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Quantifying Risk in Investment Decision-Making

Jaheera Thasleema Abdul Lathief [1], Sunitha Chelliah Kumaravel [1], Regina Velnadar [1], Ravi Varma Vijayan [2] and Satyanarayana Parayitam [3,*]

[1] Department of Commerce Holy Cross College, Manonmaniam Sundaranar University, Tirunelveli 629002, Tamil Nadu, India; jaheera9095@gmail.com (J.T.A.L.); sunithaabel@gmail.com (S.C.K.); reginarun180@gmail.com (R.V.)
[2] Government Arts and Science College, Bharathiar University, Coimbatore 641109, Tamil Nadu, India; ravivijayan3@gmail.com
[3] Department of Management and Marketing, Charlton College of Business, University of Massachusetts Dartmouth, Dartmouth, MA 02745, USA
* Correspondence: sparayitam@umassd.edu

Abstract: In the wake of inflation, investors engage in identifying inflation hedging instruments. Most importantly, investors attempt to minimize risk and maximize returns to safeguard against inflation. Risk plays an important role in this process. The objective of this research is to examine the relationship between risk factors and investor behavior, particularly in the Indian context. Based on the theory of planned behavior (TPB), we built a conceptual model investigating the intricate relationship between risk factors, investment priority, investment strategy and investment decision-making. We collected data from 537 respondents in the southern region of India and analyzed the data using Partial Least Squares Structural Equation Modeling (PLS-SEM). The result indicate: (i) risk factors (risk capacity, risk tolerance, and risk propensity) are positively related to investment priority and investment strategy, (ii) investment priority is positively related to investment decision-making, (iii) conscientiousness moderates the relationship between investment priority and investment decision-making, (iv) investment strategy is positively related to investment decision-making. Finally, the practical and theoretical implications for research are discussed.

Keywords: risk capacity; risk tolerance; risk propensity; investment priority; conscientiousness; investment strategy; hierarchical regression; process macros

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1. Introduction

A significant body of research over the last three decades in behavioral finance investigated the effects of risks on the investment decisions of individuals (Bucciol and Miniaci 2018; Gakhar 2019; Rothman 2017; Streich 2023; Zheng and Prislin 2012). Several studies established that an individual's investment decision-making process is influenced by their unique characteristics and traits (Chitra and Sreedevi 2011; Galil et al. 2023; Mishra et al. 2010; Young et al. 2012) and how they perceive that investment provides a cushion against inflation (Aimone and Pan 2022; Sanfelici and Magnani 2022).

Making investment decisions is a significant aspect of managing one's finances, as it balances current requirements and future aspirations. Financial planning can be an extensive and resource-intensive process for individuals and families, requiring careful consideration and analysis of various investment options (Baker et al. 2021; Nadeem et al. 2020). It is also necessary to safeguard against inflation and risky situations (Galil et al. 2023). Researchers in finance have not considered personal and environmental factors that affect investor choices (Sivaramakrishnan et al. 2017; Xiao and Porto 2017). Researchers in psychology, economics, and finance increasingly agreed that investors behave irrationally and do not adhere to rational decision-making processes, which causes them to make tremendous mistakes in their decisions (Dam and Mate 2017). The researchers have shifted

their focus from traditional finance, where investors make rational decisions, to claiming that decisions are usually irrational. The basic presumption of behavioral finance researchers is that a sophisticated interplay of psychological elements influences investing decisions. Traditional financial theories hold that investors make rational decisions, whereas behavioral scientists contend that investor behavior is irrational (Tekce and Yılmaz 2015). In order to achieve optimal results in financial development, it is imperative to exercise prudence in allocating resources (Lusardi and Mitchell 2014). Behavioral finance and economics scholars have identified numerous obstacles individuals face when making sound financial decisions (Abreu and Mendes 2012; Li and Yu 2012). The literature on behavioral finance examines various elements that influence an individual's financial decisions (Aydemir and Aren 2017; Davis and Runyan 2016). Information has dramatically aided the investor's ability to make informed investment decisions; yet, it has been discovered that perceived risk is more critical than actual risk (Ricciardi 2008). According to several studies, investors exhibit varying behaviors in different situations (Riitsalu and Murakas 2019; Wood and Zaichkowsky 2004). Investors heavily depend on the information at their disposal to make decisions impacting their investments (Kubilay and Bayrakdaroglu 2016). This research aims to find the answers to the following questions.

RQ1: How do various risk factors (risk capacity, risk tolerance, and propensity) influence investment priority and strategy?

RQ2: How does investment priority influence the investment decision-making of individuals?

RQ3: How does investment strategy influence the investment decision-making of individuals?

RQ4: How does conscientiousness moderate the relationship between investment priority and decision-making?

This research makes three significant contributions to the literature on behavioral finance. First, three components of risk, risk propensity, risk tolerance, and risk capacity, are investigated in the context of investors in a developing country, India. This study bridges a gap by connecting three dimensions of risk to investor priority and investor decisions. Second, this research underscores the importance of investment priority and strategy in driving investment decisions. Most importantly, the investor's preference may involve protecting the investment in light of inflation and securing adequate returns. Though previous researchers have exhaustively studied risk perception, it is intriguing that a substantial amount of work has not been conducted concerning risk and investment decisions, especially in developing countries. Third, this study highlights the importance of conscientiousness, a personality trait, in strengthening the relationship between investment priority and investment decision. This study is the first to consider various risk factors (risk capacity, risk tolerance, and risk propensity) that may influence investment priority and investment strategy. Further, this study emphasizes the significance of conscientious investors in influencing investment decisions.

The Study Context—India

India is the number one populated country in the world, and investors' behavior is radically different from other countries (Pandit and Yeoh 2014). Indian investors tend to invest in their children's education, healthcare, and celebrations like marriage. Most of the investors in India plan their investments in favor of real estate and stock market. Some individuals and families tend to invest in gold ornaments (Rajasekar et al. 2022). The risk propensity of investors plays a vital role in the diversification of investments in India (Saivasan and Lokhande 2022). Further, limited financial knowledge and financial inclusion prompt most of the investors to seek financial consultants to make financial decisions (Adil et al. 2023; Recent research reported that Indian stock markets are highly volatile (Rath 2023), thus making investment decisions very difficult for Indian investors.

This paper is organized in a specific manner to ensure clarity and cohesiveness. Firstly, we provide a concise summary of the research that substantiates our hypotheses.

Next, we specify variables, hypotheses development, and analysis methods to ensure transparency and accurate interpretation of our results. Finally, we delve into the theoretical and practical implications of our findings, while also acknowledging any limitations in our research and proposing potential avenues for future research.

2. Variables in the Study

2.1. Risk Capacity

Investors evaluate the potential gains and the risks involved in their investments. However, some individuals may be risk-averse, regardless of their ability to withstand potential losses. In contrast, others may actively seek risk, even though they may not have the financial resources to absorb potential losses (Sindhu and Kumar 2014). Risk capacity can be objectively determined based on various factors such as income, age, financial stability, dependents, and other related elements (Roszkowski et al. 2005). Risk capacity measures how much risk a person can tolerate while investing (Rajasekar et al. 2022).

2.2. Risk Tolerance

Investors and financial service providers increasingly need to grasp financial risk tolerance. From the retail investor's perspective, it facilitates better financial decision-making and prevents frustration. Analysis of a client's investment risk tolerance increases confidence in one's decision-making (Hallahan et al. 2003). An investor's wealth increases his absolute risk tolerance since he can use his money to acquire any knowledge. In contrast, less affluent people remain doubtful because they cannot afford to buy that much information (Makarov and Schornick 2010). Successful prior investments suggest a high-risk tolerance that undoubtedly produces high returns (Chou et al. 2010). Risk tolerance is a subjective measure based on attitudes and beliefs, which can vary among individuals, even within a group sharing similar characteristics, such as age and income. Therefore, individuals with comparable incomes, age, and other factors may exhibit similar risk-taking tendencies (Roszkowski et al. 2005).

2.3. Risk Propensity

An individual's portfolio allocation of their financial resources is determined by their attitude towards risk-taking (Hallahan et al. 2003). Risk propensity assesses risk-taking in the current situation (Combrink and Lew 2019). Investors willing to buy the stock demonstrate that they are willing to accept risks, which may ultimately impact their ability to make money from investments. To obtain a more significant return from the stock market, people perceive a higher level of risk (ul Abdin et al. 2022). An individual's inclination towards risk is not a static trait but a dynamic characteristic that various experiences and events can influence. This propensity for risk can ultimately impact the decisions made regarding risk-taking behavior (Hung and Tangpong 2010).

2.4. Investment Priority

In developing nations like India, where there is a high population density and a lack of available land, real estate prices rise with time; many investors prefer real estate over other forms of sustainable investment (Shanmugam et al. 2022a). The subject of investment priority is the prioritized elements of investments. For example, some people invest to pay for their children's education, weddings, healthcare, or other essentials. They then plan their tactics and select their investment portfolio (Rajasekar et al. 2022).

2.5. Conscientiousness

Conscientiousness is one of the Big Five personality traits (McCrae and Costa 1997) that explains how individuals act with a sense of purpose. Individuals high in conscientiousness tend to be organized, systematic, and responsible in making decisions. They acquire knowledge through various sources before making rational decisions as far as

possible. Conscientiousness entails two distinct traits—a strong work ethic and a focus on achieving goals (Caliendo et al. 2014). Conscientious people tend to be competent and obedient (Shanmugam et al. 2022b), with a level of appreciation individuals have for preparation, resilience, and commitment towards achieving goals (Rossberger 2014), reliable, punctual, highly capable, determined, cautious, analytical, methodical, self-disciplined, and generally have specific financial objectives (Pak and Mahmood 2015). Extant research reported that individuals high in conscientiousness effectively manage their finances and avoid financial distress (Fenton-O'Creevy and Furnham 2020; McCrae and Costa 1997; McCrae and Terracciano 2005; Weele 2013).

2.6. Investment Strategy

Individuals must engage in investment strategy to maintain control of their finances, invest surplus funds with discipline, and have the confidence to profit from investments. (Asandimitra et al. 2019). Like a company's investment strategy, which outlines its long-term investment goals, primary activity paths, risk tolerance, and evaluation procedures, individuals chalk out investment strategies to meet their goals (Kartasova 2013). A study on financial constraints revealed that businesses with more significant financial uncertainty and financial disadvantage are more likely to use a peer investment strategy and rely on other businesses' decisions (Park et al. 2017). The investor's short-term and long-term investments comprise their strategy (Rajasekar et al. 2022).

2.7. Investment Decision

An investment decision is an investor's action to allocate cash among many investment possibilities, including financial and tangible assets (Cheng 2014). While making investment decisions, individuals gather information from various sources: friends, relatives, social media, stock prices, and fluctuations and changes in real estate prices (Sahi et al. 2013). The other factors influencing investment decisions include financial position, ease of borrowing, and average rate of return on investment (Adhikari 2020). Investment decisions play a significant role in the financial function and are the only factor that affects a company's worth (Hidayat 2010). Individual investors' previous investments are a strong basis for future decisions (Mak and Ip 2017). Investors may also choose instruments that are readily accessible and convenient, i.e., reasonable returns and retaining value, especially in the wake of inflation.

3. Theoretical Underpinnings and Hypothesis Development

Modern portfolio theory (MPT) (Markowitz 1952) provides a theoretical framework for the present study. According to MPT, investors attempt to maximize return while minimizing risk and select portfolios accordingly. The basic tenet of MPT is that investors are risk-averse and are prepared to take risks only when a higher rate of return compensates them. However, the perception of risk differs between individuals, as some are more risk-averse than others. Though in the perfect market with rational investors, specific risks associated with assets can be reduced by diversification, in real life, investors rely on decisions based on the expected values of assets. Hence, MPT is applicable to this study. Systematic risks (market risks) cannot be diversified, whereas unsystematic risks can be diversified. Thus, investors considering an increasing inflation rate are more likely to select portfolios and choose priorities that will help them compensate for inflation and simultaneously ensure a higher rate of return. Despite criticism, some scholars believe that MPT helps investment strategy by diversifying assets to produce a profitable investment portfolio (Elton and Gruber 1997).

Using MPT, this study examines the impact of three risk factors (risk capacity, risk tolerance, and risk propensity) on investment priority and investment strategy. Second, we explain how investment priority and investment strategy influence the investment decision-making of individuals. The conceptual model is presented in Figure 1.

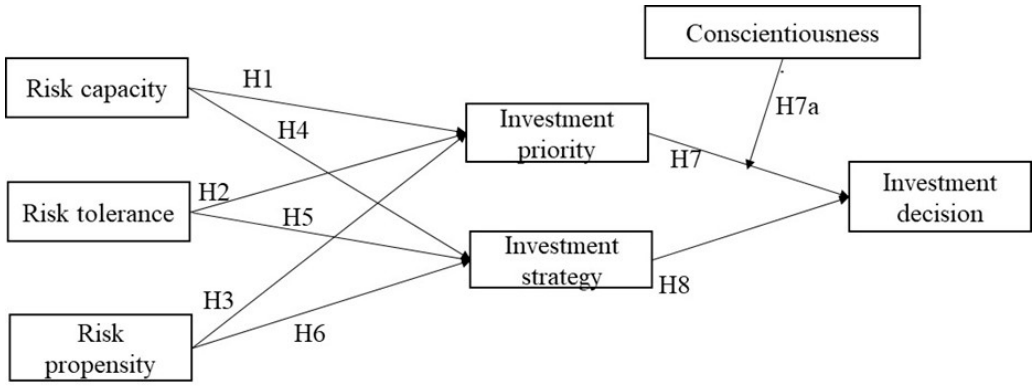

Figure 1. Conceptual model.

3.1. Risk Capacity and Investment Priority

The investment behavior of individuals in uncertain conditions is determined by their risk capacity, while their investment priorities shape their approach to investing (De Bortoli et al. 2019). Several studies worldwide have documented the positive association between risk capacity and investment priority, which is one of the critical financial decisions (Alquraan et al. 2016; Baker and Nofsinger 2002; Charness et al. 2013; ul Abdin et al. 2022). Individuals evaluate the risk involved in investment decisions and choose their priorities depending on their risk capacity. In a recently conducted study on Indian investors, the researchers found that personality characteristics influenced both risk capacity and investment priority (Rajasekar et al. 2022). Individuals with high-risk capacity may prioritize their investments in favor of real estate and stock that may provide against inflation. Based on scant and sporadic empirical evidence, we offer the following hypothesis.

H1. *Risk capacity is positively related to investment priority.*

3.2. Risk Tolerance and Investment Priority

Risk tolerance is different from risk capacity. Risk capacity is concerned with the ability of individuals to take risks, whereas risk tolerance is their ability to withstand losses when they take risks (Streich 2023). People with high-risk capacity may not have risk tolerance when they lose money in their investments (Corter and Chen 2006; Grable and Roszkowski 2008). Before making investment decisions, people often gather information about the options available to them so that they can choose their priority depending on their risk tolerance. Behavioral finance research indicates that informed investors choose profitable investments and maintain diversified portfolios, leading to higher returns in proportion to their risk tolerance (Sivaramakrishnan et al. 2017). Risk tolerance is the opposite of risk aversion. The uncertainty a person is willing to take while investing is often referred to as financial risk tolerance within the context of financial choices (Bayar et al. 2020; Joo and Grable 2004). Thus, based on the above arguments, we offer the following hypothesis:

H2. *Risk tolerance is positively related to investment priority.*

3.3. Risk Propensity and Investment Priority

Risk propensity is a personality attribute of individuals and is related to the extent to which individuals take or avoid risks in making investment decisions (Hung and Tangpong 2010; Sitkin and Pablo 1992). Most of the research in behavioral finance is aimed at explaining the relationship between the risk propensity of individuals and how it affects their choices of making decisions (King and Slovic 2014). Understanding investors' risk propensity is essential for making effective investment decisions (Combrink and Lew 2019). In a recent study conducted on 315 respondents from India, researchers found that

risk propensity significantly influenced diversification and investment priority (Saivasan and Lokhande 2022). Earlier scholars reported similar results when they surveyed 256 respondents from the Tunisian stock market (Mouna and Jarboui 2015). Thus, we offer the following hypothesis based on available empirical evidence and logical explanations.

H3. *Risk propensity is positively related to investment priority.*

3.4. Risk Capacity and Investment Strategy

Individuals with a greater capacity for risk are more inclined to opt for investment strategies that involve higher levels of risk compared to those with lower risk capacities (Rajasekar et al. 2022), and make investments based on their level of risk capacity (Millroth et al. 2020). Most of the financial decisions are related to risk perception, which includes risk capacity and risk tolerance. The risk capacity determines the extent to which an individual can take risks without adversely affecting the outcomes of taking risks. Investment strategy is primarily determined by the risk capacity of individuals, which depends on their income, assets, and financial position about their assets and liabilities. If the risk capacity is low and investors engage in risky investment decisions, it may exacerbate their financial situation. On the contrary, individuals with a high capacity to take risks devise investment strategies by considering alternatives (Noussair et al. 2014). Based on the above arguments, we propose the following hypothesis:

H4. *Risk capacity is positively related to investment strategy.*

3.5. Risk Tolerance and Investment Strategy

Risk tolerance positively correlates with past investment behavior, influencing investment decisions (Chou et al. 2010). Investment experience is a key predictor, with more seasoned investors displaying risk-tolerant attitudes and riskier investment strategies (Corter and Chen 2006). In investing, it is crucial to have a comprehensive comprehension of an investor's risk tolerance. This knowledge can help prevent impulsive and ill-informed decisions from harming an individual's investment decisions (Combrink and Lew 2019). In a recently conducted study on respondents from China, researchers found a positive association between risk tolerance and investment strategy depending on various levels: aggressive, moderate, and conservative (Liu et al. 2022). Studies conducted among investors in India revealed that risk tolerance depends on a variety of factors: materialism, age, and ratio of earnings to total family earnings (Mishra and Mishra 2016; Purkayastha 2008). We offer the following exploratory hypothesis based on scant research investigating the relationship between risk tolerance and specific investment strategies.

H5. *Risk tolerance is positively related to investment strategy.*

3.6. Risk Propensity and Investment Strategy

An individual's inclination towards risk-taking is not constant but somewhat varies depending on their experiences (Bayar et al. 2020). The decisions they make when faced with risky situations are influenced by their past experiences, which shape their risk propensity (Hung and Tangpong 2010). Individuals use various investment strategies, such as relying on brokers or peers and information from the media (Rajasekar et al. 2022). In a recent study conducted on 450 respondents from Pakistan, researchers found that risk propensity and perception are significant determining factors of their investment strategies (Ahmed et al. 2022). Several studies found that individuals may be willing to invest in stock because of the risk propensity, which may result in losses sometimes (Alquraan et al. 2016; Aduda et al. 2012; Chou et al. 2021). Based on the above arguments, we offer the following hypothesis.

H6. *Risk propensity is positively related to investment strategy.*

3.7. Investment Priority, Investment Strategy, and Investment Decision

Investment priority may differ from one individual to the other depending on their short-term and long-term goals. Some individuals may prefer to invest in real estate to offset inflation and secure the safety of their investment and high return, especially in developing countries like India. On the other hand, some individuals may exhibit their priorities in investing in their children's education (Shanmugam et al. 2022b). Obtaining information from publicly available sources can alter their perception of risk, potentially influencing their investment priorities and attitudes during the decision-making process (De Bortoli et al. 2019). Their prior experiences can influence investment priority. For instance, an experienced investor is more likely to opt for a riskier portfolio, since they have learned how to handle it effectively through their past experiences (Chou et al. 2010).

How individuals seek information from various sources plays a vital role in investment decisions. They may obtain information through television, financial advisers, and investment analysis software, and then weigh the pros and cons of investments before making final decisions (ul Abdin et al. 2022; Bayar et al. 2020; Mouna and Jarboui 2015; Saivasan and Lokhande 2022). Thus, we offer the following exploratory hypotheses based on scattered research on the relationship between investment priority, strategy, and investment decisions.

H7. *Investment priority is positively and significantly related to investment decision.*

H8. *Investment strategy is positively and significantly related to investment decision.*

3.8. Conscientiousness as a Moderator

Conscientiousness traits are positively correlated with short-term investment (Mayfield et al. 2008). Some researchers suggest that individuals with high levels of conscientiousness often exhibit overconfidence in their investment decisions compared to others (Jamshidinavid and Amiri 2012). Past studies have shown that investor's characteristics primarily influence their investment decisions (Corter and Chen 2006; Crysel et al. 2013; Grable 2000; Hunter and Kemp 2004; Young et al. 2012). However, researchers have yet to explore the moderating impact of conscientiousness in influencing the relationship between investment priority and investment decisions. We argue that conscientiousness, an important Big-Five personality characteristic (McCrae and Costa 2008), may influence individuals' investment decision-making. It will be interesting to delve into how conscientiousness changes the strength of the relationship between investment priority and investment decision-making, especially given countering inflation. Based on the above arguments, we offer the following exploratory moderation hypothesis.

H7a. *Conscientiousness moderates the relationship between investment priority and investment decision-making such that the relationship between investment priority and investment decision-making becomes stronger (weaker) when the risk tolerance is higher (lower).*

4. Method

4.1. Sample

In this study, a convenience nonrandom sampling approach was employed, and 550 questionnaires were distributed to various investors in Kanniyakumari district. Since there is no fixed list of investors, we used non-probability-based convenience sampling to collect data. The high response rate, with 543 questionnaires returned, reflects the engagement of the target population. Following a meticulous data cleaning process that involved the exclusion of six unfilled questionnaires, the final dataset for empirical analysis comprised 537 questionnaire responses. Comrey and Lee (1992) classified a sample size of over 500 as "very good" (100 is poor, 200 is acceptable, 300 is good, and 1000 or more is

excellent). We tested the non-response bias by comparing the first fifty respondents with the last fifty respondents and found no statistical difference between these two groups.

4.2. Demographics

The demographic profiles of the respondents were displayed in Table 1.

Table 1. Demographic profile of respondents.

Category	Profile	Total Number	Percentage
Gender	Male	191	35.6
	Female	346	64.4
Age	21–25	233	43.4
	26–30	97	18.1
	31–35	77	14.3
	36–40	53	9.9
	40 and above	77	14.3
Educational qualification	10th or +2	26	4.8
	Vocational education	30	5.6
	Undergraduate degree	163	30.4
	Masters' degree	252	46.9
	Others (Professional)	66	12.3
Marital	Married	284	52.9
	Unmarried	232	43.2
	Widowed	12	2.2
	Divorced	9	1.7
Occupation	Employee	157	29.2
	Businessmen	20	3.7
	Professionals	72	13.4
	Others	288	53.6
Annual Income (INR = Indian Rupees $ = US Dollar)	Below INR 120,000 ($1500)	241	44.9
	Rs. 120,000–Rs. 240,000 ($1500–$3000)	82	15.3
	INR240,000–Rs. 360,000 ($3000–$4500)	62	11.5
	INR 360,000- Rs. 480,000 ($4500–$6000)	47	8.8
	INR 480,000–Rs. 600,000 ($6000–$7500)	36	6.7
	Above INR 600,000 ($7500)	69	12.8
Residential status	Urban	194	36.1
	Semi Urban	142	26.4
	Rural	201	37.4

Source: The authors.

4.3. Measures

The study utilized previously developed scales to measure all the variables. To measure the constructs, we used a Likert-type 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Risk capacity was measured using ten items adopted from (Rajasekar et al. 2022), and Cronbach's alpha reliability value was 0.93. *Risk tolerance* was measured using five items adopted from (Joo and Grable 2004), and Cronbach's alpha reliability value was 0.84. *Risk*

propensity was measured using six items adopted from (Miniaci 2018), and Cronbach's alpha reliability value was 0.86. *Investment priority* was measured using eight items, the investment strategy using ten items adopted from (Rajasekar et al. 2022), and Cronbach's alpha reliability values were 0.92. *Conscientiousness* was measured using five items adopted from (Rajasekar et al. 2022), and Cronbach's alpha reliability value was 0.93. *Investment decision* was measured using four items adapted from (Sahi et al. 2013), and Cronbach's alpha reliability value was 0.85.

5. Analysis and Results

5.1. Measurement Model

We followed a two-step process recommended by Anderson and Gerbing (1988) by checking the measurement model first before testing the structural model. We evaluated the measurement model using Confirmatory Factor Analysis (CFA) to assess its construct's properties. The factor loadings of the indicators were over 0.7 and the Cronbach's alpha values for all the variables were above 0.7, indicating that they are reliable (Hair et al. 2019). The results of CFA are presented in Table 2.

Table 2. Results of Confirmatory Factor Analysis (CFA) and measurement properties.

Constructs and Source of These Constructs	Alpha	Standardized Loadings (λ_{yi})	Reliability (λ^2_{yi})	Variance ($Var(\varepsilon_i)$)	Average Variance Extracted Estimate Σ $(\lambda^2_{yi})/[(\lambda^2_{yi}) + (Var(\varepsilon_i))]$
Risk Capacity (Rajasekar et al. 2022)	0.93				0.61
I pull back my investment funds in money market stores for emergencies		0.72	0.52	0.48	
I take a loan for promising long-term investing opportunity		0.77	0.60	0.40	
I take a loan for promising short-term investing opportunity		0.80	0.63	0.37	
I make necessary changes to improve my investment performance, using my judgment		0.83	0.69	0.31	
I wait it out, anticipating future improvements over the long run		0.81	0.65	0.35	
I consult with a financial advisor before taking any action		0.78	0.61	0.39	
I indulge in panic selling		0.78	0.61	0.39	
I assess the tax implications of the investment		0.80	0.65	0.35	
I determine my return objective for the investment		0.78	0.61	0.39	
I am real gambler willing to task risk after completing adequate research		0.72	0.52	0.48	
Risk Tolerance (Joo and Grable 2004)	0.84				0.61
Investing is too difficult to understand		0.70	0.49	0.51	
I am more comfortable putting my money in a bank account than in the stock market		0.80	0.63	0.37	
When I think of the word "risk" the term "loss" comes to mind immediately		0.82	0.67	0.33	
Making money in stocks and bonds is based on luck		0.80	0.63	0.37	
In terms of investing, safety is more important than returns		0.80	0.64	0.36	
Risk Propensity (Bucciol and Miniaci 2018)	0.86				0.58

I think it is more important to have safe investments and guaranteed returns, than to take a risk to have a chance to get the highest possible returns		0.73	0.53	0.47		
I would never consider investments in shares because I find this too risky		0.76	0.57	0.43		
If I think an investment will be profitable, I am prepared to borrow money to make this investment		0.72	0.52	0.48		
I want to be certain that my investments are safe		0.82	0.68	0.32		
I get more and more convinced that I should take greater financial risks to improve my financial position		0.82	0.67	0.33		
I am prepared to take the risk to lose money, when there is also a chance to gain money		0.73	0.54	0.46		
Investment Priority (Rajasekar et al. 2022)	0.92				0.65	
I invest my pension amount to satisfy my retirement objectives		0.77	0.59	0.41		
To ensure a comfortable retirement		0.81	0.66	0.34		
I invest the money as a principle instalment of my house		0.74	0.55	0.45		
To achieve high growth in investments		0.84	0.71	0.29		
To protect income in case of death or disability		0.82	0.67	0.33		
To ensure transfer of assets to dependents smoothly		0.84	0.71	0.29		
To invest in an endowment plan (Assured returns + Risk cover)		0.84	0.70	0.30		
To invest in unit linked insurance plan (Market linked returns + Risk cover)		0.80	0.64	0.36		
Investment Strategy (Rajasekar et al. 2022)	0.93				0.61	
I review my overall investment goals		0.73	0.54	0.46		
I consider the variety of investment options		0.83	0.69	0.31		
I get investment information from financial advisor (Individual or Institutional)		0.78	0.61	0.39		
I get investment information from television		0.73	0.54	0.46		
I buy or sell investments over online trading		0.71	0.50	0.50		
I use investment analysis or management software		0.72	0.52	0.48		
I discuss with my family or friends who are knowledgeable in trading		0.81	0.65	0.35		
I assess the convenience with which the investment can be made, looked after and disposed		0.83	0.68	0.32		
I weigh all the pros and cons and analyze all the facts before taking financial decisions		0.84	0.71	0.29		
Safety of investment is the most important factor I look at when choosing a investment strategy		0.79	0.63	0.37		
Conscientiousness (Rajasekar et al. 2022)	0.93				0.77	
Does a thorough job of financial planning		0.83	0.69	0.31		
Is a reliable in every task performing		0.89	0.80	0.21		

Perseveres until the task is finished		0.90	0.82	0.18	
Does things efficiently		0.89	0.80	0.20	
Makes plans and follows through with them		0.88	0.77	0.24	
Investment Decision (Sahi et al. 2013)	0.85				0.69
I will choose investments based on the information easily available to me		0.85	0.72	0.28	
I know that this investment did very well before, so I invested here again		0.88	0.77	0.23	
Last week I read that the gold prices will go up so, I invested more in gold		0.78	0.61	0.39	
I invest in instruments that are readily accessible and convenient		0.82	0.67	0.33	

5.2. Descriptive Statistics, Discriminant Validity, and Reliability

The average variance extracted (AVE) estimations in this study were higher than the recommended limit of 0.50, which means that their square roots were higher than 0.70. The requirement for discriminant validity was thus met (Fornell and Larcker 1981). The square root of AVE estimation for the variables was higher than the correlations, as shown in Table 3.

Table 3. Descriptive Statistics: Means, Standard deviations, and zero-order correlations. ** Correlation is significant at the 0.01 level (2-tailed); Square root of average variance extracted in diagonals (in bold).

Variables	Mean	SD	1	2	3	4	5	6	7	Cronbach Alpha	Composite Reliability	Average Variance Extracted Estimates
1. Risk capacity	2.99	0.85	**0.78**							0.93	0.94	0.61
2. Risk tolerance	2.99	0.85	1.00 **	**0.78**						0.84	0.89	0.61
3. Risk propensity	3.05	0.85	0.66 **	0.66 **	**0.76**					0.86	0.90	0.58
4. Investment priority	3.12	0.89	0.54 **	0.54 **	0.70 **	**0.81**				0.92	0.94	0.65
5. Investment strategy	3.06	0.88	0.53 **	0.53 **	0.66 **	0.77 **	**0.78**			0.93	0.94	0.61
6. Conscientiousness	3.26	0.99	0.53 **	0.53 **	0.49 **	0.47 **	0.50 **	**0.88**		0.93	0.94	0.77
7. Investment decision	3.11	0.94	0.52 **	0.52 **	0.62 **	0.72 **	0.68 **	0.48 **	**0.83**	0.85	0.90	0.69

Source: The authors. **Notes:** ** Correlation is significant at the 0.01 level (2-tailed). Square root of Average Variance Extracted in diagonals (in bold).

For instance, the square root of AVE estimates for risk tolerance and risk propensity were 0.78 and 0.76, respectively, and the correlation between these variables was 0.66. Furthermore, the square root of the AVE estimates for investment priority and investment strategy were 0.81 and 0.78, respectively. The correlation between investment priority and investment strategy was 0.77.

Using the Heterotrait-Monotrait (HTMT) method, we carried out another check to evaluate the discriminant validity, which is mentioned in Table 4. The correlation values for all the constructs were less than 0.9, thus providing additional evidence for the discriminant validity.

Table 4. Discriminant validity using HTMT (Heterotrait-Monotrait).

Constructs	1	2	3	4	5	6	7
1. Conscientiousness							
2. Investment decision making	0.54						
3. Investment priority	0.50	0.81					
4. Investment strategy	0.53	0.77	0.83				
5. Risk capacity	0.48	0.71	0.72	0.74			
6. Risk propensity	0.55	0.72	0.78	0.75	0.77		
7. Risk tolerance	0.60	0.61	0.62	0.60	0.67	0.79	

Source: The authors.

5.3. Multicollinearity and Common Method Bias

We checked the inner and outer VIF values, which are mentioned in Tables 5 and 6. We found that they were both less than 5, and multicollinearity is not an issue with the data (Hair et al. 2019).

Table 5. Outer VIF Values.

Indicator	VIF	Indicator	VIF
Risk capacity 1	1.807	Investment priority 5	2.429
Risk capacity 2	2.41	Investment priority 6	2.609
Risk capacity 3	2.587	Investment priority 7	2.629
Risk capacity 4	2.707	Investment priority 8	2.427
Risk capacity 5	2.448	Investment strategy 1	2.28
Risk capacity 6	2.199	Investment strategy 2	3.114
Risk capacity 7	2.309	Investment strategy 3	2.326
Risk capacity 8	2.512	Investment strategy 4	2.319
Risk capacity 9	2.272	Investment strategy 5	2.477
Risk capacity 10	1.814	Investment strategy 6	2.446
Risk tolerance 1	1.427	Investment strategy 7	2.444
Risk tolerance 2	1.905	Investment strategy 8	2.87
Risk tolerance 3	2.071	Investment strategy 9	3.368
Risk tolerance 4	1.825	Investment strategy 10	2.864
Risk tolerance 5	1.765	Conscientiousness 1	2.668
Risk propensity 1	1.799	Conscientiousness 2	3.655
Risk propensity 2	1.845	Conscientiousness 3	3.436
Risk propensity 3	1.838	Conscientiousness 4	3.228
Risk propensity 4	2.192	Conscientiousness 5	3.846
Risk propensity 5	2.249	Investment decision 1	2.46
Risk propensity 6	1.834	Investment decision 2	2.722
Investment priority 1	2.161	Investment decision 3	1.642
Investment priority 2	2.586	Investment decision 4	1.783
Investment priority 3	1.782		
Investment priority 4	2.64		

Source: The authors.

Table 6. Inner VIF Values.

Constructs	1	2	3	4	5	6	7
1.Risk capacity				2.03	2.03		
2. Risk tolerance				2.34	2.34		
3. Risk propensity				1.92	1.92		
4. Investment priority							2.46
5. Investment strategy							2.46
6. Conscientiousness							1.40
7. Investment decision							

Source: The authors.

Since survey-based data are prone to having common method bias (CMB), it is necessary to test for CMB. We checked CMB in two ways. First, we conducted traditional Harman's single-factor analysis and found that a single factor accounted for 28.75% of variance, and hence, CMB was not a problem with the data. Second, we followed the latent variable method by subjecting all the indicators to one construct at a time and found that the inner VIF values were than 3.3, suggesting that the data was not infected with CMB (Kock 2015).

5.4. Hypotheses Testing

After checking the discriminant validity and reliability and multicollinearity, we tested the hypotheses. The results of testing the hypotheses are mentioned in Table 7.

Table 7. Results of hypotheses testing.

Hypotheses	Relationships	β	t	p	Result
H1	Risk capacity → investment priority	0.520	15.111	0.000	Supported
H2	Risk tolerance → investment priority	0.490	12.231	0.000	Supported
H3	Risk propensity → investment priority	0.658	21.387	0.000	Supported
H4	Risk capacity → investment strategy	0.546	15.768	0.000	Supported
H5	Risk tolerance → investment strategy	0.514	14.368	0.000	Supported
H6	Risk propensity → investment strategy	0.646	19.807	0.000	Supported
H7	Investment priority → investment decision	0.685	21.447	0.000	Supported
H8	Investment strategy → investment decision making	0.642	19.666	0.000	Supported
H7a	Investment priority x Conscientiousness → investment decision	0.623	19.042	0.000	Supported

Source: The authors.

The results reveal that the regression coefficients of risk capacity ($\beta = 0.520$; $p < 0.001$), risk tolerance ($\beta = 0.490$; $p < 0.001$), and risk propensity ($\beta = 0.658$; $p < 0.001$) on investment priority were positive and significant, thus supporting H1–H3.

The regression coefficients of risk capacity ($\beta = 0.546$; $p < 0.001$), risk tolerance ($\beta = 0.514$; $p < 0.001$), and risk propensity ($\beta = 0.646$; $p < 0.001$) on investment strategy were positive and significant, thus supporting H4–H6.

The regression coefficients of investment priority ($\beta = 0.623$; $p < 0.001$) and investment strategy ($\beta = 0.642$; $p < 0.001$) on investment decision were positive and significant, thus supporting H7 and H8.

5.5. Testing Moderation Hypothesis (H7a)

The moderating effect of conscientiousness between investment priority and investment strategy reveal a significant interaction term (β investment priority x conscientiousness = 0.623; $p < 0.001$), thus supporting H7a. The conditional effect of the focal predictor (Conscientiousness) at values of the moderator are presented in Table 8.

Table 8. Conditional effect of focal predictor (Conscientiousness) at values of the moderator.

Conscientiousness	Effect	se	t	p	LLCI	ULCI
1.0000	0.8389	0.0656	12.7868	0.0000	0.7100	0.9678
1.1905	0.8230	0.0614	13.4106	0.0000	0.7024	0.9435
1.3810	0.8071	0.0573	14.0937	0.0000	0.6946	0.9195
1.5714	0.7911	0.0533	14.8362	0.0000	0.6864	0.8959
1.7619	0.7752	0.0496	15.6321	0.0000	0.6778	0.8726
1.9524	0.7593	0.0461	16.4661	0.0000	0.6687	0.8499
2.1429	0.7434	0.0429	17.3074	0.0000	0.6590	0.8277
2.3333	0.7274	0.0402	18.1042	0.0000	0.6485	0.8064
2.5238	0.7115	0.0379	18.7790	0.0000	0.6371	0.7859
2.7143	0.6956	0.0362	19.2333	0.0000	0.6245	0.7666
2.9048	0.6797	0.0351	19.3659	0.0000	0.6107	0.7486
3.0952	0.6637	0.0347	19.1064	0.0000	0.5955	0.7320
3.2857	0.6478	0.0351	18.4472	0.0000	0.5788	0.7168
3.4762	0.6319	0.0362	17.4520	0.0000	0.5608	0.7030
3.6667	0.6160	0.0379	16.2317	0.0000	0.5414	0.6905
3.8571	0.6000	0.0403	14.9059	0.0000	0.5210	0.6791
4.0476	0.5841	0.0430	13.5722	0.0000	0.4996	0.6687
4.2381	0.5682	0.0462	12.2959	0.0000	0.4774	0.6590
4.4286	0.5523	0.0497	11.1127	0.0000	0.4546	0.6499
4.6190	0.5363	0.0534	10.0368	0.0000	0.4314	0.6413
4.8095	0.5204	0.0574	9.0694	0.0000	0.4077	0.6331
4.8095	0.5045	0.0615	8.2044	0.0000	0.3837	0.6253

The visual representation of the moderator interaction is presented in Figure 2.

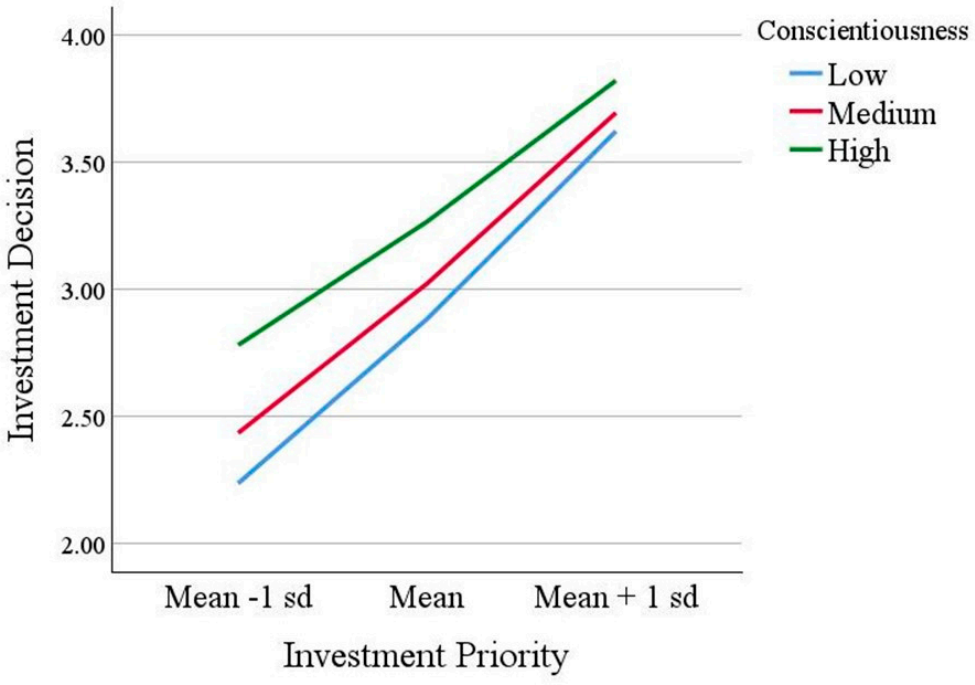

Figure 2. Conscientiousness as a moderator in the relationship between investment priority and investment decision.

Figure 2 shows that at higher levels of conscientiousness, investment priority results in higher levels of investment decision-making than at lower levels of conscientiousness. Furthermore, when investment priority increases from low to high, lower level of conscientiousness were associated with a steep reduction in investment decision-making, whereas at higher levels of conscientiousness, the decrease in investment decision-making was not high. The slopes of the curves indicating "high", "medium", and "low" levels of conscientiousness render support to the moderating hypothesis (H7a).

The empirical model is presented in Figure 3.

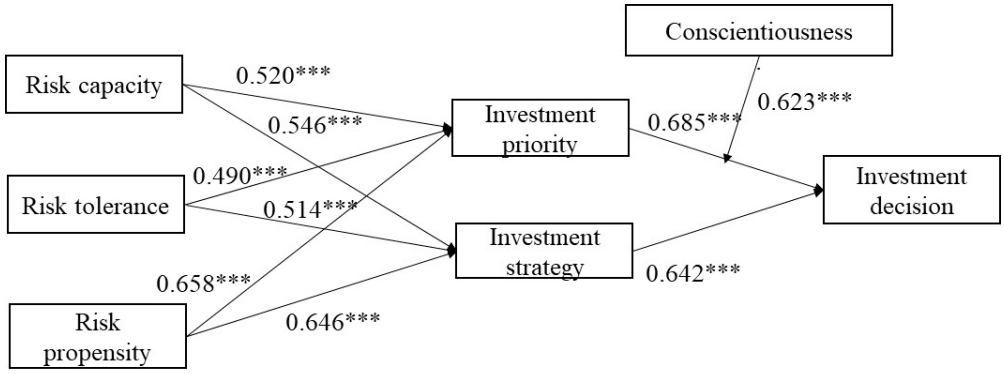

Figure 3. Empirical model, *** $p < 0.001$.

6. Discussion

This study is to examine how risk factors influence investments among various individuals. We created a conceptual model and investigated the connections between risk factors (risk capacity, risk tolerance, and risk propensity), investment priority, investment strategy, and investment decision-making. To our knowledge, this is the first model in the Indian context. After assessing the instrument's reliability, we tested the hypotheses, and the moderator relationship was evaluated using Hayes' (2018) process macros. We found support for each of the eight hypotheses and compared our results with the existing literature to validate our findings.

First, the findings indicate that risk capacity was positively and significantly related to investment priority (Hypothesis 1), which corroborates findings from the literature (Alquraan et al. 2016; Baker and Nofsinger 2002; Charness et al. 2013; ul Abdin et al. 2022). It is expected that the greater the risk capacity, the greater the investment priority. Second, the results support the positive relationship between risk tolerance and investment priority (Hypothesis 2), concurring with findings from the literature (Bayar et al. 2020; Sivaramakrishnan et al. 2017). Third, the positive impact of risk propensity on investment priority (Hypothesis 3) is found to support this research; the finding is consistent with results from the earlier researchers (Combrink and Lew 2019; Sitkin and Pablo 1992; Saivasan and Lokhande 2022).

A fourth key finding is the support for a positive association of risk capacity with investment strategy (Hypothesis 4), corroborating some studies conducted by previous scholars (Noussair et al. 2014; Rajasekar et al. 2022). Fifth, risk tolerance is a significant predictor of investment strategy (Hypothesis 5), which is supported in this research. Though the research investigating this relationship is sparse, available evidence aligns with the findings (Chou et al. 2010; Combrink and Lew 2019; Liu et al. 2022). Sixth, the positive relationship between risk propensity and investment strategy (Hypothesis 6) has been validated in this study. The survey conducted on investors from the Nairobi stock market (Aduda et al. 2012) and the Saudi stock market (Alquraan et al. 2016) provided support in addition to other studies (Chou et al. 2021). Seventh, this study also found that investment priority and investment strategy were positively and significantly related to investment decision-making (Hypotheses 7 and 8); these findings align with the results of

previous researchers (Bayar et al. 2020; Hidayat 2010; Mouna and Jarboui 2015; Park et al. 2017; Shanmugam et al. 2022b; ul Abdin et al. 2022; Saivasan and Lokhande 2022).

The eighth key finding is conscientiousness as a moderator in the relationship between investment priority and investment decision-making (Hypothesis 7a). Though previous scholars did not investigate the moderating effect, some empirical evidence supports direct relationships (Corter and Chen 2006; Crysel et al. 2013; Hunter and Kemp 2004; Young et al. 2012). Thus, this study provided overall support for all of the hypotheses consistent with results from previous studies (Bortoli et al. 2019; Corter and Chen 2006; Sindhu and Kumar 2014).

6.1. Theoretical Implications

A conceptual model was developed for exploring the relationship between risk factors (risk capacity, risk tolerance, and risk propensity) and investment decision-making of individuals, especially in the context of a developing country, India. Investors consider that, in addition to securing reasonable returns on their investments, they are likely to consider how the investment secures them against inflation. As a measure to hedge against inflation, investors engage in strategies to diversify their portfolios. This research makes significant contributions to the investment literature. First, this research advances the MPT theoretical framework to explain the relationship between various risk factors: risk capacity, risk tolerance, risk propensity, and investment decision. Second, it adds to the body of knowledge on investor behavior by defining investment priority and investment strategy as antecedents to investment decision-making; it advances the earlier literature on investor behavior and provides new opportunities for increasing investment returns to safeguard against inflation. Though previous studies dwell on the risk–return relationship, the relationship between investment priority and investment strategy resulting in investment decisions needs to be studied more, making a significant contribution.

The third pivotal contribution of this research is the moderating role of conscientiousness in influencing the individual's investment priority towards investment decision-making. The study found that conscientiousness directly influences investment priority and has a multiplicative effect when combined with investment priority. This finding is fascinating and sheds light on the importance of conscientiousness in investment decision-making. Several studies have been conducted in India but have not explored the relationship between risk variables, investment priority, investment strategy, and investment decision-making. Therefore, this study contributes a unique perspective to the expanding field of behavioral finance.

6.2. Practical Implications

The findings of this study have implications for individual investors. First, an individual has to conduct a comprehensive financial assessment to determine their investments. Second, our study suggests having an adequate emergency fund to cover unforeseen expenses, which can increase risk capacity by reducing the need to liquidate investments in emergencies. Third, this study underscores the importance of seeking advice from financial professionals, especially for complex investment decisions. Their expertise can help individuals to navigate the investment landscape effectively. Fourth, our study suggests implementing risk management techniques, such as setting stop-loss orders, diversifying holdings, and using appropriate hedging strategies. Fifth, the study vouches for the importance of gathering continuous information about investment strategies, risk management, and financial markets. This knowledge can empower individuals to make more informed investment decisions. Thus, the present study recommends that individual investors choose investment portfolios depending on future investment goals.

6.3. Limitations and Future Research

It is important to note limitations when interpreting the study's conclusions. First, the small sample size may make it difficult to generalize the findings. However, if the sample is representative of the entire population, then it can be assumed that the results apply to everyone. Second, this study used convenience sampling, which could be better than a probability-based sampling technique. However, the researchers implemented a risk-taking behavior sampling technique that aligns with the study's criteria (Rajasekar et al. 2022). Therefore, the study sample can still be considered capable of representing the target population. Third, we gathered information from individual investors. We were unable to choose our sample from among stock market investors. This research could yield more beneficial outcomes for stock market investors, if possible.

This study suggests several avenues for further investigation. Firstly, individuals may exhibit five distinct personality traits; each trait could affect their investment choices. This study used only one personality trait (conscientiousness), and future studies may involve other traits to see if they influence investment decisions. In other words, it would be valuable to explore the relationship between each trait and investment decisions in greater depth in order to gain a deeper understanding of their nature. Second, future researchers could conduct longitudinal studies to examine how risk capacity, risk tolerance, and risk propensity change over time in response to life events, market experiences, and individual development. This can help understand the evolution of an individual's risk profile and its impact on investment decisions. Third, future studies may investigate how cultural factors influence risk perception and risk-taking behavior. Comparative studies can shed light on cultural variations in risk capacity, tolerance, and propensity, and their influence on investment decision-making. Fourth, a more significant sample across different parts of the country will make the conceptual model more generalizable. Fifth, it will be interesting to conduct studies on investor behavior in different developing countries and see if there are cultural differences in individuals' investment priorities and decisions.

6.4. Conclusions

This study aimed to enhance our understanding of how various risk factors affect investment decisions, explicitly focusing on India as a developing country. The findings of this study suggest that having a sound investment strategy and identifying one's investment priorities are critical to making informed financial decisions. This study highlighted the importance of considering an individual's investment priorities and level of conscientiousness when making investment decisions. Risk in investment decision-making is a complex but necessary process that empowers individuals and organizations to navigate financial markets with prudence and confidence. By understanding and integrating risk capacity, tolerance, propensity, and the behavioral aspects of risk perception, investors can create tailored strategies that maximize the potential for financial success while managing and mitigating risk effectively. Such strategies help investors engage in inflation-hedging investment decisions to mitigate the ill effects of inflation and protect them from incurring losses.

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