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The relationship between risk tolerance and financial investment decisions: Evidence from Jordan

Musab Ababneh[1], Hasan Mansur[1], Suleiman Ibrahim Mohammad[2,3*], Asem Tahtamouni[1], Aso-kan Vasudevan[4]

[1]*Department of International Accounting and Finance, Faculty of Business, American University of Madaba. Madaba, Jordan*
[2]*Electronic Marketing and Social Media, Economic and Administrative Sciences Zarqa University, Jordan.*
[3]*Research follower, INTI International University, 71800 Negeri Sembilan, Malaysia.*
[4]*Faculty of Business and Communications, INTI International University, Persiaran Perdana BBN Pu-tra Nilai, 71800 Nilai, Negeri Sembilan, Malaysia.*

Corresponding author: Suleiman Ibrahim Mohammad (*Email: dr_sliman@yahoo.com*)

Abstract

This study investigates the moderating effect of individual differences, as measured by the intolerance of uncertainty scale (IUS), on investors' portfolio allocation decisions among assets with varying risk levels. The securities varied from safer government securities to riskier assets. We manipulate the investment risk in each security by varying the market risk, also known as beta, the standard deviation of the return, and the expected return. The findings show that less risk-tolerant individuals invested less capital in riskier stocks and more money in safer government securities. However, those with more risk tolerance allocated more money to the less hazardous investments. As anticipated, those with less risk tolerance allocated more capital to the more secure stocks.

Keywords: Financial investment decisions, Intolerance of uncertainty scale, Risk tolerance.

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1. Introduction

There are differences among individuals in their reactions and dealings with uncertain or risky situations [1, 2]. These individual differences might be construed by investigating the attitudes of individuals regarding risky situations [3]. To promote individuals' understanding of risky situations, the Intolerance of Uncertainty Scale (IUS) was developed by Freeston, et al. [4] and Mohammad, et al. [5], who concluded that individuals with a high IUS are inclined to be extremely anxious; thus, they consider unclear situations as threatening.

Almansour, et al. [3] highlighted the importance of IUS in assessing the risk attitudes of individuals. To elaborate, they indicate that IUS examines individuals' cognitive, behavioral, and emotional reactions to uncertain and risky situations. The internal consistency of this scale is high (α=0.94), while (r=0.74) represents the satisfactory test-retest stability of the scale. It also has high convergent and discriminant validity. Several scholars have used this scale, including Parlapani, et al. [6], to examine the influence of risk measured by IUS on the decisions of people in general [7, 8].

Building on the research on individual differences in financial decision-making, risk tolerance has turned out to be an important determinant of investment decisions. To increase our knowledge of such differences, Almansour, et al. [3] pointed out that one should consider people's perceptions of uncertainty or risk. As financial markets are characterized by variability and risk, understanding how people evaluate and/or react to such conditions is important. Rafay and Mustafa [1] have noted that participants' responses regarding risk vary based on personal mental contingencies and histories. Consequently, using well-established measures, including the Intolerance of Uncertainty Scale (IUS), can inform researchers on how different people's ability, unwillingness, or reluctance to take risks influences their investment decisions.

The IUS has therefore provided proven evidence for explaining the psychological aspects of risk-taking propensity. The finding that the scale reflects people's cognitive, behavioral, and affective reactions to uncertain or risky situations enhances the value of this instrument as a measure of attitudes toward financial decision-making, as pointed out by Freeston, et al. [4] Internal consistency (α = 0.94) and test-retest reliability (r = 0.74) ensure that the scale measures stable dispositions rather than states of individuals. This reliability is particularly useful when studying long-term investment behaviors since it enables researchers to relate risk attitudes to the trends exhibited in financial decisions. Moreover, the high convergent and discriminant validity of the IUS provides better support for this claim, making the instrument suitable in different settings such as finance [5].

The effect of risk tolerance has been established in prior literature to impact financial decision-making. Freeston, et al. [4] emphasize that the IUS can help understand how people's perceptions of uncertainty influence their choices concerning money. For instance, Parlapani, et al. [6] showed that people with a high level of intolerance for uncertainty avoid investing in high-risk products because they feel threatened by the high levels of anxiety they experience.

Studying the impact of risk-taking capability on investment decisions is relevant in the context of Jordan because financial markets in Jordan are both sensitive to world markets and subject to local types of risk. Through the use of the IUS, this study aims to examine attitudes towards uncertainty and investment decisions of Jordanian investors. In line with Freeston, et al. [4] and other scholars, this research will examine cognitive, behavioral, and emotional attributions towards risk regarding investment behavior. Findings from this research can assist specific applications for clients, where financial advisors can analyze an individual client's personality and psychological makeup to recommend the appropriate investment portfolio.

This paper aims to investigate whether individual differences measured using IUS influence investors' methods in making investment decisions. To attain this objective, a sample of 54 MBA students participated in this study. They were kindly asked to make decisions concerning the amount of funds that should be invested in companies with various investment risks.

The findings of this study reveal that those who are less tolerant of risk tend to invest more capital in the more secure government assets and less money in ABC stock, which is riskier. However, those with high risk tolerance increased their investment in the less hazardous stock, XYZ. As such, low-risk tolerance individuals invest more money in the safer stock, i.e., XYZ.

The following section of this paper addresses both IUS and worry. After that, risk perception, behavior, and worry are discussed. Then, the literature addressing the variation of IUS with risk levels is reviewed. Moreover, the methodology, experiments, and findings are reported. The conclusion of this paper is presented in the last section.

2. Literature Review

2.1. Intolerance of Uncertainty and Worry

The Intolerance of Uncertainty Scale is employed in assessing IU through a self-report questionnaire that evaluates the emotional, cognitive, and behavioral aspects of responses to ambiguity and uncertainty, as well as the efforts made to control the outcomes of future events [4]. The term IU refers to the inclination to have a negative response to uncertain conditions or occurrences [9].

People with high levels of IU are usually anxious about future events because they cannot cope with uncertainty and tend to ask many "what if" questions, leading to increased anxiety and worry [10, 11]. Studies have revealed a close relationship between IU and worry [12]. These individuals also report becoming more anxious and stressed in routine situations that contain an aspect of ambiguity, resulting in maladaptive interpretations and heightened anxiety before acting [13].

In addition, intolerance of uncertainty plays an important role in the onset of excessive worry, which may lead to the development of generalized anxiety disorder (GAD) [14, 15]. Worry is another sub-feature related to anxiety and is considered one of the primary symptoms of GAD [16]. GAD patients may experience difficulties in their day-to-day functioning because the anxiety they experience is unpleasant [17]. According to Showraki, et al. [18], the existence of excessive worry is a primary characteristic of GAD. Mohammad, et al. [19] defined worry as a stream of negative thoughts and images that are difficult to control. According to Sebri, et al. [20], worry is a cognitive coping mechanism for dealing with possible dangers. However, Sebri, et al. [20] indicated that worry helps to prevent the occurrence of somatic symptoms and negative emotions.

2.2. Worry and Perception of Risk

Anxiety is defined as an outcome of perceived threats [21]. It serves three primary functions: as already pointed out by Liu, et al. [21], coping mechanisms can be classified into three categories, namely alarm, prompt, and preparation. When a threat is perceived, the alarm function informs conscious awareness of the hazard's existence [22, 23]. The prompt function then produces ideas and images in response to this danger. Lastly, the problem-solving function allows the individual to adapt by solving issues related to coping or rehearsing for negative impacts in their environment [24, 25].

According to Buheji [26], worry is connected to information processing bias, in which there are alterations in stimulus interpretation and metacognition. Gu, et al. [9] also argued that worry, of which anxiety is a part, plays a role in information processing. Individuals who reported high levels of dispositional worry in the study may encode threat information in more distinct categories than individuals low in dispositional worry, such that false alarms are cued more easily when a potential threat is imminent [27, 28]. This suggests that such persons usually possess biases regarding the processing of information. According to Cheung, et al. [29], these biases occur in the following areas:

1. Attention: Individuals who are prone to experience worry tend to focus more on future threats because they threaten their predictions.

2. Interpretation: Worry-prone individuals tend to regard unpredictable or ambiguous situations as emotionally charged or threatening.

3. Memory: Excessive worriers may have a negative affect that further increases anxiety by helping them encode and consolidate threat material.

High levels of intolerance of uncertainty (IU) and excessive worry cause planned uncertainties to be seen as negative by most individuals. For instance, these individuals invest more attention and mental energy in uncertain conditions and the matters being concerned about [30]. Since they are never certain that their solutions are correct, they are constantly worried, and worry is an ongoing process that is both intrusive and repetitive [31, 32].

It has been established that high levels of IU have prominent consequences for investment decisions where such uncertainties are likely to emerge, namely in contexts of planned uncertainties. According to Joubert, et al. [33] and Shlash Mohammad, et al. [34], the reason for that is that high IU individuals consider ambiguous conditions mainly as negative, and this makes them hesitate when making positive and appropriate financial decisions. In an investment context, these individuals spend much attention and imbue a lot of thought into the risks in their investments and are likely to overestimate loss. It is often expressed through increased risk aversion—an action taken due to some level of risk assessment can cause a person to avoid high-risk opportunities that can provide high returns. Therefore, analysis of risk tolerance with a focus on the effects of IU is vital in evaluating the investment behavior of Jordanian investors.

The ideas and feelings linked with IU also promote stable worry, which significantly affects decision-making in obscured fiscal conditions. Kaur and Arora [35] observed that in high IU, worry is a characteristic of rumination, causing subjects to doubt the sufficiency of their financial actions. This indistinctness results in analysis paralysis, whereby investors fail to invest due to an inability to decide which choice is better. In Jordan, where changes in the local economy and world financial climates make the investment environment relatively volatile, such patterns of over-examining could act as barriers to engaging in high-risk/high-return ventures.

Board PCGE. BRCA1 and BRCA2: Cancer Risks and Management (PDQ®) [36] also note that the constant tendency to dwell on the aspects of situations that are uncertain weakens productivity in terms of rational reasoning. There are weaknesses among high-IU individuals in handling mental workload on risk assessment and opportunities for investments that lead to inefficient investment decisions. For example, when growth could be achieved through diversification to reduce certain risks, these individuals might fail to consider such opportunities because they pay too much attention to the negative aspects of such risks. With such tendencies observed in Jordanian investors, financial advisors need to help clients by focusing on the factors that can be minimized regarding perceived risks, for instance, using more decision analysis frameworks or communicating investment risks more explicitly.

Moreover, Berk and Tutarlı [37] claimed that the perpetuating concern related to IU not only inhibits the quality of financial decisions but also distorts the investment experience in general. The scanning generated significant levels of anxiety and dissatisfaction with financial portfolios, even if the investments perform well, among investors who often doubt the legitimacy of their decisions. This, therefore, calls for a need to develop interventions targeted at those with high IU, for example, educational programs or tools designed to increase confidence when making financial decisions. In Jordan's environment, where such adversities act as a multiplier of perceived risks, it is critical to meet the needs of those with IU and its related concerns for improving investors' confidence.

2.3. Worry, Risk Perception, and Behavior

Worry, risk perception, and behavior are linked in many studies, as will be discussed below. Shlash Mohammad, et al. [38] have suggested that worry moderates the relationship between perceived risk and behavioral decisions made to avoid risk. For instance, individuals who fear developing the flu are more likely to take the vaccine. A meta-synthesis of 12 cross-sectional studies examining the relationship between breast cancer worry and screening behavior in 3,342 women revealed that higher levels of worry predicted higher levels of self-examination and mammography uptake [39, 40].

According to Fernandez and Joseph [41], in their portfolio theory, investors are willing to accept lower returns for lower risk and higher returns for higher risk. Efficiency is defined in the context of an investment portfolio as the maximum return on investment for a given level of risk [37]. In their study, Jiang, et al. [42] pointed out that risk tolerance plays a critical role in the choice of assets to hold in a portfolio, as investors take into account risk, return, and their own needs. Kevin [43] and

Hebert and Dugas [44] noted that investors usually opt for local investments to avoid risks that come with international markets, such as political risks and currency risks.

Risk perception also influences the behavior of financial providers, who require investors' intention to invest in relatively risky portfolios. For instance, if managers want to prevent creating similar portfolios, they must identify investors' preferences for risk, according to Diener, et al. [45]. Shlash Mohammad, et al. [31] argued that the best portfolios can be developed by dividing investors into categories depending on their risk profile, with high-risk-taking investors being placed in high-risk portfolios and low-risk takers being placed in low-risk portfolios.

Worry, risk perception, and financial behavior all work together to significantly influence the overall investment decisions being made. According to Jun and Jin [24], the construct of worry can be described as a moderator variable that separates perceived risk from the actions that people take to reduce that risk. For instance, a person with cash loss as a phobic object will avoid putting his or her money in higher risks rather than investing it in safer risks. This behavioral tendency aligns with the result obtained by Thanki, et al. [22], which states that risk tolerance plays a crucial role in determining the distribution of a given portfolio. Knowledge of how worry affects risk perception might assist financial consultants in designing investment plans that are more appropriate to each client's risk propensity and lessen over-protectiveness in the course of investment by Jordanian investors.

Higher levels of worry can also enhance actions toward activities involving or relevant to risk. Joubert, et al. [33] supported the hypothesis that, in situations related to health, increased concern with breast cancer resulted in enhanced practice of preventive measures like mammography. In fiscal investment, this discovery can be translated to the probability of individuals seeking more diversified investment portfolios given the raised concern of an economic downturn. Grabman, et al. [46] and Holzmeister, et al. [47] further explored the theory of portfolios, noting that investors opt for low volatility to earn consistent and stable yields. This is because, in the Jordanian financial market, concern over external shocks, such as changes in exchange rates or geopolitical stressors that increase fear, may result in an innate need for the investor's mean-variance portfolio to reflect their ability to bear risk.

Risk perception also plays a role in investment through the activities of the financial provider. According to Kevin [43], knowing investors' attitudes towards risks is significant for portfolio managers who intend to satisfy the expectations of clients and avoid building portfolios in which clients do not wish to invest due to unfavorable predispositions toward risk. For example, Mohammad, et al. [5] claimed that client segmentation based on risk would enable financial providers to develop the right portfolios concerning specific risks associated with investors and offer low-risk takers more secure portfolios as opposed to high-risk takers. This segmentation could be of great use in distinguishing the preferences of investors within the Jordanian market, which can be influenced by the economic climate as well as perceptions of risk that may differ from those of Western countries.

Moreover, domestic and global trends also influence risk perception processes and companies' investment strategies. From the literature, Fernandez and Joseph [41] and Jiang, et al. [42] noted that some investors still avoid international investments due to problems of instability in the political system and fluctuations of foreign currency. For Jordanian investors, this shift means a quest to reduce risk and enhance the manageability of investments by focusing on the domestic market. Knowledge of these behavioral inclinations allows for better development of efficient financial strategies observed regarding worry, perceived risk, and behavioral bias, thus leading to higher investor confidence and satisfaction among those involved in the execution of investment plans, such as financial advisors and portfolio managers.

2.4. IUS Scores' Variance with Manipulated Levels of Uncertainty

When assessing tolerance for ambiguity, it has been established that observers' scores on the IUS differ depending on the level of risk or uncertainty (low, moderate, high) that has been introduced into the experiment [48]. In imitating the study and reviewing the data, it is understood that in conditions where risk levels are either much lower or significantly higher, there is no significant relationship between IUS and the actual situation [45]. Ineligible scores are a lack of certainty cues, and while moderate uncertainty is related to these scores, participants opted to seek more certainty cues before making a final decision [49].

2.5. Experimental Design

2.5.1. Sample Selection and Task

The participants comprised 54 MBA students who self-administered the IUS measure of intolerance for uncertainty. Participants were then asked to act as portfolio managers and manage an endowment for a client's retirement savings of $100,000. They were also instructed to ignore their responses from the first scenario while responding to the second scenario. The entire amount ($100,000) had to be allocated between two investment options for each of the following scenarios.

The first decision problem was whether to invest in a U.S. government security, which has nearly zero default risk with an expected return of 5%, or to invest in the stock of company ABC, which has an average long-term risk with an expected annual return of 10%.

The second case involved investing in XYZ company stock, which has an expected long-term return of 8 percent and average risk (Beta = 1), versus MNO company, which has an expected return of 16 percent and twice the risk (Beta = 2). The following figure presents the two investment scenarios.

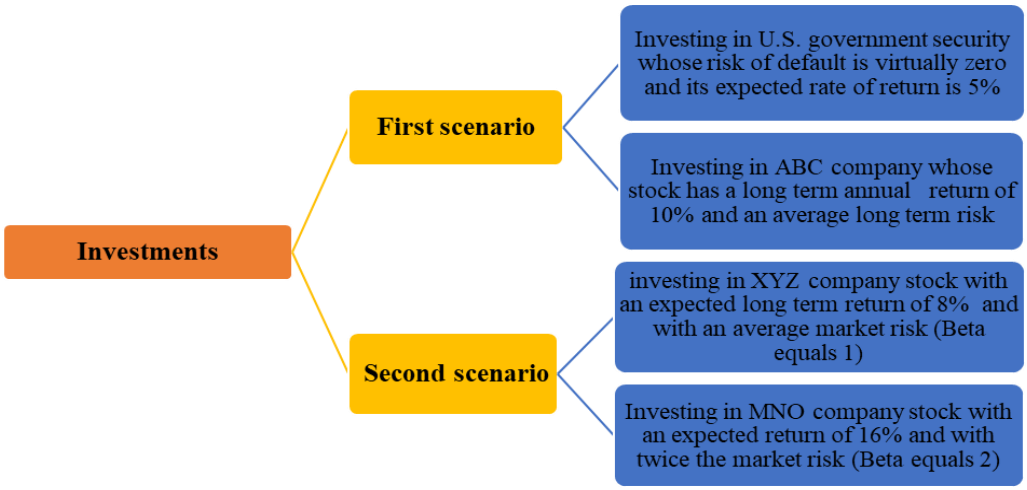

Figure 1.
Investment scenarios.

3. Results

To detect the difference between the dollar amounts invested in government securities (GS) and those invested in ABC company stocks, Analysis of Variance (ANOVA) was used. Table1 shows the ANOVA results.

Table 1.
ANOVA for Diff 1.

Source	DF	SS	MS	F-value	Pr>F	R^2
Model	2466.361	1	2466.361	6.431	0.015	0.118
IUSC	2466.361	1	2466.361			
Error	18407.819	48	383.496			
Corrected	20874.180	49				

Note: Diff 1: The difference between $ amount invested in GS and that invested in ABC.
IUSC: A dummy variable used for IUS scores. It equals 1 if IU score is less than 68 (Low IU) and 2 if IU score is more than 68 (High IU).
SS: Sum of square.
MS: Mean square.

The results in Table1 showed that there is a difference between the dollar amounts subjects invested in government securities (GS) and those invested in ABC company stocks, based on the F-value, which is equal to 6.431 with a p-value < 0.05. This indicated that the IUS score affects the choice between investing in government securities (GS) and investing in ABC company stocks made by the participants in the first scenario. Moreover, there is a difference between the dollar amounts subjects invested in XYZ company stock and those invested in MNO company stocks. Analysis of Variance (ANOVA) was used. Table 2 shows the ANOVA results.

Table 2.
ANOVA for Diff 2.

Source	DF	SS	MS	F-value	Pr>F	R^2
Model	1884.980	1	1884.980	4.765	0.034	0.090
IUSC	1884.980	1	1884.980			
Error	18989.200	48	395.608			
Corrected	20874.180	49				

Note: Diff 2: The difference between $ amount invested in XYZ and that invested in MNO.
IUSC: A dummy variable used for IUS scores. It equals 1 if IU score is less than 68 (Low IU) and 2 if IU score is more than 68 (High IU).
SS: Sum of square.
MS: Mean square.

The results in Table 2 indicated that there is a difference between the dollar amounts subjects invested in XYZ company stock and those invested in MNO company stocks, based on the F-value, which is equal to 4.765 with a p-value less than 0.05. This indicates that the IUS score affects the choice between investing in XYZ company stock and investing in MNO company stocks made by the participants in the second scenario.

To determine whether there are differences between the participants' choice to invest in government securities (GS) or ABC company stocks based on the IU score, the t-test was used. The following table presents the results of this test.

Table 3.
T-test for Diff 1.

Variable	N	Mean	SD	Min	Max	DF	T-value	Pr
IUSC=1	25	-5.16	4.17	-100	40	23	1.236	0.229
IUSC=2	25	14.55	4.02	-20	60	23	3.623	0.001

Note: Diff1: The difference between the $ amount invested in GS and that invested in ABC.
IUSC: A dummy variable used for IUS scores. It equals 1 if IU score is less than 68 (Low IU) and 2 if IU score is more than 68 (High IU).

The results in Table 3 indicate that the mean difference between the capital invested in GS and that invested in ABC is (-5.16) for participants with low IU scores (meaning they tolerate more risk or uncertainty). This suggests that the participants invested more capital in the riskier option, which is ABC stock. On the other hand, the results indicate that participants with high IU scores (less tolerant of risk) invested more capital in the safer option, which is GS, where the mean difference in the amount invested in the two investment options is (20).

In addition to determining whether there are differences between the participants' choice to invest in XYZ company stocks or MNO company stocks based on the IU score, the t-test was used. The t-test was used. The following table presents the results of this test.

Table 4.
T-Test for Diff 2.

Variable	N	Mean	SD	Min	Max	DF	T-value	Pr
IUSC=1	25	15.10	2.94	-40	100	23	5.128	0.000
IUSC=2	25	12.36	3.10	-20	100	23	3.989	0.001

Note: Diff 2: The difference between $ amount invested in XYZ and that invested in MNO.
IUSC: A dummy variable used for IUS scores. It equals 1 if IU score is less than 68 (Low IU) and 2 if IU score is more than 68 (High IU).

The results in Table 4 are interesting, as they report that the mean difference between the amount invested in XYZ company and the amount invested in MNO company was 15.10 for participants with low IU scores (more risk tolerance), indicating that the participants invested larger amounts in the less risky option, which is XYZ. Participants with high IU scores (less risk tolerance) also invested more money in the safer option, which is XYZ, where the mean difference between the amounts invested in the two investment options is 12.36.

4. Conclusion

The study sought to establish the extent to which individual difference variables defined by the Intolerance of Uncertainty Scale (IUS) impact investors' capital allocation decisions across different investment risks. The research establishes that investors with a higher level of intolerance of uncertainty invest larger amounts of funds into relatively lower-risk government bonds and comparatively smaller amounts in more volatile assets such as ABC stock. In contrast, participants with a higher tolerance of uncertainty were more likely to risk higher amounts in more risky securities like XYZ and MNO. The findings address the research question by showing that IUS scores are relevant to reflecting the risk profiles of investment choices. Identifying this link between end-user attitudes to risk or uncertainty and their financial choices means that part of the hypothesis linking affective reactions to risk/uncertainty to utilitarian applications in usage behavior is indeed viable.

The results of this study are consistent with earlier research on the contribution of uncertainty intolerance to the expression of behavior under conditions of risk. Al-Naami, et al. [50] and the subsequent works of Mohammad, et al. [8] showed that a high level of Intolerance of uncertainty (IU) makes people perceive ambiguous stimuli as a threat, which influences their decision-making process. The current results align with the behavioral dispositions described by Clark, et al. [12] and Mohammad, et al. [11], who pointed out that high intolerance of uncertainty (IU) is associated with excessive worry and anxiety, leading individuals to avoid situations that present uncertainty. In participants with higher intolerance of uncertainty, the lower investments in high-risk assets underpin this theoretical reasoning and support the frameworks described in the literature on anxiety and risk perception.

Furthermore, the study contributes to a conceptual understanding of risk perception and financial behavior, highlighting the assertion that psychological constructs such as intolerance of uncertainty cannot be dismissed in behavioral finance. This finding supports the views of Kaur and Arora [35] and Holzmeister, et al. [47], who argue that data from psychological tests could enhance the understanding of investors' behavior by depicting the biases investors have in their minds [44, 49]. By integrating concepts of anxiety and risk, this study underscores the practical implications for financial advisors: there is a problem of individual differences in risk preference where a simpler solution may not be adequate when disseminating advice to clients. Conversely, psychologically driven treatment may enhance financial performance, which aligns with findings by Mohammad, et al. [25] and Shlash Mohammad, et al. [34], noting that individual risk prediction can work best in financial planning.

5. Limitations

The limitations of the study in terms of aim, theory, and sample are presented below. First, the scope of this study is narrowed down to examine only the moderating role of individual differences assessed through IUS on investment decisions regarding different risk levels of assets. This limited aim restricts the external validity of the results in terms of other financial behavior contexts. While helping determine the impacts of uncertainty on risk tolerance, the emphasis on IUS does not consider further psychological or different types of demographic factors influencing investment decision-making. Secondly,

the theoretical framework mostly relies on the acceptability of intolerance of uncertainty and the relationship between perceived risk and anxiety. Although this approach can assess nuances of an investor's behavior, it might not reveal all of the cognitive and emotional aspects of an investor's decision-making process.

Other theories, such as those belonging to the Behavioral Finance realm, with biases like overconfidence or anchors, could have provided a broader perspective on the analysis of decisions made. Thirdly, the sample used in this study, though reasonable, was limited to 54 MBA students. MBA students may not necessarily act like other regular investors in the market because they have a better understanding of personal finance compared to other population groups and may not have the same level of risk aversion as investors who do not have as much formal education on personal finance as MBA students. Such a population sample and selection method also pose a major weakness in the external validity of the study, and this has implications in various ways.

6. Implications

The implications of this study are twofold: theoretical and practical. From the theoretical point of view, the study helps to advance knowledge about the role played by intolerance of uncertainty in financial decisions or, to be more specific, in the aspect of risk attitude. It offers real-world estimates proving that people who have low tolerance for uncertainty are unlikely to invest in high-risk securities but instead are prone to buying safer government bonds. Towards this, this study contributes to the remedial literature by showing the precise impact of emotional and psychological attributes on financial decision-making, giving credence to the incorporation of psychological tests such as the Intolerance of Uncertainty Scale (IUS) into behavioral finance theories.

At a practical level, the study is relevant to financial advisors and institutions seeking to assist their clients in achieving the best returns on their investments. Realizing that people with low-risk tolerance have the propensity to avoid high-risk products, the advice of financial advisors can be better directed. This suggests the existence of specific investment needs to be met, by which the client should be tailored according to their risk appetite level, possibly using the IUS as part of a client profiling technique. Additionally, reading programs could enhance financial literacy and address the procedures of emotional regulation of investors as well as the processes of decision-making under conditions of uncertainty.

7. Recommendations

The following recommendations can be derived from the results and some limitations of this research. Further research needs to broaden the range of participants, which will increase the external validity of the results. Including individuals of different ages, education levels, occupations, etc., would provide a more comprehensive view of tolerance to risk in the population. Moreover, it is believed that future studies could expand the list of variables affecting the decision to invest more comprehensively, including, for instance, financial literacy, cultural, or social factors.

The author recommends the use of psychological measures to gain more insight into investors regarding their respective risk profiles, to practitioners who may wish to enhance investor outcomes. This approach might be especially useful for wealth managers and financial advisors when constructing client-specific portfolios that address the client's use of their wealth and risk sensitivity. Finally, better financial education for regulatory bodies and institutions should incorporate EI and PR into programs that will help investors address the uncertainties of investment decisions. This recommendation may eventually be useful in leading to a more stable and knowledgeable base of investors, who appear less vulnerable to future fluctuations in financial markets.

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