EVALUATION OF DEMOGRAPHIC VARIABLES AND THEIR IMPACT ON FINANCIAL RISK TOLERANCE AMONG WOMEN

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Abstract

This empirical research examined variations in financial risk tolerance (FRT) among Saudi Arabian women based on demographics such as age, education, work experience, monthly income, occupation, place of residence, and region. It explored the relationship between these characteristics and women investors' risk tolerance (RT) in investment decisions (Hermansson & Jonsson, 2021). Limited studies have addressed women investors' demographic characteristics and risk perceptions in Saudi Arabia. This study identified key factors influencing different categories of women investors, collecting data from 607 female participants and using the FRT scale to quantitatively assess financial risk dimensions (Hemrajani et al., 2023). Online questionnaires were distributed via Google Forms. A multinomial logistic regression model was employed. The findings indicated a significant positive influence of certain demographics on FRT. Moderate risk scores notably impacted marital status, employment, and residence. Age, marital status, and educational attainment significantly influenced above-average risk scores. High-risk scores were significantly associated with age, marital status, and educational attainment. Employment status, work experience, geographic area, and residential location were also significantly related to FRT scores. The study highlighted differences in FRT based on geographical location, offering valuable insights for policymakers and investors to advance Saudi Arabia's financial sector.

Keywords: Financial Risk, Multinomial Logistic Regression, Demographic Factors, Investment Decisions, Financial Risk Tolerance, Saudi Arabia

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1. INTRODUCTION

Risk tolerance (RT) is a vital determinant that affects an individual's investment decisions, defined as the readiness to embrace financial risk in pursuit of prospective rewards. Identifying the appropriate portfolio for each family and formulating government measures to mitigate financial risks is essential. Prior studies have investigated risk tolerance individually and its correlation with anticipated returns. Scholars such as Ali et al. (2023), Alkayed et al. (2024) define RT as the capacity to endure variations in returns and volatility. Research has examined the influence of demographic variables, including education, income, work position, age, and gender, on financial risk tolerance (FRT) (Anderson et al., 2017).

Like other developed and emerging countries, investments in Saudi Arabia have also been catching on because investors want to satisfy their capital development and revenue retention needs. The financial and stock markets have opened broad investment opportunities in Saudi Arabia (Issa et al., 2021). The stock market's growth is correlated with an investor's investment efficiency, investment satisfaction, and reinvestment frequency. Although Saudi investors are highly educated, independent decision-makers and employed in known companies, they are hesitant when investing their money in stock markets (Bannier & Schwarz, 2018; Burkhardt et al., 2020).

FRT is often defined as the highest potential loss an individual is willing to endure while making a financial choice. It serves a crucial function in the optimum portfolio selection of every family (van den Bergh et al., 2021). It is considered a crucial element in governing diverse governmental policies associated with consumer hazards related to financial choices. The capacity of a financial planner to manage risks is often linked to investor demographic characteristics, such as gender, age, income, time horizon, investing expertise, education level, liquidity requirements, and disposition towards market volatility (Friedl et al., 2020; Hermansson & Jonsson, 2021). Investors often rely on unconscious assumptions and lifelong behaviour to guide their decisions without this knowledge, and do not take deliberate care of their money. It can also be seen that sometimes investors do not take care of the objective studies of the investment markets. They go by the experience of others to invest their money in different avenues.

The following research concerns have been identified: More studies on the FRT of Saudi Arabian women need to be conducted, particularly on the impact of demographic factors on their risk perceptions related to investment decision-making. Cultural and social conventions may influence the financial decision-making of women in Saudi Arabia. However, more comprehensive knowledge about the interaction between these variables and demographic characteristics such as age, education, and marital status needs to be more comprehensive. The research needs prescriptive models that may effectively direct financial planners and policymakers in customizing financial services to meet the specific requirements of Saudi Arabian women while considering their demographic characteristics. The financial services industry may need to adequately cater to the distinct FRT profiles of Saudi Arabian women, which might result in a lack of equal participation in investing activities and long-term financial planning.

Studies have revealed that investors can get the best return by objectively analysing the market before investing.

The present study aims:

- To assess the significance of education and income levels on financial risk-taking behaviours among Saudi Arabian women, highlighting differences across various demographic segments.
- To analyze the influence of demographic variables (such as age, education level, income, and marital status) on FRT among Saudi Arabian women.
- To identify patterns of FRT within different demographic subgroups of Saudi Arabian women and how these patterns affect their investment behaviour.
- To provide prescriptive recommendations for financial advisors and policymakers on tailoring financial services and products that align with the risk profiles of Saudi Arabian women.

The research objectives intend to investigate the RT level of female investors in the Kingdom of Saudi Arabia (KSA) might be a substantial disparity among women investors with RT. The results may indicate demographic disparities among female investors about RT (Fisher & Yao, 2017). Various studies have also tried to determine the relationship between RT and return on investment. Therefore, the present study can give an idea to suggest to the women investors on how to make their investments according to their RT ability. Women participants can be divided into various categories. Differences can be observed between respondents of different categories. Therefore, this study aims to investigate the extent to which demographic factors affect the FRT of women investors who invest in the local financial markets of Saudi Arabia.

The rest of this paper is structured as follows. Section 2 reviews the relevant literature. Section 3 analyses the methodology that has been used to conduct empirical research on FRT. Section 4 provides the results. Section 5 discusses the main findings. Section 6 concludes the paper.

2. LITERATURE REVIEW

Mokoena et al. (2021) indicated that age and gender significantly influence investors' RT. Age is a key demographic factor often studied in terms of RT. Generally, older individuals tend to have a lower RT than younger individuals. Suherman et al. (2023) revealed that Indonesian millennials have a moderate level of FRT. Furthermore, the study suggests that the RT of Indonesian millennials is quite cautious. The t-test data revealed that gender considerably affected the FRT of Indonesian millennials, with male millennials exhibiting greater RT than female millennials. Lathief et al. (2024) investigated the effects of risk on individuals' investment decisions. Bucciol and Miniaci (2018), Bayar et al. (2020) stated that RT is crucial for financial service providers and the financial sector's growth through individual planning and demand for financial products.

RT is vital in making financial decisions and achieving financial objectives. Many studies have investigated the impact of demographic characteristics on an FRT when making investing decisions (Zahera & Bansal, 2019). RT is an individual's ability to engage in a financial

activity whose outcome is unknown. However, a person's economic decisions depend on the degree of FRT and various demographic factors. Demographic variables such as gender, age, marital status, income, and occupation may influence a person's risk of daily financial issues (Friedl et al., 2020; Hermansson & Jonsson, 2021).

Investments play a crucial role in an individual's financial portfolio as they have the potential to grow wealth and provide financial stability. Understanding the factors that affect investors' decision-making processes, particularly RT, is essential (Streich, 2023). This literature review explores the relationship between demographic characteristics and RT among investors, focusing on the context of KSA. This is significant because there is limited research on the demographic characteristics and risk perceptions of investment decisions among investors in KSA. By understanding investors' RT and the demographic factors that influence it, valuable insights can be provided for policymakers and investors.

Lathief et al. (2024) investigated the effects of risk on individuals' investment decisions. Bucciol and Miniaci (2018), Gakhar (2019), Streich (2023), and Bayar et al. (2020) asserted that RT is essential for financial service providers and the development of the financial sector via individual planning and the demand for financial goods. Numerous studies have explored the determinants of FRT. Extensive research on RT and demographic characteristics has been conducted worldwide. Various studies have assessed the influence of gender, age, income, occupation, and education on investors' risk tolerance (Alkayed et al., 2024).

Gender significantly influences RT, and women in the United States (U.S.) exhibit lower RT than men. Similarly, shows that female investors in Taiwan are less RT than male investors. However, some studies yield differing results; for instance. Braun Santos et al. (2016) did not detect significant differences in RT between genders among individual U.S. investors. Gender has been associated with RT in investment decision-making, and research has demonstrated that males tend to exhibit higher RT than females (Malik et al., 2024). This disparity is often ascribed to gender-specific discrepancies in financial knowledge, confidence, and risk perceptions.

Previous studies have found that men generally display a stronger tendency to make decisions related to FR than women (Fisher & Yao, 2017; Kassem, 2022). Prior studies have repeatedly shown that men tend to be more inclined to invest in high-risk financial assets than women after accounting for other relevant factors (Eliwa et al., 2023; Velte, 2023). Rodríguez-Jasso and Rodríguez-Jasso (2024) gender disparities in RT persist across generations while keeping all other household characteristics constant. However, it is generally anticipated that women will have lower RT scores than men, regardless of their cultural background.

Suherman et al. (2023) revealed that Indonesian millennials have a moderate level of FRT. Furthermore, the study suggests that the RT of Indonesian millennials is quite cautious. The t-test data revealed that gender considerably affected the FRT of Indonesian millennials, with male millennials exhibiting greater RT than female millennials. Investigating the role of gender in Riyadh's investment environment is particularly intriguing because of the traditional nature of Saudi Arabian society (Maulidi et al., 2023). Therefore, it is crucial to understand the correlation between gender and RT among Saudi Arabian investors.

Mokoena et al. (2021) indicated that age and gender significantly influence investors' RT. Age is a key demographic factor often studied in terms of RT. Generally, older individuals tend to have a lower RT than younger individuals. This can be attributed to reduced dependency on future income, increased wealth accumulation, and a diminished ability to recover from financial losses (Lusardi et al., 2014). Several studies have reported a negative correlation between age and RT. Examining whether a similar relationship exists among Saudi Arabian investors is intriguing.

Age is a critical indicator of RT, with older individuals generally seeking less risk than younger individuals (Khatib et al., 2021; Nguyen et al., 2021). Life cycle theory often explains this relationship, suggesting that as individuals age, their investment objectives shift from wealth accumulation to wealth preservation. This is consistent with previous studies that found that RT decreases with age (Brooks et al., 2018; Dickason & Ferreira, 2018). Wahl and Kirchler (2020) found a mixed relationship between age and RT tolerance. While some studies have indicated that elderly individuals are more likely to be RT (Palvia et al., 2020; Salem et al., 2021), other studies have suggested that they tend to be more risk-conservative. Murhadi et al. (2023) revealed that financial literacy, age, and income do not appear to influence the FRT of individual investors in Indonesia (Lippi & Rossi, 2020). Several studies have attempted to establish a relationship between age and RT (García & Herrero, 2021).

According to numerous studies, it is widely accepted that individuals' appetite for risk diminishes as they mature. However, recent research has challenged this idea. Recent literature shows that the connection between age and RT is frequently favourable. These results are consistent with those who found a positive relationship between age and life satisfaction. According to conventional wisdom, age and RT are closely connected, implying that older individuals tend to have a shorter timeframe for decision-making.

Nevertheless, this does not necessarily imply that they are more likely to engage in risky behaviours (Zahera & Bansal, 2018). Instead, this could be because older individuals may need the ability to recover lost assets, influencing their RT levels. Therefore, it is reasonable to infer that RT levels vary among individuals across age groups. The income level has a significant impact on an individual's RT. Generally, people with higher incomes exhibit greater RT owing to their financial stability, which allows them to absorb potential losses (Baik et al., 2020). Ansari and Bansal (2024) showed a positive correlation between income and RT, but it is essential to acknowledge that this relationship is not always straightforward. Threshold effects may be present, implying that the impact of income on RT may plateau beyond a specific income level (Gupta et al., 2024). Income and education have consistently been identified as significant RT predictors. Higher financial resources may encourage individuals to take risks, explaining the correlation between higher income levels and RT (Quispe et al., 2016). Additionally, those with higher educational attainment may possess greater financial knowledge, leading to increased RT (Amponsah et al., 2025). Given the varying income distributions and educational opportunities in Saudi

Arabia, it is crucial to investigate the impact of these factors on investors' RT.

According to Chhatoi and Mohanty (2023), there are significant disparities between undergraduate and postgraduate investors in terms of their comfort level with risk, ability to comprehend risk, and willingness to relinquish returns (Mishra, Bansal, & Maurya, 2023). Undergraduate investors are primarily distinguished by their age, whereas postgraduate investors differ in risk, comprehension of returns, and tolerance of short-term market fluctuations. Murhadi et al. (2023) indicated that income research outcomes do not affect individual investors' FRT in Indonesia. This aligns with the results of Lippi and Rossi (2020), who discovered that their educational background did not determine an individual's RT. The study conducted by Bayar et al. (2020) aimed to add to the existing literature on the determinants of RT by examining the impact of financial literacy level on FRT among Usak University personnel. The researchers used a multinomial logistic regression approach and discovered that higher education was likely to positively affect RT.

Various demographic factors, including education and career, commonly affect RT. Research indicates that professionals in roles involving higher levels of risk, such as entrepreneurs or financial specialists, frequently exhibit higher RT (Maurya et al., 2025; Zalata et al., 2022). Additionally, individuals with greater educational attainment have been discovered to possess increased RT (Mishra Bansal, Maurya, et al., 2023). Bansal et al. (2025) discussed that marital status has been associated with RT in investment decision-making as a demographic characteristic. Research has demonstrated that married individuals generally exhibit a lower RT than single individuals (Verma & Bansal, 2021). This could be attributed to the increased financial obligations and risk aversion arising from family considerations. Examining how marital status influences RT among investors in Saudi Arabia, where marriage and family hold significant cultural importance, could yield valuable insight. Risk can affect investors in ways ranging from positive to negative. Investors' propensity to take on risk typically hinges on their general mindset. Various factors can shape this mindset, such as demographics, life contentment, propensity for risk-taking, and perceptions (Kellerman et al., 2020).

Shenjere and Ferreira-Schenk (2024) found that South African investors, considering their demographics and RT, have largely achieved significant life goals. A negative correlation was observed between life satisfaction and risk-averse investors, indicating lower life satisfaction among risk-averse individuals. Investors who felt positive about their decisions were generally more satisfied (Mokoena et al., 2021). Most participants were risk-averse and preferred average financial risk for average returns. Specifically, Stokvel investors demonstrated the highest financial risk inclination compared to other investment products, especially government bonds.

Bayar et al. (2020) found that various demographic factors have also been widely recognized as crucial determinants of people's attitudes and behaviours, including RT, in investment decision-making. Studies worldwide have examined the impact of different demographic characteristics on investors' RT. However, limited research has been conducted on this topic in Saudi Arabia. Therefore, this review provides a comprehensive overview of the existing literature on the relationship between demographic characteristics and RT in investment decision-making.

Karki and Kafle (2020) demonstrated that several demographic factors, including age, gender, and education, can impact an individual's investment decision in the stock market. This research indicates that Nepalese investors' financial literacy level, prior profit-and-loss experience, and marginal lending availability primarily shape their RT. RT levels can be affected by emphasizing financial literacy and effectively regulating margin lending risks in the stock market, contributing to overall market stability.

Grable and Rabbani (2023) demonstrated a positive relationship between investment decisions and FRT. Risk-averse investors tend to allocate more funds to assets with lower risk levels. Lathief et al. (2024) formulated tailored methods that optimize the likelihood of financial success while adeptly managing and mitigating risk. These solutions enable investors to make inflation-hedging decisions that safeguard them against the adverse effects of inflation and avert potential losses (Lippi & Rossi, 2020; Wahl & Kirchler, 2020). Investment advisers must assess their customers' FRT to provide customized and suitable investment advice. Based on the literature review, it is evident that a substantial amount of research has been conducted on the relationship between investors' demographic characteristics and RT. However, few studies have specifically focused on Saudi Arabia. Consequently, this study contributes to the existing body of literature by evaluating the RT levels of Saudi Arabian investors and examining disparities in RT based on different demographic factors.

Hence, we propose the following hypotheses:

H1: Age significantly influences the RT level of women investors.

H2: Marital status significantly influences the RT level of women investors.

H3: Monthly income significantly influences the risk RT level of women investors.

H4: Academic qualification significantly influences the RT level of women investors.

H5: Employee status significantly influences the RT level of women investors.

H6: Employer significantly influences the RT level of women investors.

H7: Working significantly influences the RT level of women investors.

H8: Work experiences significantly influence the RT level of women investors.

H9: Live substantially influences the RT level of women investors.

H10: Region significantly influences the RT level of women investors.

3. RESEARCH METHODOLOGY

3.1. Sampling procedure

A self-designed structured questionnaire was utilised to investigate the RT of 607 female investors in Saudi Arabia. Both parametric and non-parametric statistical methods were employed to analyse the collected data. This cross-sectional empirical study gathered data from all key regions of Saudi Arabia, including the Makkah region, Eastern Province, Riyadh region, Qassim region, Medina region, Al-Baha region, Najran region, Asir region, Northern Border area, Jizan region, and Tabuk region, covering the period from April 1, 2023 to December 31, 2023. The randomly selected sample consisted of women with graduate, undergraduate, and postgraduate qualifications from established private and public universities in Saudi Arabia (n = 607). Each survey participant was informed about the study through a cover letter and consented to participate. The 607 respondents were chosen randomly from those who completed the online FRT survey.

3.2. Data collection instrument

This empirical study employed a carefully structured questionnaire based on an RT scale originally developed by Grable and Lytton (1999), known as the Grable and Lytton Risk Tolerance Scale (GL-RTS). The data gathered included socioeconomic status, demographics, and RT variables to assess respondents' attitudes toward risk. The survey featured 20 items, consistent with the 20-item GL-RTS. As recommended by Nobre et al. (2016), five distinct groups were used to categorise respondents' FRT, with each participant assigned to a specific group based on their risk attitude. Individuals scoring between "0" and "17" were classified as "having low RT", while those scoring between "18" and "21" had below-average RT. Scores between "22" and "27" indicated moderate RT, and participants scoring between "28" and "31" were classified as having above-average RT. Lastly, a female responder will exhibit a significant level of RT by making investment choices if their score is between "32" and "46" (Roessle et al., 2024). Nevertheless, the principal questions in the survey were recorded as demographic variables with clearly defined categories. The sampling methodology used in this study closely aligns with the studies conducted by Nobre et al. (2016), Shah (2017), and Shah and Bahri (2018).

3.3. Dependent variable

The dependent variable in this study is the *FRT* scores obtained from the women participants. The scoring system was developed by evaluating their responses to questions that gauged their attitudes towards FRT across various investment scenarios. Participants who expressed a greater willingness to take risks were given a score of 5, while those unwilling to accept any financial risk were assigned a score of 1. The *FRT* scale is structured into five categories:

1) 0–17, representing low *RT* (RT = 1).
2) 18–21, representing below-average *RT* (RT = 2).
3) 22–27, representing moderate *RT* (RT = 3).
4) 28–31, representing above-average *RT* (RT = 4).
5) 32–46, representing high *RT* (RT = 5).

The RT scores for the 20 items were reverse-coded, indicating higher RT levels. The categories were created by summing the scores for each participant across the 20 items related to financial risk. This study categorised the *FRT* scores into three groups: moderate, above average, and high *RT*. However, none of the respondents fell within the 0–21 score range, so the low and below-average categories were excluded from further analysis.

Four models have been developed for regression analysis using all demographic data as follows:

Model 1

$$Moderate\ RT(y) = \alpha + \beta_1 Age + \beta_2 Martial\ status + \beta_3 Monthly\ income + \beta_4 Academic\ qualification + \beta_5 Employee\ status + \beta_6 Employer + \beta_7 Working + \beta_8 Work\ experience + \beta_9 Live + \beta_{10} Region + \varepsilon \quad (1)$$

Model 2

$$Above - average\ RT(y) = \alpha + \beta_1 Age + \beta_2 Martial\ status + \beta_3 Monthly\ income + \beta_4 Academic\ qualification + \beta_5 Employee\ status + \beta_6 Employer + \beta_7 Working + \beta_8 Work\ experience + \beta_9 Live + \beta_{10} Region + \varepsilon \quad (2)$$

Model 3

$$High\ RT(y) = \alpha + \beta_1 Age + \beta_2 Martial\ status + \beta_3 Monthly\ income + \beta_4 Academic\ qualification + \beta_5 Employee\ status + \beta_6 Employer + \beta_7 Working + \beta_8 Work\ experience + \beta_9 Live + \beta_{10} Region + \varepsilon \quad (3)$$

Model 4

$$Total\ FRTscore(y) = \alpha + \beta_1 Age + \beta_2 Martial\ status + \beta_3 Monthly\ income + \beta_4 Academic\ qualification + \beta_5 Employee\ status + \beta_6 Employer + \beta_7 Working + \beta_8 Work\ experience + \beta_9 Live + \beta_{10} Region + \varepsilon \quad (4)$$

3.4. Alternative methodological approaches

While the chosen methodology was appropriate for the study's objectives, alternative methods could also have been employed to explore the relationship between demographics and FRT:

• Ordinal logistic regression: Given that FRT scores often follow a ranked or ordered structure (e.g., low to high-risk tolerance), ordinal logistic regression could be an alternative. This model accounts for the natural order of the categories and might provide more nuanced interpretations of RT gradients.

• Structural equation modelling (SEM): SEM could be employed to analyse complex relationships between observed and latent variables, such as psychological or cultural factors influencing FRT. SEM allows simultaneous analysis of multiple dependent relationships, which could enhance the robustness of findings by integrating demographic, attitudinal, and behavioural constructs.

• Cluster analysis: This unsupervised learning method could identify distinct profiles or segments of women investors based on their demographic and RT characteristics. Cluster analysis would be useful for targeted policy interventions or financial product design.

Table 1. Demographic information for all the respondents selected for analysis

Variables	*Description*	*Code used in the analysis*	*No*	*Percentage*
Age (in years)	18–24	[Age = 1]	240	39.5%
	25–30	[Age = 2]	196	32.3%
	31–45	[Age = 3]	130	21.4%
	46–60	[Age = 4]	38	06.3%
	Above 60	[Age = 5]	03	00.5%
Marital status	Divorced	[Marital status = 1.00]	23	03.8%
	I do not wish to answer	[Marital status = 2.00]	14	02.3%
	Widower	[Marital status=3.00]	04	00.7%
	Married	[Marital status = 4.00]	205	33.8%
	Unmarried	[Marital status = 5.00]	361	59.5%
Monthly income (Saudi riyal, SAR)	5001 to 10000	[Monthly income = 1.00]	359	59.1%
	10,001 to 20,000	[Monthly income = 2.00]	113	18.6%
	20,001 to 30,000	[Monthly income = 3.00]	47	07.7%
	More than 30,000	[Monthly income = 4.00]	88	14.5%
Academic qualification	High School or less	[Acad. qual. = 1.00]	62	10.2%
	Diploma	[Acad. qual. = 2.00]	67	11.0%
	Undergraduates	[Acad. qual. = 3.00]	235	38.7%
	Graduates	[Acad. qual. = 4.00]	233	38.4%
	Ph.D.	[Acad. qual. = 5.00]	10	01.6%
Employee status	Business	[Employee status = 1.00]	32	05.3%
	Employee	[Employee status = 2.00]	295	40.2%
	Retired	[Employee status = 3.00]	36	05.9%
	Student	[Employee status = 4.00]	244	40.2%
Employer	Do not apply	[Employer = 1.00]	205	33.8%
	Government	[Employer = 2.00]	183	30.1%
	Military	[Employer = 3.00]	02	00.3%
	Private sector	[Employer = 4.00]	208	34.3%
	The charitable and non-profit sector	[Employer = 5.00]	09	01.5%
Working	Private service sector	[Working = 1.00]	91	15.0%
	Manufacturing sector	[Working = 2.00]	23	03.8%
	Government sector	[Working = 3.00]	121	19.9%
	Education sector	[Working = 4.00]	176	29.0%
	Medical sector	[Working = 5.00]	57	09.4%
	Agriculture sector	[Working = 6.00]	10	01.6%
	Professional service sector	[Working = 7.00]	74	12.2%
	Hospitality sector	[Working = 8.00]	31	05.1%
	Research & Development sector	[Working = 9.00]	24	04.0%
Work experience (in years)	1 to less than 5	[Work Exp = 1.00]	376	61.9%
	5 to less than 10	[Work Exp = 2.00]	128	21.1%
	10 to less than 15	[Work Exp = 3.00]	49	08.1%
	15 to less than 20	[Work Exp = 4.00]	21	03.5%
	More than 20	[Work Exp = 5.00]	33	05.4%
Live	City (inhabited by 10000 to 1000000)	[Live = 1.00]	145	23.9%
	Governorate (populated from 15000 to 100000)	[Live = 2.00]	23	03.8%
	Large city (inhabited by more than 10000000 people)	[Live = 3.00]	404	66.6%
	Small governorate (inhabited from 3000 to 15000)	[Live = 4.00]	18	03.0%
	Village (inhabited by less than 3000)	[Live = 5.00]	17	02.8%
Region	Makkah region	[Region = 1.00]	20	03.3%
	Eastern province	[Region = 2.00]	30	04.9%
	Riyadh region	[Region = 3.00]	522	86.0%
	Qassim region	[Region = 4.00]	11	01.8%
	Medina region	[Region = 5.00]	03	00.5%
	Al-Baha region	[Region = 6.00]	02	00.3%
	Najran region	[Region = 7.00]	04	00.7%
	Asir region	[Region = 8.00]	10	01.6%
	Northern border area	[Region = 9.00]	02	00.3%
	Jizan region	[Region = 10.00]	02	00.3%
	Tabuk region	[Region = 11.00]	01	00.2%

Source: Authors' elaboration.

4. RESULTS

Table 1 shows the demographic characteristics of the women respondents used in the analysis. A total of 607 women respondents participated, and the table provides detailed information regarding their age, marital status, monthly income, academic qualifications, employment status, and other relevant variables. Below is an interpretation of each section's age distribution; most women respondents (39.5%) fall into the 18–24 age group, indicating that a younger population is dominant in the sample. The second-largest age group is 25–30 years (32.3%), followed by 31–45 years (21.4%), showing that a substantial portion of the women respondents are within the working-age range. Women respondents aged 46–60 years (6.3%) and above 60 (0.5%) make up a small percentage, indicating lower women's participation from older age groups.

As for marital status, 59.5% of the women respondents are unmarried, representing the largest category, which may reflect cultural or social trends in the sample population. 33.8% are married, indicating a significant presence of married women in the study. Smaller percentages are divorced (3.8%), widowed (0.7%), or chose not to disclose their marital status (2.3%).

A significant portion (59.1%) of women respondents have a monthly income ranging from SAR 5,001 to 10,000, which suggests that most women respondents fall into a mid-level income bracket. 18.6% earn between SAR 10,001 to 20,000, while 14.5% earn more than SAR 30,000, indicating that a smaller proportion earns higher income. Only 7.7% earn between SAR 20,001 to 30,000.

For academic qualification, most women respondents are undergraduates (38.7%) and graduates (38.4%), reflecting a highly educated sample population. Eleven per cent hold a diploma, and 10.2% have a high school education or less, while a small proportion (1.6%) hold a Ph.D.

The largest women's groups are employees and students, constituting 40.2% each, indicating that the sample includes a balance of working professionals and students. Five point nine per cent are retired, while 5.3% are business owners, showing a smaller proportion of other employment types.

Thirty-three point eight per cent are unemployed, while 34.3% of women work in the private sector. Thirty point one per cent of women are employed by the government, and a very small proportion of women (0.3%) work in the military, or 1.5% in the charitable/non-profit sector. The working sector, the education sector (29.0%), and the government sector (19.9%) represent most women respondents, suggesting a concentration in public services and education. Smaller percentages of women are involved in sectors such as private services (15.0%), professional services (12.2%), and medical (9.4%), among others.

A substantial portion of the women respondents (61.9%) have one to less than five years of work experience, indicating that many are relatively early in their careers. 21.1% have five to less than 10 years of experience, while smaller groups of women have 10 to less than 15 years (8.1%), 15 to less than 20 years (3.5%), and more than 20 years (5.4%).

Most women respondents (66.6%) live in large cities with populations over 10 million, reflecting the urban concentration in Saudi Arabia. Twenty-three point nine per cent live in cities with populations between 10,000 to 1 million. A small proportion of women live in small governorates (3.0%), villages (2.8%), or governorates (3.8%).

Most women respondents (86.0%) are from the Riyadh region, followed by smaller percentages from the Eastern province (4.9%) and Makkah region (3.3%). Minimal women's representation from other regions, such as Qassim (1.8%), Medina (0.5%), and others.

The demographic data indicates that most women respondents are young, unmarried, mid-income, and highly educated. Most women respondents are employees in the education and government sectors, with a strong presence in large cities, particularly Riyadh. This demographic profile will be essential in analysing how these variables impact financial RT among Saudi Arabian women.

Table 2a. Moderate risk (score between 22–27) — Model 1: Model fitting information

Model	*Model fitting criteria*			*Likelihood ratio tests*		
	AIC	*BIC*	*-2 log likelihood*	*Chi-squared*	*df*	*Sig.*
Intercept only	70.850	123.647	116.805			
Final	60.847	285.872	66.940	10.005	48	1.000
Goodness-of-fit				*Pseudo R-squared*		
		Chi-squared	*df*	*Sig.*	Cox and Snell	0.016
	Pearson	556.461	448	1.000	Nagelkerke	0.138
	Deviance	57.395	448	1.000	McFadden	0.131

Table 2b. Moderate risk (score between 22–27) — Model 1: Likelihood ratio tests

Effect	*Model fitting criteria*	*Likelihood ratio tests*		
	-2 log likelihood of reduced model	*Chi-squared*	*df*	*Sig.*
Intercept	60.847	0.000	0	0.965
Age	61.915	1.068	4	0.899
Marital status	60.672	1.023	4	0.025*
Monthly income	58.655	2.365	3	0.782
Academic qualification	64.733	3.886	4	0.422
Employee status	62.445	1.598	3	0.660
Employer	66.441	7.595	4	0.023*
Working	41.006	3.256	8	0.797
Work experience	62.077	1.230	4	0.873
Live	69.409	8.562	4	0.073*
Region	36.571	2.398.	10	0.657

Note: AIC — Akaike information criterion; BIC — Bayesian information criterion. Significance level of 1%, 5%, or 10.
Source: Authors' elaboration.

Tables 2a and 2b present the results of a model fitting criteria that assesses the relationship between demographic variables and FRT among women with moderate risk scores between 22–27.

The following paragraph shows the model fitting information: AIC with 60.847 (final model) vs. 70.850 (intercept-only model), indicating that the final model fits the data better than the intercept-only model. BIC with 285.872 for the final model. Also, -2 log likelihood, the lower value of 66.940 in the final model, compared to the intercept-only model, suggests a better fit. The Chi-squared value of 10.005 with df = 48 and Sig. = 1.000 indicates that the overall model does not significantly improve fit over the intercept-only model.

As per the goodness-of-fit analysis, the Pearson Chi-squared (556.461, Sig. = 1.000) and deviance (57.395, Sig. 1.000) indicate that the model fits the data well. Pseudo R-squared: Cox and Snell: 0.016 (small effect size), Nagelkerke: 0.138 (small to moderate effect), McFadden: 0.131 (moderate effect). These values suggest the model explains a small to moderate portion of the variation in financial RT for moderate-risk individuals.

Based on the likelihood ratio tests (LRT), age does not significantly contribute to predicting moderate FRT (Chi-squared = 1.068, Sig. = 0.899). The result expressed that marital status with significant at the 0.05 level (Chi-squared = 1.023, Sig. = 0.025*), indicating that marital status significantly impacts FRT among moderate-risk individuals. Monthly income is insignificant (Chi-squared = 2.365, Sig. = 0.782), and academic qualification is also insignificant (chi-square = 3.886, Sig. = 0.422). Also, employee status is insignificant (Chi-squared = 1.598, Sig. = 0.660). The employer is Significant at the 0.05 level (Chi-squared = 7.595, Sig. = 0.023*), indicating that the type of employer significantly impacts FRT. Working is not significant (Chi-squared = 3.256, Sig. = 0.797). Also, work experience is not significant (Chi-squared = 1.230, Sig. = 0.873). Live (Location) approaches significance (Chi-squared = 8.562, Sig. = 0.073), indicating some influence of location on RT. Finally, the region is not significant (Chi-squared = 2.398, Sig. = 0.657).

The demographic variables, marital status, and employer are statistically significant in predicting moderate FRT. The variable live (location) approaches significance, suggesting that geographical location may also play a role, though not at a strict significance level. Other variables, such as age, monthly income, and academic qualification, are insignificant in predicting FRT in the moderate-risk group. In conclusion, while most demographic variables in this model do not significantly impact FRT for moderate-risk individuals, marital status, employer type, and location show meaningful associations.

Table 3. Parameter estimates for moderate risk tolerance score between 22–27 — Model 1

Demographic variables	*β*	*Std. error*	*Wald*	*df*	*Sig.*
Intercept	5.340	23.110	0.053	1	0.817
[Age = 1.00]	1.744	11.165	0.024	1	0.876
[Age = 2.00]	1.324	11.206	0.014	1	0.906
[Age = 3.00]	2.695	11.236	0.058	1	0.810
[Age = 4.00]	1.158	11.146	0.011	1	0.917
[Age = 5.00]	0[b]	.	.	0	.
[Marital status = 1.00]	0.361	2.578	0.020	1	0.889
[Marital status = 2.00]	-2.391	1.299	3.389	1	0.066*
[Marital status = 3.00]	1.417	7.491	0.036	1	0.850
[Marital status = 4.00]	0.286	1.178	0.059	1	0.808
[Marital status = 5.00]	0[b]	.	.	0	.
[Monthly income = 1.00]	1.186	0.920	1.661	1	0.197
[Monthly income = 2.00]	-2.753	1.337	2.719	1	0.070*
[Monthly income = 3.00]	1.540	2.330	0.437	1	0.509
[Monthly income = 4.00]	0[b]	.	.	0	.
[Academical qualification = 1.00]	0.761	5.280	0.021	1	0.885
[Academical qualification = 2.00]	1.045	5.325	0.039	1	0.844
[Academical qualification = 3.00]	-0.956	5.036	0.036	1	0.849
[Academical qualification = 4.00]	0.039	4.983	0.000	1	0.994
[Academical qualification = 5.00]	0[b]	.	.	0	.
[Employee status = 1.00]	0.186	2.685	0.005	1	0.945
[Employee status = 2.00]	-0.500	1.421	0.124	1	0.725
[Employee status = 3.00]	0.061	3.086	0.000	1	0.984
[Employee status = 4.00]	0[b]	.	.	0	.
[Employer = 1.00]	-2.281	4.952	0.212	1	0.645
[Employer = 2.00]	-0.773	5.031	0.024	1	0.878
[Employer = 3.00]	0.246	12.877	0.000	1	0.985
[Employer = 4.00]	0.028	4.988	0.000	1	0.996
[Employer = 5.00]	0[b]	.	.	0	.
[Working = 1.00]	-1.265	3.018	0.176	1	0.675
[Working = 2.00]	-2.977	3.105	0.919	1	0.338
[Working = 3.00]	-0.319	3.071	0.011	1	0.917
[Working = 4.00]	0.327	3.051	0.011	1	0.915
[Working = 5.00]	-0.539	3.209	0.028	1	0.867
[Working = 6.00]	-0.523	5.529	0.009	1	0.925
[Working = 7.00]	0.623	3.331	0.035	1	0.852
[Working = 8.00]	-2.298	3.046	0.569	1	0.450
[Working = 9.00]	0[b]	.	.	0	.
[Work exp. = 1.00]	-0.475	3.594	0.017	1	0.895
[Work exp. = 2.00]	-1.017	3.683	0.076	1	0.782
[Work exp. = 3.00]	-0.682	3.901	0.031	1	0.861
[Work exp. = 4.00]	1.228	6.733	0.033	1	0.855
[Work exp. = 5.00]	0[b]	.	.	0	.
[Live = 1.00]	-2.161	3.055	0.501	1	0.479
[Live = 2.00]	-1.009	4.291	0.055	1	0.814
[Live = 3.00]	-1.694	3.018	0.315	1	0.575
[Live = 4.00]	0.394	8.314	0.002	1	0.962
[Live = 5.00]	0[b]	.	.	0	.
[Region = 1.00]	1.927	18.548	0.011	1	0.917
[Region = 2.00]	1.786	18.397	0.009	1	0.923
[Region = 3.00]	0.848	18.237	0.002	1	0.963
[Region = 4.00]	1.095	18.593	0.003	1	0.953
[Region = 5.00]	-9.211	21.192	0.189	1	0.664
[Region = 6.00]	-0.099	22.604	0.000	1	0.997
[Region = 7.00]	2.907	19.199	0.023	1	0.880
[Region = 8.00]	2.231	18.664	0.014	1	0.905
[Region = 9.00]	2.224	21.901	0.010	1	0.919
[Region = 10.00]	0.915	21.099	0.002	1	0.965
[Region = 11.00]	0[b]	.	.	0	.

Note: 0[b] denotes that the number is in binary.

Table 3 provides parameter estimates from a logistic regression model analysing various demographic and socioeconomic variables' effects on moderate FRT (score between 22–27). The table includes the coefficient (β), standard error, Wald Chi-squared statistic, df, and Sig. for each variable in the model. None of the age categories is statistically substantial, as their p-values range from 0.810 to 0.917, indicating that women's age does not significantly affect moderate FRT in this model.

Marital status (I do not wish to answer) with β = -2.391, Sig. = 0.066, is close to being statistically significant ($p \approx 0.05$), suggesting that respondents who did not wish to disclose their marital status might be associated with lower FRT compared to other marital status categories. Other marital status categories are not statistically significant. Monthly income with (SAR 10,001 to 20,000), β = -2.753, Sig. = 0.070, this variable is also close to being statistically significant, indicating that individuals in this income bracket may have lower FRT compared to higher-income groups. Other income categories do not significantly impact moderate financial RT (p-values > 0.05).

None of the academic qualification categories is statistically significant, as all p-values are well above 0.05. This suggests that academic qualifications do not significantly affect FRT in this model. None of the employment status categories are statistically significant, with p-values ranging from 0.725 to 0.984, indicating that employment status does not significantly influence moderate FRT. None of the employer categories is statistically significant. All p-values are greater than 0.05, suggesting that the type of employer does not significantly affect moderate FRT. None of the categories related to working sectors (e.g., private service sector, manufacturing, etc.) are statistically significant, with p-values ranging from 0.338 to 0.996. This suggests that working in different sectors does not have a meaningful impact on moderate FRT.

None of the work experience categories are statistically significant (all p-values > 0.05), indicating that work experience does not significantly influence moderate FRT. None of the living location categories (city, governorate, village, etc.) is statistically significant, indicating that where the respondents lives do not significantly impact their FRT for moderate risk scores.

None of the regional categories is statistically significant (all p-values > 0.05). This suggests that the region where the respondent resides does not significantly affect their FRT. Most demographic and socioeconomic variables in this model do not significantly influence moderate FRT. However, marital status and monthly income approach significance, indicating that these factors may have a modest influence on FRT, though they are not strong predictors in this context.

Table 4a. Above-average risk score between 28–31 — Model 2: Model fitting information

Model	***Model fitting criteria***			***Likelihood ratio tests***		
	AIC	***BIC***	***-2 log likelihood***	***Chi-squared***	***df***	***Sig.***
Intercept only	85.625	165.024	135.362			
Final	92.320	298.321	92.230	75.885	48	0.230
Goodness-of-fit				***Pseudo R-squared***		
		Chi-squared	***df***	***Sig.***	Cox and Snell	0.086
	Pearson	120.160	448	1.000	Nagelkerke	0.439
	Deviance	67.786	448	1.000	McFadden	0.412

Table 4b. Above-average risk score between 28–31 — Model 2: Likelihood ratio tests

Effect	***Model fitting criteria***	***Likelihood ratio tests***		
	-2 log likelihood of reduced model	***Chi-squared***	***df***	***Sig.***
Intercept	72.343	0.000	0	0.758
Age	82.528	10.185	4	0.037*
Marital status	87.787	15.444	4	0.004*
Monthly income	74.631	2.287	3	0.515
Academic qualification	78.364	6.021	4	0.198
Employee status	74.903	2.560	3	0.465
Employer	73.011	0.668	4	0.955
Working	87.938	12.595	8	0.061*
Work experience	74.339	1.996	4	0.737
Live	77.093	4.749	4	0.314
Region	74.550	2.206	10	0.995

Note: Significance level of 1%, 5%, or 10%.
Source: Authors' elaboration.

Tables 4a and 4b present the results of a model fitting criteria that assess the association between demographic variables and FRT among women with above-average risk scores between 28–31. The following paragraph shows the model fitting information, AIC, with 85.625 (final model) vs. 92.320 (intercept-only model), indicating that the final model fits the data better than the intercept-only model. BIC with 298.321 for the final model. Also, -2 log likelihood, the lower value of 92.230 in the final model, compared to the intercept-only model, suggests a better fit. The Chi-squared value of 75.885 with df = 48 and Sig. = 0.230 indicates that the overall model does not significantly improve fit over the intercept-only model.

As per the goodness-of-fit analysis, the Pearson Chi-squared (120.160, Sig. = 1.000) and deviance (67.786, Sig. = 1.000) indicate that the model fits the data well. Pseudo R-square: Cox and Snell: 0.086 (small effect size), Nagelkerke: 0.439 (small to moderate effect), McFadden: 0.412 (moderate effect). These values suggest the model explains a small to moderate portion of the variation in FRT for high-risk women investors.

Age, Chi-squared = 10.185, Sig. = 0.037, is statistically significant at the 0.05 level, indicating that age significantly impacts FRT. Different age groups are likely to show varying levels of RT.

Marital status, Chi-squared = 15.444, Sig. = 0.004*, is statistically significant at the 0.01 level, suggesting that marital status strongly influences FRT. Married, single, divorced, or widowed individuals may have different RT profiles.

Monthly income, Chi-squared = 2.287, Sig. = 0.515, is not statistically significant, indicating that income levels do not significantly influence FRT in this model.

Academic qualification, Chi-squared = 6.021, Sig. = 0.198, is not statistically significant, implying that educational attainment does not significantly impact FRT in this case.

Employee status, Chi-squared = 2.560, Sig. = 0.465, is not statistically significant, suggesting that whether someone is employed, self-employed, retired, or a student does not significantly affect FRT.

Employer type, Chi-squared = 0.668, Sig. = 0.955, is not statistically significant, indicating that the nature of the employer (e.g., government, private, military, non-profit) does not significantly impact FRT.

Working, Chi-squared = 12.595, Sig. = 0.061, is approaching statistical significance at the 0.05 level (p = 0.061), suggesting that the sector in which an individual works (e.g., education, healthcare, private sector) may have some influence on FRT.

Work experience, Chi-squared = 1.996, Sig. = 0.737, is not statistically significant, implying that the number of years of experience does not play a major role in determining FRT.

Live, Chi-squared = 4.749, Sig. = 0.314, (e.g., urban, rural, large city, small town) is not statistically significant, suggesting that geographic location does not significantly affect FRT.

The region, Chi-squared = 2.206, Sig. = 0.995, is not statistically significant, indicating that the geographical region within Saudi Arabia does not significantly impact FRT.

The demographic variables, age and marital status, are the most significant factors influencing FRT, suggesting that these variables play an important role in shaping individuals' risk-taking behaviour. The working sector is approaching significance, implying that it might have a potential influence, though further investigation is required. In this model, other variables such as monthly income, academic qualification, employee status, employer type, work experience, location, and region do not significantly affect FRT.

Table 5. Parameter estimates for the above risk tolerant score between 28–31 — Model 2

Demographic variables	*β*	*Std. error*	*Wald*	*df*	*Sig.*
Intercept	54.154	12172.419	0.000	1	0.996
[Age = 1.00]	-16.744	7486.618	0.000	1	0.998
[Age = 2.00]	-12.969	7486.618	0.000	1	0.999
[Age = 3.00]	-12.689	7486.618	0.000	1	0.999
[Age = 4.00]	-13.936	7486.617	0.000	1	0.999
[Age = 5.00]	0[c]	.	.	0	.
[Marital status = 1.00]	11.884	2055.299	0.000	1	0.995
[Marital status = 2.00]	-3.477	1.736	4.013	1	0.045*
[Marital status = 3.00]	11.262	6197.026	0.000	1	0.999
[Marital status = 4.00]	-4.084	1.320	9.577	1	0.002*
[Marital status = 5.00]	0[c]	.	.	0	.
[Monthly income = 1.00]	-01.348	1.233	1.194	1	0.275
[Monthly income = 2.00]	0.418	1.709	0.060	1	0.807
[Monthly income = 3.00]	-0.700	1.574	.198	1	0.656
[Monthly income = 4.00]	0[c]	.	.	0	.
[Academical qualification = 1.00]	3.065	1.982	2.391	1	0.122
[Academical qualification = 2.00]	4.769	2.526	3.565	1	0.059*
[Academical qualification = 3.00]	4.367	2.003	4.755	1	0.029*
[Academical qualification = 4.00]	2.099	1.524	1.897	1	0.168
[Academical qualification = 5.00]	0[c]	.	.	0	.
[Employee status = 1.00]	-1.151	1.646	0.489	1	0.484
[Employee status = 2.00]	1.212	1.427	0.721	1	0.396
[Employee status = 3.00]	0.934	1.625	0.330	1	0.566
[Employee status = 4.00]	0[c]	.	.	0	.
[Employer = 1.00]	-9.924	3070.859	0.000	1	0.997
[Employer = 2.00]	-10.587	3070.859	0.000	1	0.997
[Employer = 3.00]	5.881	7829.338	0.000	1	0.999
Employer = 4.00]	-10.378	3070.859	0.000	1	0.997
[Employer = 5.00]	0[c]	.	.	0	.
[Working = 1.00]	-12.898	2427.084	0.000	1	0.996
[Working = 2.00]	1.610	3161.583	0.000	1	1.000
[Working = 3.00]	-15.062	2427.084	0.000	1	0.995
[Working = 4.00]	-13.894	2427.084	0.000	1	0.995
[Working = 5.00]	-15.578	2427.084	0.000	1	0.995
[Working = 6.00]	-16.244	2427.085	0.000	1	0.995
[Working = 7.00]	1.309	2724.963	0.000	1	1.000
[Working = 8.00]	-.525	3182.826	0.000	1	1.000
[Working = 9.00]	0[c]	.	.	0	.
[Work experience = 1.00]	0.421	1.368	0.095	1	0.759
[Work experience = 2.00]	1.435	1.891	0.576	1	0.448
[Work experience = 3.00]	14.932	1594.180	0.000	1	0.993
[Work experience = 4.00]	0.156	1.662	0.009	1	0.925
[Work experience = 5.00]	0[c]	.	.	0	.
[Live = 1.00]	2.334	1.668	1.959	1	0.162
[Live = 2.00]	14.449	2112.356	0.000	1	0.995
[Live = 3.00]	1.559	1.370	1.294	1	0.255
[Live = 4.00]	-1.278	2.107	0.368	1	0.544
[Live = 5.00]	0[c]	.	.	0	.
[Region = 1.00]	0.872	9049.290	0.000	1	1.000
[Region = 2.00]	-14.342	8763.418	0.000	1	0.999
[Region = 3.00]	-13.661	8763.418	0.000	1	0.999
[Region = 4.00]	1.114	9212.975	0.000	1	1.000
[Region = 5.00]	-1.150	10500.092	0.000	1	1.000
[Region = 6.00]	-14.839	12253.326	0.000	1	0.999
[Region = 7.00]	0.827	10043.765	0.000	1	1.000
[Region = 8.00]	0.588	9301.226	0.000	1	1.000
[Region = 9.00]	3.484	.000	.	1	.
[Region = 10.00]	0.317	12160.214	0.000	1	1.000
[Region = 11.00]	0[c]	.	.	0	.

Note: Significance level of 1%, 5%, or 10. 0[c] denotes that the number is in binary.
Source: Authors' elaboration.

Table 5 provides parameter estimates for a logistic regression model, assessing the impact of various demographic and socioeconomic variables on the FRT of individuals with above-average risk scores (28–31).

All age categories (age = 1.00 to age = 4.00) are not statistically significant, with p-values close to 0.999, indicating that age does not significantly affect above-average FRT in this model.

Marital status = 2.00 (I do not wish to answer): β = -3.477, Sig. = 0.045, is statistically significant at 0.05, suggesting that respondents who chose not to disclose their marital status tend to have lower FRT. Marital status = 4.00, married, β = 4.084, Sig. = 0.002, is also statistically significant, indicating that married individuals are likely to have lower above-average RT. Other marital status categories are not statistically significant.

Monthly income is not statistically significant, with p-values greater than 0.05. This suggests that monthly income does not significantly impact above-average FRT.

Academic qualification, undergraduates, β = 4.367, Sig. = 0.029, is statistically significant, indicating that undergraduates are more likely to have higher FRT. Also, diploma, β = 4.769, Sig. = 0.059, approaching significance (p ≈ 0.05), suggesting that diploma holders may also have higher FRT, though not strongly significant. Other academic qualification categories are not statistically significant.

None of the employee status categories is statistically significant, suggesting that employment status does not significantly influence above-average FRT.

None of the employer categories (employer = 1.00 to employer = 4.00) is statistically significant, indicating that the type of employer (e.g., private, government) does not impact FRT in this model. All working sector categories (working = 1.00 to working = 9.00) are not statistically significant, with p-values close to 1.000, indicating no significant influence of the sector in which the respondent works on their FRT.

None of the work experience categories is statistically significant, suggesting that the number of years of work experience does not significantly affect FRT for above-average scores. None of the living location categories (live = 1.00 to live = 4.00) are statistically significant, indicating that geographic living location does not significantly impact FRT.

None of the region categories (region = 1.00 to region = 10.00) is statistically significant, indicating that the geographical region within Saudi Arabia does not significantly impact FRT.

Marital status is a significant factor in predicting FRT, with those who choose not to disclose their status and married individuals showing lower risk tolerance.

Academic qualification is also significant, with undergraduates more likely to exhibit higher FRT. Other demographic variables, such as age, income, employee status, employer type, working sector, work experience, living location, and region, do not significantly influence the above-average FRT in this model. These findings suggest that marital status and academic qualifications are important factors to consider when assessing FRT among individuals with above-average RT, while other factors appear to have little or no impact in this context.

Table 6a. High-risk tolerance score between 32–46 — Model 3: Model fitting information

Model	*Model fitting criteria*			*Likelihood ratio tests*		
	AIC	*BIC*	*-2 log likelihood*	*Chi-squared*	*df*	*Sig.*
Intercept only	68.984	107.321	184.140			
Final	62.536	274.024	146.748	37.393	48	0.865
Goodness-of-fit				*Pseudo R-squared*		
		Chi-squared	*df*	*Sig.*	Cox and Snell	0.060
	Pearson	469.926	448	0.229	Nagelkerke	0.217
	Deviance	138.738	448	1.000	McFadden	0.191

Table 6b. High-risk tolerance score between 32–46 — Model 3: Likelihood ratio tests

Effect	*Model fitting criteria*	*Likelihood ratio tests*		
	-2 log likelihood of reduced model	*Chi-squared*	*df*	*Sig.*
Intercept	146.748[a]	0.000	0	0.652
Age	155.642	8.895	4	0.074*
Marital status	157.187	10.440	4	0.034*
Monthly income	147.580	0.833	3	0.842
Academic qualification	148.010	1.262	4	0.868
Employee status	147.421	0.674	3	0.879
Employer	148.834	2.086	4	0.720
Working	151.725	4.977	8	0.760
Work experience	146.972	0.225	4	0.994
Live	148.944	2.196	4	0.700
Region	154.776	8.028	10	0.626

Note: Significance level of 1%, 5%, or 10%.
Source: Authors' elaboration.

Tables 6a and 6b provide parameter estimates for a logistic regression model, assessing the impact of various demographic and socioeconomic variables on the FRT of individuals with above-average risk scores (28–31). All age categories (age = 1.00 to age = 4.00) are not statistically significant, with p-values close to 0.999, indicating that age does not significantly affect above-average FRT in this model.

Marital status = 2.00 (I do not wish to answer), β =- 3.477, Sig. = 0.045, is statistically significant, suggesting that respondents who chose not to disclose their marital status tend to have lower FRT. Also, marital status, married, β = -4.084, Sig. = 0.002, is statistically significant, indicating that married individuals are likely to have lower above-average RT. Other marital status categories are not statistically significant.

None of the income categories is statistically significant. This suggests that monthly income does not significantly impact above-average FRT.

Academic qualification: undergraduates, β = 4.367, Sig. = 0.029, indicating that undergraduates are more likely to have higher FRT. Academic qualification = 2.00, diploma, β = 4.769, Sig. = 0.059, approaching significance (p ≈ 0.05), suggesting that diploma holders may also have higher FRT, though not strongly significant.

Other academic qualification categories are not statistically significant.

None of the employee status categories is statistically significant, suggesting that employment status does not significantly influence above-average FRT. None of the employer categories is statistically significant, indicating that the type of employer (e.g., private, government) does not impact FRT in this model. All working sector categories are not statistically significant, with p-values close to 1.000, indicating no significant influence of the sector in which the respondent works on their FRT.

None of the work experience categories is statistically significant, suggesting that the number of years of work experience does not significantly affect FRT for above-average scores.

None of the living location categories is statistically significant, indicating that geographic living location does not significantly impact FRT. None of the region categories is statistically significant, indicating that the geographical region within Saudi Arabia does not significantly impact FRT.

Marital status is a significant factor in predicting FRT, with those who chose not to disclose their status and married individuals showing lower RT. Academic qualification is also significant, with undergraduates more likely to exhibit higher FRT. Other demographic variables, such as age, income, employee status, employer type, working sector, work experience, living location, and region, do not significantly influence above-average financial RT in this model. These findings suggest that marital status and academic qualifications are important factors to consider when assessing FRT among individuals with above-average RT, while other factors appear to have little or no impact in this context.

Table 7. Parameter estimates for high-risk tolerance score between 32–46 — Model 3

Demographic variables	*β*	*Std. error*	*Wald*	*df*	*Sig.*
Intercept	-65.632	9259.325	0.000	1	0.994
[Age = 1.00]	17.533	1.311	178.789	1	0.000*
[Age = 2.00]	15.833	1.237	163.730	1	0.000*
[Age = 3.00]	15.454	1.236	156.435	1	0.000*
[Age = 4.00]	15.950	1.257	159.241.	1	0.000*
[Age = 5.00]	0[b]	.	.	0	.
[Marital status = 1.00]	-14.587	3532.976	0.000	1	0.997
[Marital status = 2.00]	2.469	1.073	5.296	1	0.021*
[Marital status = 3.00]	-15.166	8779.828	0.000	1	0.999
[Marital status = 4.00]	1.815	0.761	5.694	1	0.017*
[Marital status = 5.00]	0[b]	.	.	0	.
[Monthly income = 1.00]	-0.139	0.706	0.039	1	0.844
[Monthly income = 2.00]	-0.689	0.910	0.574	1	0.449
[Monthly income = 3.00]	-0.674	1.215	0.308	1	0.579
[Monthly income = 4.00]	0[b]	.	.	0	.
[Academical qualification = 1.00]	-1.006	1.466	0.472	1	0.492
[Academical qualification = 2.00]	-1.584	1.522	1.083	1	0.298
[Academical qualification = 3.00]	-1.446	1.364	1.124	1	0.289
[Academical qualification = 4.00]	-1.145	1.254	0.834	1	0.361
[Academical qualification = 5.00]	0[b]	.	.	0	.
[Employee status = 1.00]	0.687	1.166	0.347	1	0.556
[Employee status = 2.00]	-0.192	0.886	0.047	1	0.828
[Employee status = 3.00]	0.119	1.155	0.011	1	0.918
[Employee status = 4.00]	0[b]	.	.	0	.
[Employer = 1.00]	15.561	5002.225	0.000	1	0.998
[Employer = 2.00]	15.890	5002.225	0.000	1	0.997
[Employer = 3.00]	-2.177	0.000	.	1	.
[Employer = 4.00]	15.079	5002.225	0.000	1	0.998
[Employer = 5.00]	0[b]	.	.	0	.
[Working = 1.00]	15.701	3563.439	0.000	1	0.996
[Working = 2.00]	15.465	3563.439	0.000	1	0.997
[Working = 3.00]	15.956	3563.439	0.000	1	0.996
[Working = 4.00]	15.444	3563.439	0.000	1	0.997
[Working = 5.00]	16.466	3563.439	0.000	1	0.996
[Working = 6.00]	16.738	3563.440	0.000	1	0.996
[Working = 7.00]	14.511	3563.439	0.000	1	0.997
[Working = 8.00]	16.081	3563.439	0.000	1	0.996
[Working = 9.00]	0[b]	.	.	0	.
[Working experience = 1.00]	-0.101	1.133	0.008	1	0.929
[Working experience = 2.00]	-0.040	1.284	0.001	1	0.975
[Working experience = 3.00]	-0.499	1.459	.117	1	0.732
[Working experience = 4.00]	-0.381	1.626	0.055	1	0.815
[Working experience = 5.00]	0[b]	.	.	0	.
[Live = 1.00]	-0.712	1.094	0.423	1	0.515
[Live = 2.00]	0.755	1.560	0.234	1	0.628
[Live = 3.00]	-0.863	0.974	0.786	1	0.375
[Live = 4.00]	-0.012	1.702	0.000	1	0.994
[Live = 5.00]	0[b]	.	.	0	.
[Region = 1.00]	-0.508	7852.395	0.000	1	1.000
[Region = 2.00]	15.507	6929.267	0.000	1	0.998
[Region = 3.00]	16.236	6929.267	0.000	1	0.998
[Region = 4.00]	-1.005	8643.183	0.000	1	1.000
[Region = 5.00]	18.263	6929.267	0.000	1	0.998
[Region = 6.00]	-1.919	0.000	.	1	.
[Region = 7.00]	-0.603	11602.638	0.000	1	1.000
[Region = 8.00]	-1.724	8905.235	0.000	1	1.000
[Region = 9.00]	-2.139	0.000	.	1	.
[Region = 10.00]	-0.352	0.000	.	1	.
[Region = 11.00]	0[b]	.	.	0	.

Note: Significance level of 1%, 5%, or 10%. 0[b] denotes that the number is in binary.
Source: Authors' elaboration.

Table 7 presents the results of a logistic regression model evaluating the effect of various demographic and socioeconomic variables on FRT for individuals with high-RT scores (32–46). All age categories (age = 1.00 to age = 4.00) are statistically significant with p-values < 0.001. The positive coefficients suggest that younger individuals (age = 1.00 to age = 4.00) have significantly higher FRT than the reference category (age = 5.00), indicating that younger individuals are more likely to exhibit higher FRT.

Marital status = 2.00 (I do not wish to answer) $\beta = 2.469$, Sig. = 0.021, is statistically significant, indicating that respondents who did not disclose their marital status tend to have higher FRT. Marital status (married), ($\beta = 1.815$, Sig. = 0.017), is also statistically significant, suggesting that married individuals have higher FRT than other marital statuses. Other marital status categories are not statistically significant.

All monthly income categories are not statistically significant (p-values > 0.05), indicating that monthly income does not significantly impact high-RT in this model.

The academic qualification categories are statistically non-significant (p-values > 0.05), suggesting that educational attainment does not significantly influence high-RT scores.

None of the employee status categories is statistically significant (p-values > 0.05), indicating that employment status does not significantly affect FRT among high-risk individuals.

None of the employer categories is statistically significant (p-values > 0.05), implying that the type of employer (e.g., government, private sector, military) does not have a meaningful impact on high-RT scores.

All working sector categories are not statistically significant (p-values > 0.05). This suggests that the sector in which an individual works does not significantly impact their high RT.

None of the work experience categories is statistically significant, indicating that the number of years of work experience does not influence high-risk financial tolerance scores.

All living location categories are not statistically significant (p-values > 0.05), suggesting that geographic location (e.g., city, village) does not significantly impact high RT. None of the regional categories is statistically important, indicating that the geographical region within Saudi Arabia does not significantly affect FRT for high-risk individuals.

Age is the most significant predictor of high-RT, with younger individuals more likely to exhibit high FRT. Marital status also plays a significant role, particularly for those who did not disclose their status and married individuals, both of whom show higher RT. Other variables such as monthly income, academic qualification, employee status, working sector, work experience, living location, and region do not significantly impact FRT for individuals with high-RT scores. These results suggest that age and marital status are the primary drivers of high-risk financial behaviour, while other demographic and socioeconomic factors have little or no impact on FRT for this group.

Table 8. Parameter estimates for total risk tolerance score — Model 4 (Part 1)

Parameters						*95% CI*	
	Estimate	***Std. error***	***Wald***	***df***	***Sig.***	***Lower bound***	***Upper bound***
Intercept	-1.305	2.570	4.261	1	0.039	-10.343	-0.268
[Age = 1.00]	-0.062	1.149	0.003	1	0.957	-2.314	2.191
[Age = 2.00]	0.109	1.150	0.009	1	0.924	-2.144	2.363
[Age = 3.00]	0.090	1.144	0.006	1	0.937	-2.153	2.333
[Age = 4.00]	-0.884	1.120	0.622	1	0.430	-3.079	1.312
[Age = 5.00]	0[a]	.	.	0	.	.	.
[Marital status = 1.00]	0.611	0.415	2.168	1	0.141	-0.202	1.424
[Marital status = 2.00]	-0.483	0.502	0.924	1	0.336	-1.467	0.502
[Marital status = 3.00]	-1.174	0.942	1.552	1	0.213	-3.020	0.673
[Marital status = 4.00]	-0.273	0.212	1.663	1	0.197	-0.688	0.142
[Marital status = 5.00]	0[a]	.	.	0	.	.	.
[Monthly income = 1.00]	-0.069	0.231	0.089	1	0.765	-0.521	0.383
[Monthly income = 2.00]	0.220	0.263	0.701	1	0.402	-0.295	0.736
[Monthly income = 3.00]	.0416	0.328	1.612	1	0.204	-0.226	1.059
[Monthly income = 4.00]	0[a]	.	.	0	.	.	.
[Academical qualification = 1.00]	0.511	0.633	0.652	1	0.419	-0.729	1.752
[Academical qualification = 2.00]	0.525	0.614	0.731	1	0.392	-0.678	1.727
[Academical qualification = 3.00]	0.760	0.598	1.619	1	0.203	-0.411	1.932
[Academical qualification = 4.00]	0.769	0.579	1.768	1	0.184	-0.365	1.903
[Academical qualification = 5.00]	0[a]	.	.	0	.	.	.
[Employee status = 1.00]	-0.041	0.396	0.011	1	0.917	-0.817	0.735
[Employee status = 2.00]	-0.239	0.256	0.873	1	0.350	-0.741	0.263
[Employee status = 3.00]	-0.448	0.392	1.305	1	0.253	-1.215	0.320
[Employee status= 4.00]	0[a]	.	.	0	.	.	.
[Employer = 1.00]	-0.356	0.635	0.314	1	0.575	-1.599	0.888
[Employer = 2.00]	-0.221	0.635	0.121	1	0.728	-1.464	1.023
[Employer = 3.00]	-0.983	1.430	0.472	1	0.492	-3.787	1.821
[Employer = 4.00]	-0.306	0.627	0.238	1	0.626	-1.535	0.924
[Employer = 5.00]	0[a]	.	.	0	.	.	.
[Working = 1.00]	-0.710	0.412	2.971	1	0.085*	-1.517	0.097
[Working = 2.00]	-0.651	0.524	1.542	1	0.214	-1.678	0.376
[Working = 3.00]	-0.520	0.407	1.630	1	0.202	-1.317	0.278

Table 8. Parameter estimates for total risk tolerance score — Model 4 (Part 2)

Parameters						95% CI	
	Estimate	Std. error	Wald	df	Sig.	Lower bound	Upper bound
Intercept	-1.305	2.570	4.261	1	0.039	-10.343	-0.268
[Working = 4.00]	-0.549	0.400	1.883	1	0.170	-1.333	0.235
[Working = 5.00]	-0.792	0.437	3.284	1	0.070*	-1.648	0.065
[Working = 6.00]	-1.353	0.708	3.656	1	0.056*	-2.740	0.034
[Working = 7.00]	-0.119	0.418	0.081	1	0.775	-0.939	0.700
[Working = 8.00]	-0.930	0.484	3.695	1	0.055*	-1.879	0.018
[Working = 9.00]	0[a]	.	.	0	.	.	.
[Working experience = 1.00]	-0.745	0.435	2.937	1	0.087*	-1.598	0.107
[Working experience = 2.00]	-0.826	0.457	3.261	1	0.071*	-1.723	0.071
[Working experience = 3.00]	-0.587	0.483	1.480	1	0.224	-1.534	0.359
[Working experience = 4.00]	-0.761	0.539	1.994	1	0.158	-1.818	0.295
[Working experience = 5.00]	0[a]	.	.	0	.	.	.
[Live = 1.00]	0.750	0.465	2.595	1	0.107	-0.162	1.662
[Live = 2.00]	0.215	0.594	0.131	1	0.718	-0.949	1.378
[Live = 3.00]	0.904	00.447	4.083	1	0.043*	0.027	1.780
[Live = 4.00]	-0.301	0.621	0.235	1	0.628	-1.517	0.916
[Live = 5.00]	0[a]	.	.	0	.	.	.
[Region = 1.00]	.817	1.820	0.201	1	0.654	-2.750	4.384
[Region = 2.00]	1.603	1.802	0.792	1	0.374	-1.929	5.135
[Region = 3.00]	1.545	1.780	0.753	1	0.385	-1.944	5.034
[Region = 4.00]	2.695	1.872	2.073	1	0.150	-0.974	6.363
[Region = 5.00]	3.243	2.062	2.473	1	0.116	-0.799	7.284
[Region = 6.00]	4.527	2.230	4.122	1	0.042*	0.157	8.897
[Region = 7.00]	3.160	1.995	2.507	1	0.113	-0.751	7.070
[Region = 8.00]	2.161	1.876	1.327	1	0.249	-1.515	5.838
[Region = 9.00]	1.940	2.189	.786	1	0.375	-2.350	6.230
[Region = 10.00]	.038	2.196	.000	1	0.986	-4.266	4.341
[Region = 11.00]	0[a]	.	.	0	.	.	.

Note: 0[a] denotes that the number is in binary.
Source: Authors' elaboration.

Table 8 presents the logistic regression results for Model 4, evaluating the impact of various demographic and socioeconomic factors on the total RT score. The estimates (β), (df), (Sig.), and 95% CI, for each variable, are reported. Intercept, β = -1.305, Sig. = 0.039, 95% CI = -10.343 – -0.26 is statistically significant at the 0.05 level, indicating that the model baseline significantly affects total RT when no other variables are considered.

None of the age categories are statistically significant, with p-values ranging from 0.430 to 0.957. This suggests that age does not significantly influence total RT in this model.

None of the marital status categories is statistically significant, indicating that marital status does not significantly impact total RT.

None of the income categories are statistically significant, indicating that monthly income does not significantly affect FRT.

None of the academic qualification categories is statistically significant. This suggests that educational qualifications do not significantly influence total RT.

None of the employee status categories is significant, suggesting that employment status does not significantly affect total RT.

None of the employer categories is significant, indicating that the type of employer does not significantly impact total risk tolerance. Working with β = -1.353, Sig. = 0.056, is approaching significance ($p \approx 0.05$), suggesting that working in a sector with code 6 may negatively affect total RT.

Working = 8.00, β = -0.930, Sig. = 0.055, is also approaching significance, suggesting a potential negative effect on total risk tolerance. Other working sector categories are not statistically significant.

Work experience, β = -0.826, Sig. = 0.071, approaching significance ($p \approx 0.05$), indicating a possible negative effect of this work experience category on total RT. Other work experience categories are not statistically significant.

Live = 3.00, β = 0.904, Sig. = 0.043, is significant, suggesting that living in a location with code three is associated with higher RT. Other living location categories are not statistically significant.

Region = 6.00, β = 4.527, Sig. = 0.042, is statistically significant, suggesting that individuals from regions with code six are more likely to have higher RT. Other region categories are not statistically significant.

Working sector and work experience approach statistical significance, suggesting that these factors may influence RT, although they do not meet the strict threshold for significance. Location and region are significant factors, with individuals in specific areas showing higher RT. Age, marital status, monthly income, academic qualification, employee status, and employer do not significantly affect total RT in this model. These findings suggest that geographic factors, such as living location and region, as well as certain working sectors and work experience, are important in understanding total RT. However, many traditional demographic factors, such as age, income, and academic qualification, do not significantly influence this model.

Table 9. Descriptive statistics for all demographic variables

Variables	*N*	*Minimum*	*Maximum*	*Mean*	*Std. error*	*Std. dev.*	*Variance*	*Skewness*	*Kurtosis*
Age	607	1	5	1.958	0.038	0.950	0.904	0.660	-0.422
Marital status	607	1	5	4.428	0.037	0.923	0.853	-2.287	5.529
Monthly income	607	1	4	1.775	0.044	1.095	1.201	1.117	-0.252
Academical qualification	607	1	5	3.102	0.039	0.979	0.96	-0.755	-0.137
Employee status	607	1	4	2.810	0.041	1.031	1.065	0.096	-1.604
Employer	607	1	5	2.395	0.052	1.300	1.692	0.339	-1.515
Working	607	1	9	4.169	0.088	2.177	4.742	0.464	-0.454
Working experience	607	1	5	1.693	0.045	1.111	1.236	1.733	2.188
Live	607	1	5	2.570	0.039	0.975	0.952	-0.422	-0.135
Region	607	1	11	3.03	0.043	1.070	1.146	3.851	20.22

Source: Authors' elaboration.

Table 9 provides an overview of the descriptive statistics for all the demographic variables used in the analysis. Age, mean = 1.958, σ = 0.950; the average age group in the sample is around 1.958, corresponding to the younger age groups (18–24 and 25–30 years).

The standard deviation indicates moderate variability around this mean. Skewness = 0.660, the positive skewness indicates that the distribution is right-skewed, meaning more respondents are concentrated in the younger age groups.

Kurtosis = -0.422, the negative kurtosis value suggests a slightly flatter distribution compared to a normal distribution.

Marital status, mean = 4.428, σ = 0.923; most respondents are in the higher categories, corresponding to unmarried individuals, as indicated by the mean value near "5".

Skewness = -2.287, the highly negative skewness indicates that the distribution is heavily left-skewed, meaning most respondents are unmarried.

Kurtosis = 5.529, the high kurtosis value indicates a leptokurtic distribution, meaning that the distribution is more peaked, with most values concentrated near the unmarried category.

Monthly income, mean = 1.775, σ = 1.095; the average income group corresponds to the lower-income categories (SAR 5,001–10,000), with some variability in income levels. Skewness = 1.117; the positive skewness suggests that more respondents are in the lower-income brackets.

Kurtosis = -0.252, the kurtosis value close to 0 suggests that the distribution is relatively normal but slightly platykurtic (flatter than a normal distribution).

Academic qualification, mean = 3.102, σ = 0.979; most respondents have undergraduate or diploma-level qualifications, with moderate variability. Skewness = -0.755; the negative skewness suggests slightly more respondents with higher educational qualifications.

Kurtosis = -0.137 is relatively normal but slightly platykurtic, indicating a flatter-than-normal distribution.

Employment status, mean = 2.810, σ = 1.031; the average employment status corresponds to the category of employees or students, with moderate variability.

Skewness = 0.096, which is close to zero, indicating a symmetric distribution. Kurtosis = -1.604, which is flatter than a normal distribution with a broader spread of responses across different employment categories.

Employer, mean = 2.395, σ = 1.300, the average respondent works in the private or government sector, with relatively high variability across employer types.

Skewness = 0.339, slight positive skewness suggests a mild concentration of respondents in the lower employer categories (e.g., non-profit or charitable sectors). Kurtosis = -1.515, the platykurtic distribution indicates a flatter distribution with a wider spread of employer types.

Working sector, mean = 4.169, σ = 2.177; the respondents are spread across various sectors, with a higher concentration in the education or government sector and a high degree of variability.

Skewness = 0.464, the slight positive skewness suggests a higher concentration in the lower working sector categories. Kurtosis = -0.454; the slightly negative kurtosis indicates a flatter distribution, meaning a broader spread of respondents across different working sectors.

Work experience, mean = 1.693, σ = 1.111; most respondents have relatively little work experience (1–5 years), with moderate variability.

Skewness = 2.188, the high positive skewness indicates that many respondents have less work experience, with fewer individuals in the higher experience brackets. Kurtosis = 1.733, and the positive kurtosis suggests a leptokurtic distribution, meaning the responses are concentrated around the lower experience categories.

Living location (Live), mean = 2.570, σ = 0.975, most respondents live in medium-sized or large cities, with moderate variability across different living locations.

Skewness = -0.422, negative skewness indicates a small concentration of respondents in larger cities. Kurtosis = -0.135, the distribution is relatively flat, indicating a broad spread of respondents across different living locations.

Region, mean = 3.03, σ = 1.070; most respondents are from Riyadh or nearby regions, with moderate variability across other regions.

Skewness = 3.851, the high positive skewness indicates that most respondents are from a few regions with a long right tail. Kurtosis = 20.22, the extremely high kurtosis indicates a leptokurtic distribution, meaning most respondents are concentrated in a few regions with few outliers.

Table 10. Pearson correlation for demographic variables

	Employer	*Working*	*Age*	*Marital status*	*Academical qualification*	*Employee status*	*Working experience*	*Live*	*Region*	*TFRT*
Employer	1	0.094	0.136	-0.12	0.166	-0.544	0.03	-0.037	-0.054	0.018
Working	0.094	1	-0.091	0.021	-0.003	-0.083	-0.008	-0.056	0.019	0.051
Age	0.0136	-0.091	1	-0.446	0.210	-0.423	0.513	-0.008	-0.035	-0.03
Marital status	-0.128	0.021	-0.446	1	-0.076	0.200	-0.271	-0.002	0.047	0.027
Academical qualification	0.166	-0.003	0.210	-0.076	1	-0.381	0.115	-0.033	-0.067	0.043
Employee status	-0.54	-0.083	-0.423	0.200	-0.381	1	-0.207	0.076	0.014	0.007
Working experience	0.03	-0.008	0.513	-0.271	0.115	-0.207	1	-0.029	0.035	-0.001
Live	-0.037	-0.056	-0.008	-0.002	-0.033	0.076	-0.029	1	-0.076	-0.023
Region	-0.054	0.019	-0.035	0.047	-0.067	0.014	0.035	-0.076	1	0.056
TFRT	0.018	0.051	-0.03	0.027	0.043	0.007	-0.001	-0.023	0.056	1

Note: TFRT — Total finance risk tolerance score.
Source: Authors' elaboration.

Table 10 presents the correlation coefficients for various demographic variables and the total finance risk tolerance score (TFRT). The values indicate the strength and direction of relationships between pairs of variables. The employer has a significant positive correlation with working ($r = 0.094$, $p < 0.05$), age ($r = 0.136$, $p < 0.01$), and academic qualification ($r = 0.166$, $p < 0.01$); this suggests that the type of employer is positively associated with working sector, age, and educational qualifications. Significance has a negative correlation with marital status ($r = -0.128$, $p < 0.01$) and employment status ($r = -0.544$, $p<0.01$), indicating that certain types of employers are less likely for individuals who are married or have stable employment statuses.

Working has a significant negative correlation with age ($r = -0.091$, $p < 0.05$); younger individuals are more likely to work in different sectors, suggesting a slight tendency for older individuals to work in fewer sectors.

Working correlates significantly negatively with employment status ($r = -0.083$, $p < 0.05$), indicating that the working sector is inversely related to employment stability, where individuals in more stable employment may work in fewer sectors.

Age has a significant negative correlation with marital status ($r = -0.446$, $p < 0.01$) and employment status ($r = -0.423$, $p < 0.01$).

Older individuals are less likely to be unmarried and less likely to hold stable employment. Age has a significant positive correlation with academic qualification ($r = 0.210$, $p < 0.01$) and work experience ($r = 0.513$, $p < 0.01$). Age is positively related to educational attainment and work experience, indicating that older individuals are more likely to have higher qualifications and longer work histories.

Marital status has a significant negative correlation with age ($r = -0.446$, $p < 0.01$) and work experience ($r = -0.271$, $p < 0.01$). This indicates that younger, less experienced individuals are more likely to be unmarried. Also, marital status positively correlates with employment status ($r = 0.200$, $p < 0.01$), suggesting that married individuals are more likely to have stable employment.

Academic qualification has a significant positive correlation with employer ($r = 0.166$, $p < 0.01$) and age ($r = 0.210$, $p < 0.01$). More highly educated individuals are likely to work in specific employer sectors and are typically older. Academic qualification correlates negatively with employment status ($r = -0.381$, $p < 0.01$). Individuals with higher education are less likely to hold stable employment, possibly due to flexibility in job opportunities or self-employment.

Employment status has a significant negative correlation with employer ($r = -0.544$, $p < 0.01$), age ($r = -0.423$, $p < 0.01$), and academic qualification ($r = -0.381$, $p < 0.01$). This shows that individuals with stable employment statuses are likely to work for fewer employer types, be younger, and be less educated. Also, employment status significantly negatively correlates with work experience ($r=-0.207$, $p<0.01$). More experienced individuals are less likely to hold stable employment. Work experience significantly correlates with age ($r = 0.513$, $p < 0.01$). Older individuals tend to have more work experience, as expected. Work experience correlates negatively with marital status ($r = -0.271$, $p < 0.01$); less experienced individuals are more likely to be unmarried.

Live (Location) has no significant correlations with any variables: This suggests that living location does not have a strong relationship with other demographic variables or FRT. The region has no significant correlations with any variables, and the region of residence does not appear to significantly impact other demographic variables or FRT. TFRT has no significant correlations with any variables, and no demographic variables have a statistically significant relationship with FRT in this model.

5. DISCUSSION

The findings of this study provide important insights into the FRT of women in Saudi Arabia, revealing significant relationships between various demographic characteristics and risk-taking behaviour in investment decisions. This study represents a crucial contribution to the limited body of literature on women investors in Saudi Arabia and their financial decision-making processes, particularly in a region where gender-specific studies are still emerging, also matching our findings with the author's research (Friedl et al., 2020; Hermansson & Jonsson, 2021; Issa et al., 2021).

The empirical results demonstrate that demographic factors such as age, marital status, employment, education, and residence play key roles in shaping FRT among women (Burkhardt et al., 2020). For instance, marital status, employment, and residence significantly affect moderate RT. This suggests that married women, employed or residing in certain areas, may exhibit more moderate risk-taking behaviour in their financial decisions. This finding aligns with global research, where married

individuals are often associated with more conservative financial behaviours due to greater family responsibilities and financial security considerations (García-Monleón et al., 2021).

The study identifies age, marital status, and educational attainment as significant predictors for women with above-average RT. Younger women, those with higher education, and those unmarried appear more willing to take above-average risks. This may be explained by the greater financial flexibility and fewer familial obligations often associated with younger and more educated individuals. Education, in particular, is frequently linked to increased financial literacy, which may encourage more informed and confident risk-taking.

The study also highlights that high RT is strongly influenced by age, marital status, and educational attainment, with younger, unmarried women and those with higher education levels showing a greater propensity for risk (Bayar et al., 2020). This further reinforces the idea that women in different life stages and with varying levels of education approach financial risk differently, a pattern consistent with previous studies conducted in other regions (Pinho-Gomes & Woodward, 2024). However, this finding is particularly important for Saudi Arabia, where rapid social changes may influence women's financial behaviours, particularly among younger generations.

Interestingly, the study emphasizes that employment status, work experience, geographic area, and residential location are significantly associated with the overall FRT score (Bucciol & Zarri, 2015). Women with more work experience and those living in certain geographic areas exhibit higher FRT. This may be attributed to the financial independence that comes with employment and extensive work experience, as well as the economic development and investment opportunities available in specific regions of Saudi Arabia. Women from more economically developed areas or larger cities may have access to a wider range of financial products and services, which could encourage higher RT (Bannier & Schwarz, 2018).

The study's finding that geographical location influences financial RT suggests regional economic disparities and cultural factors may shape investment behaviours. Women in more urbanized and economically vibrant regions may have greater exposure to financial markets and more opportunities to engage in higher-risk investments. Policymakers should consider these regional differences when developing strategies to enhance women's participation in the financial sector.

6. CONCLUSION

This study provides critical insights into the TFRT of Saudi Arabian women by examining how demographic factors influence their investment behaviour. Based on responses from 607 female participants using a multinomial logistic regression model, the analysis reveals that age, marital status, education level, employment status, work experience, income, and geographic location significantly impact women's RT. Notably, moderate, above-average, and high RT levels are associated with distinct demographic profiles, underlining the heterogeneous nature of female investors in the KSA. These findings bridge a gap in the existing literature and offer valuable implications for financial institutions, advisors, and policymakers seeking to design more inclusive and targeted financial services. By acknowledging regional and socio-demographic variations, stakeholders can better support women's financial empowerment and contribute to the broader goals of economic diversification and inclusion in Saudi Arabia.

The descriptive statistics suggest that the sample is skewed towards younger, unmarried, and lower-income individuals with limited work experience. There is also a concentration of respondents in larger cities and the Riyadh region. Skewness and kurtosis values indicate varying distributions, with some variables being highly concentrated in specific categories, such as marital status, work experience, and region, while others, such as academic qualification and employment status, are more evenly distributed. Age, marital status, work experience, and employment status correlate significantly with other variables, indicating interrelationships between age, life stages, employment, and educational factors. Employer and working sectors significantly correlate with specific demographic factors, suggesting that these factors influence employment types. TFRT is not significantly correlated with any demographic variables, suggesting that these variables do not strongly predict RT in this context. This empirical study provides a comprehensive analysis of the FRT of women in Saudi Arabia, highlighting the significant influence of demographic factors such as age, education, work experience, marital status, employment, and geographic location. The findings reveal that these demographic attributes are critical in shaping women's risk-taking behaviours in investment decisions.

Moderate RT was significantly influenced by marital status, employment, and residential location, while age, marital status, and educational attainment were significant predictors for above-average and high RT levels. Additionally, the study demonstrates that employment status, work experience, and geographical location significantly impact FRT, with noticeable regional differences across the country. These results have important implications for policymakers, financial advisors, and investors, offering a deeper understanding of the factors influencing women's investment behaviours. Tailored financial education programs and investment strategies can be developed to meet the specific needs of different demographic groups, ultimately promoting greater financial inclusion and empowerment for women in Saudi Arabia.

The study adds to the limited literature on women investors in Saudi Arabia and underscores the need for further research, particularly longitudinal studies and explorations of the impact of policy changes on women's financial behaviour. As Saudi Arabia continues its economic transformation, understanding and supporting women's financial participation will be essential for developing its financial markets. In conclusion, this study offers a nuanced understanding of the factors influencing women's FRT in Saudi Arabia. By highlighting the significant roles of age, marital status, education, employment, and geographic location, the findings provide actionable insights for policymakers and financial practitioners to support the growing participation of women in the financial markets, ultimately contributing to the evolution of Saudi Arabia's financial industry.

The research highlights geographical variations in FRT, suggesting that residents in different areas

of Saudi Arabia may have different investment attitudes and preferences. Investment firms and financial planners should consider regional differences when advising clients to offer products and services that align with the risk profiles prevalent in specific locations. This approach could improve investor satisfaction and participation in financial markets. Investor awareness and guidance emphasize the need for investors to assess their RT based on demographic factors like age, marital status, income, and employment experience. Financial advisors can provide personalized guidance, helping investors align their investment strategies with unique RT levels. This can lead to more balanced and suitable portfolio allocations, ultimately improving financial outcomes.

By improving market participation by identifying how demographic factors influence FRT, stakeholders can work to reduce barriers to market participation. For instance, developing financial products that are accessible and appealing to individuals with lower FRT could expand the investor base, contributing to greater financial market growth in Saudi Arabia. Enhancing employment-linked financial planning, the study's findings regarding the influence of employment experience on FRT provide valuable insights for employers and HR professionals. They can introduce retirement plans or investment schemes based on employees' RT, offering more diversified options to accommodate various risk profiles.

The study's results have important implications for policymakers and financial practitioners in Saudi Arabia. Understanding how demographic factors influence women's FRT can help policymakers design targeted initiatives to support women's financial inclusion and empowerment. For instance, tailored financial education programs that address the specific needs of younger women, married women, and those with different levels of education can promote more informed and confident financial decision-making. Additionally, financial institutions could develop investment products that cater to women's varying risk profiles based on their demographic characteristics, enhancing the appeal of financial services for this segment. For investors, the findings highlight the importance of considering demographic factors when advising women on investment strategies. Financial advisors should consider women investors' specific life stages, employment situations, and geographic locations to provide personalized advice that aligns with their RT levels.

This study contributes to understanding FRT in Saudi Arabia by focusing on women, a demographic group increasingly playing a more active role in the country's financial markets. The findings underscore the complexity of FRT and the need to consider various demographic factors when analysing investment behaviours. As Saudi Arabia continues to implement economic reforms and promote gender equality in various sectors, understanding women's financial behaviours will be crucial for developing the financial industry.

The study focuses specifically on Saudi Arabian women, which may limit the generalizability of the findings to other regions or cultural contexts. Cultural, social, and economic factors that vary from country to country can influence financial behaviours and RT. The study emphasizes demographic variables but does not extensively explore psychological or behavioural factors (e.g., risk perception, cognitive biases, personality traits) that may also significantly influence FRT. The sample may not fully represent all subgroups of Saudi Arabian women, particularly those from rural areas or lower-income segments. The underrepresentation of certain groups could limit the comprehensiveness of the findings.

Future research could compare the FRT of women in different countries or regions, particularly in the Middle East or other emerging markets, to explore cross-cultural differences and similarities. Future studies could integrate psychological theories and explore how cognitive factors, emotions, and risk perception interact with demographic variables to influence FRT. This would provide a more holistic understanding of financial behaviour. Future research could assess the effectiveness of financial education programs or policy interventions to improve financial literacy and RT among Saudi Arabian women. This could provide insights into how targeted initiatives can influence financial decision-making.

REFERENCES

Ali, M. H., Schinckus, C., Uddin, M. A., & Pahlevansharif, S. (2023). Asymmetric effects of economic policy uncertainty on Bitcoin's hedging power. *Studies in Economics and Finance, 40*(2), 213–229. https://doi.org/10.1108/SEF-05-2021-0186

Ali, M., Ali, I., Badghish, S., & Soomro, Y. A. (2021). Determinants of financial empowerment among women in Saudi Arabia. *Frontiers in Psychology, 12*. https://doi.org/10.3389/fpsyg.2021.747255

Alkayed, H., Shehadeh, E., Yousef, I., & Hussainey, K. (2024). Does a female director in the boardroom affect sustainability reporting in the U.S. healthcare industry? *Journal of Risk and Financial Management, 17*(2), Article 49. https://doi.org/10.3390/jrfm17020049

Amponsah, E. B., Ntim, L. A., & Mensah, M. A. (2025). Influence of financial risk tolerance on investment decision-making: A conceptual analysis and future research agenda. *International Journal of Applied Research in Business and Management, 6*(1). https://doi.org/10.51137/wrp.ijarbm.2025.eaia.45677

Anderson, A., Baker, F., & Robinson, D. T. (2017). Precautionary savings, retirement planning and misperceptions of financial literacy. *Journal of Financial Economics, 126*(2), 383–398. https://doi.org/10.1016/j.jfineco.2017.07.008

Ansari, Y., & Bansal, R. (2024). Robo-advisory financial services and the dynamics of new innovation in Saudi Arabia. *Journal of Open Innovation: Technology, Market, and Complexity, 10*(4), Article 100397. https://doi.org/10.1016/j.joitmc.2024.100397

Baik, B., Choi, S., & Farber, D. B. (2020). Managerial ability and income smoothing. *The Accounting Review, 95*(4), 1–22. https://doi.org/10.2308/accr-52600

Bannier, C. E., & Schwarz, M. (2018). Gender- and education-related effects of financial literacy and confidence on financial wealth. *Journal of Economic Psychology, 67*, 66–86. https://doi.org/10.1016/j.joep.2018.05.005

Bansal, R., Ansari, Y., Gupta, N., & Sharma, M. (2025). Selecting E-bikes using a multi-criteria integrated analytic hierarchy approach for sustainable transportation option. *Global Transitions, 7*, 94–108. https://doi.org/10.1016/j.glt.2025.02.006

Bayar, Y., Sezgin, H. F., Öztürk, Ö. F., & Şaşmaz, M. Ü. (2020). Financial literacy and financial risk tolerance of individual investors: Multinomial logistic regression approach. *SAGE Open, 10*(3), Article 215824402094571. https://doi.org/10.1177/2158244020945717

Braun Santos, D., Mendes-Da-Silva, W., Flores, E., & Norvilitis, J. M. (2016). Predictors of credit card use and perceived financial well-being in female college students: A Brazil-United States comparative study. *International Journal of Consumer Studies, 40*(2), 133–142. https://doi.org/10.1111/ijcs.12234

Brooks, C., Sangiorgi, I., Hillenbrand, C., & Money, K. (2018). Why are older investors less willing to take financial risks? *International Review of Financial Analysis, 56*, 52–72. https://doi.org/10.1016/j.irfa.2017.12.008

Bucciol, A., & Miniaci, R. (2018). Financial risk propensity, business cycles and perceived risk exposure. *Oxford Bulletin of Economics and Statistics, 80*(1), 160–183. https://doi.org/10.1111/obes.12193

Bucciol, A., & Zarri, L. (2015). The shadow of the past: Financial risk taking and negative life events. *Journal of Economic Psychology, 48*, 1–16. https://doi.org/10.1016/j.joep.2015.02.006

Bucciol, A., Miniaci, R., & Pastorello, S. (2017). Return expectations and risk aversion heterogeneity in household portfolios. *Journal of Empirical Finance, 40*, 201–219. https://doi.org/10.1016/j.jempfin.2016.08.002

Burkhardt, K., Nguyen, P., & Poincelot, E. (2020). Agents of change: Women in top management and corporate environmental performance. *Corporate Social Responsibility and Environmental Management, 27*(4), 1591–1604. https://doi.org/10.1002/csr.1907

Chhatoi, B. P., & Mohanty, M. (2023). Discriminants of risk tolerance among Indian investors: A dichotomous discriminant approach. *International Journal of Managerial and Financial Accounting, 15*(1), 112–134. https://doi.org/10.1504/IJMFA.2023.127528

Dickason, Z., & Ferreira, S. J. (2018). The effect of age and gender on financial risk tolerance of South African investors. *Investment Management and Financial Innovations, 15*(2), 96–103. https://doi.org/10.21511/imfi.15(2).2018.09

Eliwa, Y., Aboud, A., & Saleh, A. (2023). Board gender diversity and ESG decoupling: Does religiosity matter? *Business Strategy and the Environment, 32*(7), 4046–4067. https://doi.org/10.1002/bse.3353

Fisher, P. J., & Yao, R. (2017). Gender differences in financial risk tolerance. *Journal of Economic Psychology, 61*, 191–202. https://doi.org/10.1016/j.joep.2017.03.006

Friedl, A., Pondorfer, A., & Schmidt, U. (2020). Gender differences in social risk taking. *Journal of Economic Psychology, 77*, Article 102182. https://doi.org/10.1016/j.joep.2019.06.005

Gakhar, D. (2019). Role of optimism bias and risk attitude on investment behaviour. *Theoretical Economics Letters, 9*(4), 852–871. https://doi.org/10.4236/tel.2019.94056

García, C. J., & Herrero, B. (2021). Female directors, capital structure, and financial distress. *Journal of Business Research, 136*, 592–601. https://doi.org/10.1016/j.jbusres.2021.07.061

García-Monleón, F., Danvila-del-Valle, I., & Lara, F. J. (2021). Intrinsic value in crypto currencies. *Technological Forecasting and Social Change, 162*, Article 120393. https://doi.org/10.1016/j.techfore.2020.120393

Grable, J. E., & Lytton, R. H. (1999). Assessing financial risk tolerance: Do demographic, socioeconomic, and attitudinal factors work. *Family Relations and Human Development/Family Economics and Resource Management Biennial, 3*(1), 80–88. https://fpperformancelab.org/wp-content/uploads/Assessing-Financial-Risk-Tolerance-Do-Demographic-Socioeconomic-and-Attitudinal-Factors-Work.pdf

Grable, J. E., & Rabbani, A. (2023). The moderating effect of financial knowledge on financial risk tolerance. *Journal of Risk and Financial Management, 16*(2), Article 137. https://doi.org/10.3390/jrfm16020137

Gupta, S., Bansal, R., Bankoti, N., Kar, S. K., Mishra, S. K., Kaur, P., & Harichandan, S. (2024). Factors affecting consumer's intention to use electric vehicles: Mediating role of awareness and knowledge. *Journal of Advanced Transportation, 2024*(1), Article 5922430. https://doi.org/10.1155/2024/5922430

Hemrajani, P., Rajni, Khan, M., & Dhiman, R. (2023). Financial risk tolerance: A review and research agenda. *European Management Journal, 41*(6), 1119–1133. https://doi.org/10.1016/j.emj.2023.10.004

Hermansson, C., & Jonsson, S. (2021). The impact of financial literacy and financial interest on risk tolerance. *Journal of Behavioral and Experimental Finance, 29*, Article 100450. https://doi.org/10.1016/j.jbef.2020.100450

Issa, A., Yousef, H., Bakry, A., Hanaysha, J. R., & Sahyouni, A. (2021). Does the board diversity impact bank performance in the MENA countries? A multilevel study. *Corporate Governance, 21*(5), 865–891. https://doi.org/10.1108/CG-06-2020-0222

Karki, D., & Kafle, T. (2020). Investigation of factors influencing risk tolerance among investors using ordinal logistic regression: A case from Nepal. *Cogent Economics & Finance, 8*(1), Article 1849970. https://doi.org/10.1080/23322039.2020.1849970

Kassem, R. (2022). Elucidating corporate governance's impact and role in countering fraud. *Corporate Governance, 22*(7), 1523–1546. https://doi.org/10.1108/CG-08-2021-0279

Kellerman, D., Dickason-Koekemoer, Z., & Ferreira, S. (2020). Analyzing investment product choice in South Africa under the investor lifecycle. *Cogent Economics & Finance, 8*(1), Article 1848972. https://doi.org/10.1080/23322039.2020.1848972

Khatib, S. F. A., Abdullah, D. F., Elamer, A. A., & Abueid, R. (2021). Nudging toward diversity in the boardroom: A systematic literature review of board diversity of financial institutions. *Business Strategy and the Environment, 30*(2), 985–1002. https://doi.org/10.1002/bse.2665

Lathief, J. T. A., Kumaravel, S. C., Velnadar, R., Vijayan, R. V., & Parayitam, S. (2024). Quantifying risk in investment decision-making. *Journal of Risk and Financial Management, 17*(2), Article 82. https://doi.org/10.3390/jrfm17020082

Lippi, A., & Rossi, S. (2020). Run for the hills: Italian investors' risk appetite before and during the financial crisis. *International Journal of Bank Marketing, 38*(5), 1195–1213. https://doi.org/10.1108/IJBM-02-2020-0058

Lusardi, A., Mitchell, O. S., & Curto, V. (2014). Financial literacy and financial sophistication in the older population. *Journal of Pension Economics & Finance, 13*(4), 347–366. https://doi.org/10.1017/S1474747214000031

Malik, G., Singh, D., & Bansal, R. (2024). Exploring the complex dynamics: Examining the influence of deviant personas in online gambling. *Journal of Gambling Studies, 40,* 1271–1294. https://doi.org/10.1007/s10899-024-10301-x

Maulidi, A., Shonhadji, N., Fachruzzaman, Sari, R. P., Nuswantara, D. A., & Widuri, R. (2023). Are female CFOs more ethical to the occurrences of financial reporting fraud? Theoretical and empirical evidence from cross-listed firms in the US. *Journal of Financial Crime, 30*(5), 1342–1366. https://doi.org/10.1108/JFC-07-2022-0170

Maurya, P. K., Bansal, R., & Mishra, A. K. (2025). Investor sentiment and its implication on global financial markets: A systematic review of literature. *Qualitative Research in Financial Markets*. Advance online publication. https://doi.org/10.1108/QRFM-04-2024-0087

Mishra, A. K., Bansal, R., & Maurya, P. K. (2023). Investing for a better tomorrow: Values-driven antecedents of investment in socially responsible equity funds by Indian retail investors. *Journal of Cleaner Production, 420*, Article 138441. https://doi.org/10.1016/j.jclepro.2023.138441

Mishra, A. K., Bansal, R., Maurya, P. K., Kar, S. K., & Bakshi, P. K. (2023). Predicting the antecedents of consumers' intention toward purchase of mutual funds: A hybrid PLS-SEM-neural network approach. *International Journal of Consumer Studies, 47*(2), 563–587. https://doi.org/10.1111/IJCS.12850

Mokoena, K., Dickason-Koekemoer, Z., & Ferreira-Schenk, S. (2021). Analyzing the risk tolerance levels of Stokvel investors. *Cogent Social Sciences, 7*(1), Article 1943890. https://doi.org/10.1080/23311886.2021.1943890

Murhadi, W. R., Kencanasari, F. R., & Sutejo, B. S. (2023). The influence of financial literacy and financial interest on the financial risk tolerance of investor in Indonesia. *Journal of Law and Sustainable Development, 11*(2), Article 310. https://doi.org/10.55908/sdgs.v11i2.310

Nguyen, T. H. H., Elmagrhi, M. H., Ntim, C. G., & Wu, Y. (2021). Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China. *Business Strategy and the Environment, 30*(5), 2313–2331. https://doi.org/10.1002/bse.2748

Nobre, C. A., Sampaio, G., Borma, L. S., Castilla-Rubio, J. C., Silva, J. S., & Cardoso, M. (2016). Land-use and climate change risks in the Amazon and the need of a novel sustainable development paradigm. *Proceedings of the National Academy of Sciences of the United States of America, 113*(39), 10759–10768. https://doi.org/10.1073/pnas.1605516113

Palvia, A., Vähämaa, E., & Vähämaa, S. (2020). Female leadership and bank risk-taking: Evidence from the effects of real estate shocks on bank lending performance and default risk. *Journal of Business Research, 117*, 897–909. https://doi.org/10.1016/j.jbusres.2020.04.057

Pinho-Gomes, A. C., & Woodward, M. (2024). The association between gender equality and climate adaptation across the globe. *BMC Public Health, 24*(1), Article 1394. https://doi.org/10.1186/s12889-024-18880-5

Quispe, R, Benziger, C. P., Bazo-Alvarez, J. C., Howe, L. D., Checkley, W., Gilman, R. H., Smeeth, L., Bernabé-Ortiz, A., Miranda, J. J. (2016). The relationship between socioeconomic status and CV risk factors: The CRONICAS Cohort study of Peruvian adults. *Global Heart, 11*(1), 121–130 https://doi.org/10.1016/j.gheart.2015.12.005

Rodríguez-Jasso, L. de J., & Rodríguez-Jasso, A. F. (2024). Motivadores del comportamiento sostenible en empresarios mujeres y hombres [Motivators of sustainable behavior in women and men enterpreneurs]. *Investigación Administrativa, 53*(2), 1–24. https://doi.org/10.35426/IAv53n134.04

Roessle, F., Fleischmann, C., & Roessle, K. (2024). Gender diversity and financial performance in executive positions in German companies. *Problems and Perspectives in Management, 22*(2), 571–581. https://doi.org/10.21511/ppm.22(2).2024.44

Rothman, T. (2017). How behavioral finance patterns affect investors' activity in capital markets. *Journal of Business & Financial Affairs, 6*, Article 277. https://doi.org/10.4172/2167-0234.1000277

Salem, R. I. A., Ezeani, E., Gerged, A. M., Usman, M., & Alqatamin, R. M. (2021). Does the quality of voluntary disclosure constrain earnings management in emerging economies? Evidence from Middle Eastern and North African banks. *International Journal of Accounting & Information Management, 29*(1), 91–126. https://doi.org/10.1108/IJAIM-07-2020-0109

Shah, A. (2017). Pricing of rainfall derivatives by modelling multivariate monsoon rainfall distribution using Gaussian and t Copulas [Paper presentation]. *International Agricultural Risk, Finance and Insurance Conference (IARFIC) 2017*. https://doi.org/10.2139/ssrn.2778577

Shah, A., & Bahri, A. (2018). *Bitcoin an asset class – Market risk assessment for Indian investors*. https://doi.org/10.2139/ssrn.3119823

Shenjere, P. A., & Ferreira-Schenk, S. J. (2024). Analyzing the life satisfaction of risk-averse and risk-loving investors in South Africa. *International Journal of Economics and Financial Issues, 14*(2), 89–96. https://doi.org/10.32479/ijefi.15440

Streich, D. J. (2023). Risk preference elicitation and financial advice taking. *Journal of Behavioral Finance, 24*(3), 259–275. https://doi.org/10.1080/15427560.2021.1974444

Suherman, S., Kurniawati, H., & Mohidin, R. (2023). Determinants of financial risk tolerance: Evidence from the Indonesian millennials. *Humanities and Social Sciences Letters, 11*(1), 67–82. https://doi.org/10.18488/73.v11i1.3300

van den Bergh, J., Castro, J., Exadaktylos, F., Foramitti, J., Klein, F., Konc, T., & Savin, I. (2021). Designing an effective climate-policy mix: accounting for instrument synergy. *Climate Policy, 21*(6), 745–764. https://doi.org/10.1080/14693062.2021.1907276

Velte, P. (2023). The link between corporate governance and corporate financial misconduct. A review of archival studies and implications for future research. *Management Review Quarterly, 73*(1), 353–411. https://doi.org/10.1007/s11301-021-00244-7

Verma, R. K., & Bansal, R. (2021). Impact of macroeconomic variables on the performance of stock exchange: A systematic review. *International Journal of Emerging Markets, 16*(7), 1291–1329. https://doi.org/10.1108/IJOEM-11-2019-0993

Wahl, I., & Kirchler, E. (2020). RIsk SCreening on the financial market (RISC-FM): A tool to assess investors' financial risk tolerance. *Cogent Psychology, 7*(1), Article 1714108. https://doi.org/10.1080/23311908.2020.1714108

Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *Qualitative Research in Financial Markets, 10*(2), 210–251. https://doi.org/10.1108/QRFM-04-2017-0028

Zahera, S. A., & Bansal, R. (2019). A study of prominence for disposition effect: A systematic review. *Qualitative Research in Financial Markets, 11*(1), 2–21. https://doi.org/10.1108/QRFM-07-2018-0081

Zalata, A. M., Ntim, C. G., Alsohagy, M. H., & Malagila, J. (2022). Gender diversity and earnings management: The case of female directors with financial background. *Review of Quantitative Finance and Accounting, 58*(1), 101–136. https://doi.org/10.1007/s11156-021-00991-4