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How does gender really affect investment behavior?

Nicoletta Marinelli [a,1], Camilla Mazzoli [b,2], Fabrizio Palmucci [c,*]

[a] Department of Economics and Law, University of Macerata, Piazza Strambi 1, 62100 Macerata, Italy
[b] Department of Management, Università Politecnica delle Marche, P.le Martelli n.8, 60121 Ancona, Italy
[c] Department of Management, University of Bologna, Via Capo di Lucca 34, 40126 Bologna, Italy

HIGHLIGHTS

- Gender differences in investment behavior are investigated along three dimensions: decision process, risk preferences and actual portfolio.
- Use of a wide set of socio-demographic and economic variables to assess the incremental power of gender.
- After socio-demographic and economic variables are controlled for, gender still explains many differences in the investment decision process, risk preferences and portfolio characteristics.
- No gender difference emerges in the quality of the portfolio, specifically measured by liquidity and diversification proxies.

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ABSTRACT

In this paper we study gender differences in investment behavior. By making use of a dedicated proprietary dataset including 2374 clients of an Italian bank we show that, after controlling for socio-demographic and economic variables, gender still explains many differences in the investment decision process, risk preferences and portfolio characteristics, thus suggesting a role of gender in the investment behavior. However, no difference is revealed in the portfolio liquidity and diversification, meaning that gender does not affect the quality of portfolios.

1. Introduction

The role of gender in investment decisions is still a controversial issue. In the literature, the main results are that women hold lower proportions of risky assets (Halko et al., 2012), they are more risk averse (Dohmen et al., 2011) and also less overconfident (Barber and Odean, 2001). Nevertheless, recent contributions suggest that these gaps tend to disappear when Socio-Demographic and Economic (from now on SDE) characteristics – such as financial literacy – are taken into account (Dwyer et al., 2002; Hibbert et al., 2013; Almenberg and Dreber, 2015). Bannier and Neubert (2016) further support this idea by showing the relevance of both actual and perceived financial literacy in financial risk taking, with different shades for men and women. This introduces a new perspective which ascribes differences in investment behaviors across gender types not to gender itself but rather to the SDE differences that in our society are related to gender. Notwithstanding their attempt to overcome the limits of previous works based on univariate analyses connecting gender to investment behaviors, such studies share a common drawback, in that they all investigate a limited number of specific investment behaviors (generally the sole risk taking behavior), thus neglecting other important and so far unexplored facets of financial decision making.

By making use of a large bank's proprietary database enriched by a specifically designed questionnaire, we have a unique

* Corresponding author.
E-mail addresses: nicoletta.marinelli@unimc.it (N. Marinelli), c.mazzoli@univpm.it (C. Mazzoli), f.palmucci@unibo.it (F. Palmucci).
1 Fax: +39 07332583205.
2 Fax: +39 0712207253.

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opportunity to extend previous literature by investigating a richer set of investment behaviors that we ascribe to three main dimensions: investment's decision process, investor's preferences, and actual portfolio characteristics. For each of these investment behaviors, we then control for a wide series of SDE variables in order to assess the incremental explanatory power of gender over other gender related characteristics. Our results show that, even after controlling for SDE variables, a "gender factor" is steadily responsible for men and women differences across most of the investment dimensions we investigate, but finally not for the quality of their portfolios.

2. Data and methods

Our analysis is performed on a sample of 2374 clients of a primary Italian bank.[3] Between April and June 2013, all the participants were asked to fill in a questionnaire aimed at collecting information regarding a number of investment behaviors, their economic and financial situation together with some socio-demographic variables. In addition, the bank data warehouse provided us plenty of information regarding portfolio characteristics, further socio-economic information and all the answers included in the MiFID questionnaire.[4]

As anticipated above, we distinguish the investment behavior into three main dimensions: the investment's decision process that we analyze in terms of self-reliance and self-confidence at the time of decision; investors' preferences as derived by their financial risk tolerance (measured by both the Grable and Lytton, 2003 score and a question on the subjective perception of risk appetite), as well as their propensity towards liquidity, speculation or income purposes; the portfolio characteristics in terms of actual risk, level of liquidity and diversification, coherence between actual and self-declared level of risk tolerance. A description of all the variables involved into the analysis is provided in Appendix A.

We then studied the 'gender effect' over each of the investment dimensions described above, once the influence of other exogenous variables has been controlled for.

3. Results

3.1. Descriptive statistics

In Tables 1–3 we show differences between men and women under the three dimensions of investment behavior: the decisional process (Table 1), which is the way the investor approaches the investment, the preferences (Table 2), which are obviously a key aspect in the investment choices, and the actual portfolio (Table 3), which is the outcome of the previous two dimensions.

The results are based on a sample of 1428 males and 946 females.

As for the decisional process we show that men take autonomous and informed decisions more often than women, are more self-confident and optimistic, whereas women do rely more on professional advices.

With regard to the investors' preferences we show that men are more risk tolerant, have a longer investment horizon (propensity for illiquidity) and are driven more by speculation when they invest, whereas women invest aiming more to increase their income.

Table 1
Mean differences for decisional process by gender.

	Male	Female
Autonomous	0.339***	0.263
Self confidence	0.121**	0.094
Optimism	0.429***	0.350
Informed decisions	0.695***	0.639
Professional advice	0.443	0.536***

Note:
* Denote statistical significance at 10%.
** Denote statistical significance at 5%.
*** Denote statistical significance at 1%.

Table 2
Mean differences for investors' preferences by gender.

	Male	Female
FRT G&L	3.612***	3.055
FRT self evaluation	4.535***	4.055
Investment illiquidity preference	6.094**	5.903
Invest for speculation	0.050***	0.022
Invest for income	0.730	0.794***

Note:
* Denote statistical significance at 10%.
** Denote statistical significance at 5%.
*** Denote statistical significance at 1%.

Table 3
Mean differences for portfolio characteristics by gender.

	Male	Female
Value at risk	4.563***	4.359
Frequency of trading	1.389***	1.273
Stocks in Ptf	0.170***	0.126
Not AUM	0.218***	0.173
Bonds in Ptf	0.617	0.641**
Insurance products	0.164	0.204***
Excess VaR wrt self evaluation	0.028	0.303***
Excess VaR wrt G&L FRT	0.951	1.304***
Investment illiquidity Ptf	1.849	1.824
Diversification: asset class	0.371	0.372
Diversification: asset number	0.484	0.478
Diversification: asset type	0.539	0.542

Note:
* Denote statistical significance at 10%.
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*** Denote statistical significance at 1%.

As for the actual portfolio, we show in Table 3 that men have riskier portfolio with more stocks, trade more frequently and more often try to pick single stocks or bonds rather than relying on asset management services.

Quite interesting, even if women define themselves as risk averse, they apparently bear more risk than their preferences would imply. This is consistent with Brighetti and Lucarelli (2015) and brings about the idea that gender-based stereotyping in risk taking is likely to affect individual self-perception, therefore altering women self-assessment of risk.

Lastly and interestingly as well, there is no significant difference in the liquidity and diversification of the portfolios of women and men, meaning that despite the differences we find in the investing process, eventually the quality of their portfolios is similar.

In Table 4 we show descriptive statistics for our control variables. Even though most differences are statistically significant, they are small in their values, with the only exception of economic variables. This suggests that in our sample dissimilarities between male and female investors mostly derive from their economic status, which could partially account for the mean differences outlined above.

[3] The sampling was realized in order to ensure that the overall sample was statistically representative of the entire population of the bank's customers in terms of socio-demographic characteristics (geographical areas/cities, age), risk profile and financial knowledge. As we refer to a big Italian bank, serving a large number of customers all over Italy, this may, at least in part, alleviate concerns regarding the representativeness of our sample.

[4] A legal requisite in the European Union in order for a client to receive professional advice from a bank, since the MiFID Directive 2004/39/EC.