

# Chapter 4

## Gender Differences in Risk Tolerance: New Evidence From a Survey of Postgraduate Students

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### ABSTRACT

*In this chapter, the author examines the influence of gender on financial risk tolerance. The risk tolerance is assessed by the instrument developed by Grable and Lytton in a sample that includes 272 postgraduate students of the University of Porto (Portugal). The results show that males are significantly more risk-tolerant than females, even after controlling for factors such as the economic status and educational levels of the respondents' parents. The gender differences seem to be essentially driven by a higher proportion of males with high levels of risk tolerance. Moreover, belonging to a household with a high level of annual income contributes to increase the likelihood of exhibiting high levels of risk tolerance. In the total sample, the levels of risk tolerance are lower than those reported in similar studies. Overall, the author documents that there are significant gender differences in financial risk perception.*

### INTRODUCTION

When dealing with financial decision-making, females are usually regarded as being less risk-tolerant than men. This stereotype carries important implications. For example, Johnson and Powell (1994) argue that the perception that female managers are less risk-tolerant than men is a major explanation for the “glass ceilings” observed in corporate promotion ladders. Thus, statistical discrimination may arise as women tend to be viewed as less able to make the risky decisions that may be necessary for a firm’s success. Moreover, as shown by Bajtelsmit and Bernasek (1996) and Roszkowski and Grable (2005), women are likely to be perceived by brokers and financial advisors as more prudent investors and therefore offered investments with lower-risk/lower expected returns.

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Is this widespread belief supported by empirical evidence? Although empirical research has found in general that women are, on average, less risk tolerant in their financial decisions than men (e.g., Hawley and Fujii, 1993; Palson, 1996; Jianakoplos and Bernasek, 1998; Byrnes *et al.*, 1999; Grable and Lytton, 2001; Olsen and Cox, 2001; Gibson *et al.*, 2013), these results have been recently challenged (e.g., Nelson, 2015, 2016; Boulu-Reshef *et al.*, 2016; Filippin and Crosetto, 2016; Shropshire *et al.*, 2021).

This ongoing debate motivates the present study, which explores the gender differences in risk perception recurring to a survey administered to 272 Master students of management and finance at the University of Porto (Portugal). To measure the degree of financial risk tolerance of the individuals, the instrument developed by Grable and Lytton (1999) was employed.

The results of this study indicate that women are less risk-tolerant than men, even after controlling by such factors as the economic status and educational level of the respondents' parents. The individuals in the sample exhibited an average score of 26.01 in the risk tolerance scale, which signals that they were less risk-tolerant than those reported by Grable and Lytton (2003). It is also documented that individuals belonging to households with high economic status are more likely to exhibit high levels of risk tolerance.

In the following sections, this chapter reviews the related literature, describes the data and the methodology used in the study, presents the empirical findings, and offers some conclusions.

## **LITERATURE REVIEW**

Risk tolerance can be defined as the level of risk exposure with which an individual is comfortable and that reflects the individual's willingness to accept the negative changes in the value of investment or an adverse outcome that differs from the expected one. Risk tolerance is the inverse of risk aversion, that is, a lower risk tolerance implies a higher risk aversion (Grable and Lytton, 1999; Adhikari and O'Leary, 2011; Gibson *et al.*, 2013).

Existing empirical research on the influence of gender on risk tolerance focus on behavior in three domains: health and physical safety, strategic decision-making in a professional work context, and finance (including investment and gambling).

In general, the empirical evidence indicates that females tend to be more risk-averse than men in the fields of physical health and safety and that that seems to translate into differences in risk behaviors (Barsky *et al.*, 1997; Pacula, 1997; Finucane *et al.*, 2000; Harris *et al.*, 2006; Harrant and Vaillant, 2008).

However, research focused on managerial contexts has not found, in general, significant gender differences in risk attitudes. For example, Maxfield *et al.* (2010) used the results of the Simmons Gender and Risk Survey database to conclude that there is gender neutrality in risk propensity in specific managerial contexts. Moreover, Yordanova and Alexandrova-Boshnakova (2011) applied a survey to a sample of Bulgarian entrepreneurs and found that female and male entrepreneurs have similar risk perceptions. Other authors, such as Masters and Meier (1988), Johnson and Powell (1993), Corman (2001), and Castillo and Cross (2008), among others, report similar results.

Some empirical findings seem to support the claim that women are more risk-averse than men in the financial domain (investment and gambling). In the investment realm, Olsen and Cox (2001) administered a survey to professional investment managers to conclude that women weigh risk attributes more heavily than their male colleagues. Consistent with this result, there is abundant evidence that wealth holdings of non-professional women investors are less risky than those of men of similar economic status (Riley and Chow, 1992; Bajtelsmit *et al.*, 1996; Embrey and Fox, 1997; Hinz *et al.*, 1997; Jianakoplos

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