, J. A. (2007). Translation of scales in cross-cultural research: issues and techniques. *Journal of Advanced Nursing*, *58*(4), 386–395. https://doi.org/10.1111/j.1365-2648.2007.04242.x

[20] Chandra, A. (2008). Decision Making in the Stock Market: Incorporating Psychology with Finance. *Social Science Research Network*. https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1501721_code1181506.pdf?abstractid=1501721&mirid=1

[21] Chandra, A., & Kumar, R. (2012). Factors influencing Indian individual investor behaviour: survey evidence. *Social Science Research Network*. https://doi.org/10.2139/ssrn.2029642

[22] Cohen, J. (2013). Statistical Power Analysis for the Behavioral Sciences. In *Routledge eBooks*. https://doi.org/10.4324/9780203771587

[23] Dijkstra, T. K., & Henseler, J. (2015). Consistent partial least squares path modeling. *Management Information Systems Quarterly*, *39*(2), 297–316. https://doi.org/10.25300/misq/2015/39.2.02

[24] Fisher, P. J., & Montalto, C. P. (2010). Loss Aversion and Saving Behavior: Evidence from the 2007 U.S. Survey of Consumer Finances. *Journal of Family and Economic Issues*, *32*(1), 4–14. https://doi.org/10.1007/s10834-010-9196-1

[25] Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

[26] Hair, J. F., Jr, Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review*, *26*(2), 106–121. https://doi.org/10.1108/ebr-10-2013-0128

[27] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/mtp1069-6679190202

[28] Heaton, J., & Lucas, D. (2000). Portfolio choice and asset prices: The importance of entrepreneurial risk. *˜the œJournal of Finance/˜the œJournal of Finance*, *55*(3), 1163–1198. https://doi.org/10.1111/0022-1082.00244

[29] Henseler, J. (2017). Partial least squares path modeling. In *International series in quantitative marketing* (pp. 361–381). https://doi.org/10.1007/978-3-319-53469-5_12

[30] Hundleby, J. D., & Nunnally, J. (1968). Psychometric theory. *American Educational Research Journal*, *5*(3), 431. https://doi.org/10.2307/1161962

[31] Ising, A. (2007). Pompian, M. (2006): Behavioral Finance and Wealth Management – How to Build Optimal Portfolios that account for investor biases. *Financial Markets and Portfolio Management*, *21*(4), 491–492. https://doi.org/10.1007/s11408-007-0065-3

[32] Jain, R., Jain, P., & Jain, C. (2015). Behavioral Biases in the Decision Making of Individual Investors. *Journal of Management Resources*, *14*(3), 7. https://www.questia.com/library/journal/1P3-3776384251/behavioral-biases-in-the-decision-making-of-individual

[33] Jorgensen, B. L. (2007). *Financial literacy of college students: parental and peer influences*. https://theses.lib.vt.edu/theses/available/etd-10162007-143627/unrestricted/Thesis_BJ2.pdf

[34] Joshi, M., & Bayra, Y. (2017). Factors affecting investment decision in stock market. *Social Science Research Network*. https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID3160260_code1848190.pdf?abstractid=3160260&mirid=1

[35] Kaleem, A., & Wajid, R. A. (2009). Application of Islamic banking instrument (Bai Salam) for agriculture financing in Pakistan. *British Food Journal*, *111*(3), 275–292. https://doi.org/10.1108/00070700910941471

[36] Keller, C., & Siegrist, M. (2006). Investing in stocks: The influence of financial risk attitude and values-related money and stock market attitudes. *Journal of Economic Psychology*, *27*(2), 285–303. https://doi.org/10.1016/j.joep.2005.07.002

[37] Lacalle, D. (2019). ARE THE EFFECTS OF UNCONVENTIONAL MONETARY POLICY ON FINANCIAL MARKETS CAUSING BUBBLES? *Journal of Business Accounting and Finance Perspectives*, *1*(1), 1. https://doi.org/10.26870/jbafp.2018.01.003

[38] Maneesriwongul, W., & Dixon, J. K. (2004). Instrument translation process: a methods review. *Journal of Advanced Nursing*, *48*(2), 175–186. https://doi.org/10.1111/j.1365-2648.2004.03185.x

[39] Moskowitz, T. J., & Vissing-Jørgensen, A. (2002). The Returns to Entrepreneurial Investment: A private equity premium puzzle? *the American Economic Review*, *92*(4), 745–778. https://doi.org/10.1257/00028280260344452

[40] Nadeem, M., Bahadar, S., Gull, A. A., & Iqbal, U. (2020). Are women eco-friendly? Board gender diversity and environmental innovation. *Business Strategy and the Environment*, *29*(8), 3146–3161. https://doi.org/10.1002/bse.2563

[41] Obamuyi, T. M. (2013). Factors Influencing Investment Decisions in Capital Market: a Study of Individual Investors in Nigeria. *Organizations and Markets in Emerging Economies*, *4*(1), 141–161. https://doi.org/10.15388/omee.2013.4.1.14263

[42] O'brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality and Quantity*, *41*(5), 673–690. https://doi.org/10.1007/s11135-006-9018-6

[43] Pahlevi, R. W., & Oktaviani, I. I. (2018). Determinants of individual investor behaviour in stock investment decisions. *Accounting and Financial Review*, *1*(2). https://doi.org/10.26905/afr.v1i2.2427

[44] Peng, M. Y., & Yan, X. (2022). Exploring the influence of determinants on behavior intention to use of multiple media kiosks through technology readiness and acceptance model. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.852394

[45] PH, H., & Uchil, R. (2020). Influence of investor sentiment and its antecedent on investment decision-making using partial least square technique. *Management Research Review*, *43*(11), 1441–1459. https://doi.org/10.1108/mrr-06-2019-0254

[46] Pham, H. Q., Mai, T., Pham-Tran, N., Kawazoe, Y., Mizuseki, H., & Nguyen-Manh, D. (2014). Engineering of Band Gap in Metal–Organic Frameworks by Functionalizing Organic Linker: A Systematic Density Functional Theory Investigation. *Journal of Physical Chemistry. C./Journal of Physical Chemistry. C*, *118*(9), 4567–4577. https://doi.org/10.1021/jp405997r

[47] Remble, A. A., Marshall, M. I., & Keeney, R. (2013). Household saving behavior and the influence of Family-Owned Business. *Journal of Family and Economic Issues*, *35*(3), 411–422. https://doi.org/10.1007/s10834-013-9372-1

[48] Rousseau, P. L., & Yilmazkuday, H. (2009). Inflation, financial development, and growth: A trilateral analysis. *Economic Systems*, *33*(4), 310–324. https://doi.org/10.1016/j.ecosys.2009.06.002

[49] Sánchez-Miguel, P. A., Leo, F. M., Sánchez-Oliva, D., Amado, D., & García-Calvo, T. (2013). The Importance of Parents' Behavior in their Children's Enjoyment and Amotivation in Sports. *Journal of Human Kinetics*, *36*(1), 169–177. https://doi.org/10.2478/hukin-2013-0017

[50] Sivaramakrishnan, S., Srivastava, M., & Rastogi, A. (2017). Attitudinal factors, financial literacy, and stock market participation. *International Journal of Bank Marketing*, *35*(5), 818–841. https://doi.org/10.1108/ijbm-01-2016-0012

[51] Tang, T. L., & Baumeister, R. F. (1984). Effects of personal values, perceived surveillance, and task labels on task preference: The ideology of turning play into work. *Journal of Applied Psychology*, *69*(1), 99–105. https://doi.org/10.1037/0021-9010.69.1.99

[52] Tekçe, B., & Yılmaz, N. (2015). Are individual stock investors overconfident? Evidence from an emerging market. *Journal of Behavioural and Experimental Finance*, *5*, 35–45. https://doi.org/10.1016/j.jbef.2015.02.003

[53] Tenenhaus, M., Vinzi, V. E., Chatelin, Y., & Lauro, C. (2005a). PLS path modeling. *Computational Statistics & Data Analysis*, *48*(1), 159–205. https://doi.org/10.1016/j.csda.2004.03.005

[54] Tenenhaus, M., Vinzi, V. E., Chatelin, Y., & Lauro, C. (2005b). PLS path modeling. *Computational Statistics & Data Analysis*, *48*(1), 159–205. https://doi.org/10.1016/j.csda.2004.03.005

[55] Vijaya, E. (2014). An empirical analysis of influential factors on investment behaviour of retail investors' in Indian stock market: a behavioural perspective". *International Journal in Management and Social Science*, *2*(12), 296–308. https://www.indianjournals.com/ijor.aspx?target=ijor:ijmss&volume=2&issue=12&article=027

[56] Yuan, K., & Hayashi, K. (2003). Bootstrap approach to inference and power analysis based on three test statistics for covariance structure models. *British Journal of Mathematical & Statistical Psychology/British Journal of Mathematical and Statistical Psychology*, *56*(1), 93–110. https://doi.org/10.1348/000711003321645368.