Investment Institute

WORKING PAPER 168 | MARCH 2025

Women and Investment

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Abstract

Men and women differ in their investment decisions. In this article, we review the main differences in risk aversion, portfolio choices, venture capital investment, and socially responsible investing, as well as their causes: genetic and social factors, financial education, advice, etc. Gender differences raise important questions for public policy, particularly regarding women's financial adequacy in retirement. Recent developments in Artificial Intelligence and the associated new financial services (fintechs and robo-advisors) can now offer promising tools to reduce inequalities.

About the author

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Introduction

For decades, wealth management has been a male-dominated activity. Not only has wealth long been predominantly held by men (women today control only one-third of the total financial wealth of households worldwide)[1], but within a household, financial decisions are more often made by men than by women. Similarly, the majority of financial advisors are men (in the United States, for example, the representation of women is only 30%).[2] However, this situation is changing. An unprecedented amount of financial assets is gradually passing into the hands of women. Demographic and social factors are at play.

With the passing of male "baby boomers," the control of financial assets of older households is shifting to their wives. Furthermore, younger and wealthier women are now more inclined to manage their wealth themselves. Today, married women are 30% more likely to make financial and investment decisions than they were five years ago (Baghai et al., 2020). While wealth management remains predominantly male (65% when examining assets under management), the growth rate of assets managed for women now exceeds that of men (6% vs. 4%).[3] Understanding the needs, preferences, and differentiated behaviors of women when it comes to managing their money is therefore essential.

In this article, we examine the differences in investment behavior between men and women: risk aversion, portfolio choices, venture capital investment, and socially responsible investing, as well as their causes. We then analyze the changes made possible by new technologies (fintechs and robo-advisors). Finally, we discuss the implications for public policy, particularly what could be implemented to reduce inequalities between men and women in investment.

1. Different Investment Behaviors

Women and men do not invest in the same way. A large number of academic studies show that, on average, women hold less risky portfolios. In particular, female savers invest more often in risk-free assets (Hariharan et al. 2000), allocate a larger share of bonds in their portfolios (Jianakoplos and Bernasek 1998), and invest less in stocks, whether through funds or individual securities[4] (Sunden and Surette, 1998; Agnew et al., 2003; Huang and De Luca, 2020).[5] Women are also less inclined to invest in alternative assets like cryptocurrencies (Auer and Tercero-Lucas, 2022). Numerous studies have shown that these different behaviors can be explained by a lower tolerance for financial risks among women (see, for example, the literature review by Croson and Gneezy, 2009).[6]

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[1] BCG (2020): https://www.bcg.com/publications/2020/managing-next-decade-women-wealth
[2] These inequalities vary in strength depending on the country: in France, according to INSEE, the average gross wealth of a man is €228,000, compared to €192,000 for a woman in 2024.
https://www.fa-mag.com/news/will-more-female-clients-mean-more-female-advisors-74932.html
[3] https://www.ey.com/fr_fr/insights/financial-services/croissance-du-patrimoine-des-femmes-quelles-perspectives
[4] individual stocks or bonds.
[5] In France, 13% of women report holding listed shares compared to 21% of men (AMF, 2023).
The results are mixed when examining portfolio diversification behaviors.
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On the other hand, male investors tend to be overconfident. This leads them to invest more in risky assets, particularly in the stock market, but also to trade more frequently, which increases the transaction costs of their portfolios, especially when investing in direct securities, and reduces the average net returns of their investments (see Barber and Odean, 2001).[7] This overconfidence is also linked to the self-attribution bias (Deaves et al., 2009), with men more likely to attribute their successes to their personal efforts and externalize their failures [8], as well as differences in appetite for competition.

Finally, the cultural context also plays an important role (Giuliano, 2020; Capelle-Blancard and Rebérioux, 2021). Feng and Seasholes (2008) show that in China, for example, the portfolio choices of men and women have similar characteristics. In urban areas, men and women often take excessive risks by holding concentrated positions in local stocks to mimic the behavior of their neighbors (Hong et al., 2014). Ke (2018) shows that in countries where gender norms are more traditional, women's participation in the stock market is also lower.

What about professional women in investment?

Women are largely underrepresented in the financial sector, particularly in asset management. According to Morningstar, at the end of 2019, only 18% of fund managers in the United States were women[9], a figure well below the percentage of female workers worldwide. To understand why women represent a small percentage of investment professionals, Adams et al. (2016) conducted a survey of members of the CFA Institute[10] (135,000 members in 151 countries). They found that female CFA members have different values from men and the rest of the female population: they are less focused on tradition and more on achievement. It is likely that specific gender barriers (number of hours worked, flexibility in organizing work time) discourage some women from entering investment professions. In line with a selection effect, women working in the financial sector have different preferences from the rest of the female population, particularly regarding risk aversion, which is very close to that of men (see, for example, Sapienza et al., 2009; Adams and Ragunathan, 2017; Adams and Lowry, 2022). Atkinson et al. (2003) compared the investment behaviors and performances of mutual fund managers. Funds managed by men and women do not differ significantly. Female fund managers in the United States are somewhat more risk-averse (Niessen and Ruenzi, 2007), follow less extreme investment strategies, and make less frequent transactions, but their performances do not differ from those of men.

[7] Men are also slightly more likely to invest in ETFs (6% vs. 3%) (Huang and De Luca, 2020).
[8] Given the typically masculine risk-taking behaviors, several laboratory studies have tested whether increasing the proportion of women in markets could reduce financial instability. Eckel and Füllbrunn (2015) show that a greater proportion of women reduces the amplitude of speculative bubbles. However, Cueva and Rustichini (2015) argue that gender parity is what is important for reducing instability.
[9] https://www.morningstar.co.uk/uk/news/210150/diversity-best-practices-in-the-asset-management-industry.aspx
[10] Founded in 1945, the CFA Institute's main mission is to define and uphold high standards for the investment industry. Members hold the title of Chartered Financial Analyst (CFA) and are bound by its rules.

While none of these studies conclude that there are significant differences between the performances of funds managed by men or women, it is observed that end investors seem to discriminate against female asset managers, preferring to delegate their funds to their male counterparts. Atkinson et al. (2003) show that the asset flows to funds managed by women are lower than those managed by men, particularly during the first year of fund management.

The specific case of venture capital

Women are also underrepresented among venture capital investors. In the United States, women represent only 11% of investor partners (Chilazi, 2019). Female entrepreneurs are even fewer (about 2% according to the World Economic Forum[11]). Coleman and Robb (2016) find that the latter use less external equity, hire fewer employees, and experience slower growth. Brooks et al. (2014) conducted a laboratory experiment in which the same entrepreneurial pitch is presented by a man and a woman, then evaluated by the participants in the experiment. They found that participants were significantly more likely to make (fictional) investments in male entrepreneurs than in female entrepreneurs presenting the same pitch. Ewens & Townsend (2020) find that male investors express less interest in companies led by women than by men (the same result for Bapna and Ganco (2021) in the case of crowdfunding). In contrast, female investors express more interest in female entrepreneurs. These results do not seem to be due to informational advantages or differences in risk aversion. One explanation for this homophily is that male investors are more likely to be interested in companies in stereotypically "male" sectors (such as entertainment and technology) than in "female" sectors (like fashion or food, which have more female entrepreneurs) (Solal, 2021). This suggests the existence of discrimination based on preferences.

Appetite for responsible investment

Women's socially responsible preferences have been highlighted in many contexts. In terms of employment, women prefer positions that have social utility (Croson and Gneezy, 2009). Women are also more inclined to donate to charities (DellaVigna et al., 2013). The presence of female directors on corporate boards is associated with more pro-environmental operations (Hsu et al., 2024). Li et al. (2024) show that lower coverage by female analysts negatively impacts the environmental and social (E&S) performance of companies. Female analysts are more likely to discuss E&S issues with company management than their male counterparts. They are also more likely to take concrete actions, such as downgrading their recommendations following negative E&S discussions in their reports.

Rossi et al. (2019) analyze the revealed and stated preferences of households regarding socially responsible investment, using a representative panel in the Netherlands. They show that women are more inclined to choose socially responsible funds. This is also revealed by a survey conducted by Bank of America among its wealthy clients: 49% of women and only 36% of men make a tangible effort to invest in companies with good environmental and social practices (BoA Institute, 2024). Finally, Gangi et al. (2020) analyze the extent to which gender diversity within asset management teams impacts the ESG policy of investment funds. In a sample of 212 European equity mutual funds, they find that the proportion of women is correlated with the ESG rating. Mutual funds led by women are also more likely to support E&S shareholder

[11] https://www.weforum.org/stories/2023/12/how-we-can-close-the-venture-capital-gender-gap/

resolutions during general meetings (Di Giuli et al., 2024). They are also more likely to vote in agreement with the management of companies led by women.

2. Why these differences?

Biological and/or socio-economic factors

These differences in financial risk-taking may be linked to biological or cultural factors. Men and women differ in hormonal levels, particularly in testosterone. This hormone associated with risk-taking is generally present at higher levels in men than in women (Sapienza et al., 2009). This analysis is consistent with evolutionary theories suggesting that men are more inclined to take risks during the period when they are trying to attract partners, while women are more hesitant during their reproductive years.

However, these differences can also be explained by differences in economic status, which are imperfectly accounted for by differences in current wealth or income. For example, women often perceive their future income as less stable and more uncertain than that of men (Fisher & Yao, 2017), making them more vulnerable to financial shocks (Bacher, 2024). They are often more likely to stop working to take care of children or parents. The longer life expectancy of women and their greater likelihood of outliving their partner may also influence their willingness to accept financial risk.

Finally, differences in risk-taking may be related to differences in information available to men and women through socialization mechanisms (among friends, at work, etc.) (Bonaparte and Kumar, 2013) According to a recent study by the French supervisor AMF (2023), women are less likely to request information about the stock market than men (44% vs. 60%). If men are better informed about investments due to their social interactions, this may encourage them to take more risks.

The importance of financial education

Women generally have less financial knowledge than men (Lusardi and Mitchell, 2008; Bucher-Koenen et al., 2016). Globally, 35% of men possess basic financial knowledge, compared to 30% of women. This gender gap is found in both advanced and emerging economies. Bucher-Koenen et al. (2016) show that this persistent gap between men and women is independent of socio-economic background and cultural and institutional context. It is striking to note that financial literacy levels seem to be low among young women who have a good level of education and are very attached to the labor market. Even women who graduated from elite American universities demonstrate a considerable lack of financial expertise (Mahdavi and Horton, 2014).

This gap is partially explained by the fact that women have less confidence in their financial knowledge (Lusardi and Mitchell, 2014; Broihanne, 2022). Bucher-Koenen et al. (2016)

propose correcting financial education assessments by confidence level and show that the gap between men and women decreases by half but does not disappear.

A "gendered" financial communication

Financial communication heavily favors "masculine" vocabulary. Boggio et al. (2014) study the metaphors used on websites targeting novice individual investors and show that these metaphors come primarily from the domains of war, health, physical activity, gambling, construction, and agriculture, referring to (stereo)typically male worlds. Terms like "beating the market," "building a portfolio," etc., are common. Thus, the language used can evoke feelings of familiarity and belonging among men, but feelings of distance and non-belonging among women, which may help explain the gender gap in stock market participation and risk-taking.

Similarly, Oldford and Fiset (2021) evaluate the linguistic content of job postings in the financial sector and show a strong use of "agentic" language (emphasizing assertiveness, independence, control, ambition, etc.) as opposed to "communal" language (emphasizing support, mutual understanding, etc.). Female candidates are more likely to apply for positions rich in "communal" language and low in "agentic" language. Thus, the wording of job postings may contribute to the gender imbalance in the financial sector.

The role of financial advice

The widely held belief that women have less appetite for risky investments tends to be reinforced by the biases of financial advisors. Investment advice tends to be more conservative for women than for men (Bajtelsmit and Bernasek, 1996). Female clients are less often asked about their personal characteristics and financial situation than men (Mullainathan et al., 2012). In an experiment where male and female "auditors" pose as new clients at 65 financial advisory firms, Bhattacharya et al. (2023) show that women receive less diversified investment recommendations (individual or local securities) than men[12]. Some advisors even practice price discrimination based on the gender of clients, offering more expensive products to women (Bucher-Koenen et al., 2023). This pattern is explained by statistical discrimination, where the gender of clients serves as an indicator of low price sensitivity, limited financial sophistication, and greater trust in advice[13]. Financial advisors propose investments that align with their representation of their clients' situations, thus perpetuating the stereotypes prevalent in the entire population, but particularly among men, who tend to overestimate women's risk aversion (Eckel and Grossman, 2002).

[12] The differences in treatment of banking clients based on gender extend beyond financial advice, as seen in credit allocation, for example (Cozarenko and Szafarz, 2015).
[13] Another explanation is that advisors respond to women's preferences to be guided or to share the responsibility of decision-making (Gennaioli et al., 2015; Rossi and Utkus, 2020).

3. Women and Technology: Fintechs and *Robo-Advisors*

Can the development of new technologies reduce the gender gap in access to financial services? Recent developments in artificial intelligence (AI) and the associated new financial services seem to offer promising tools to reduce inequalities. Engineers can work to make AI tools gender-neutral. This has been demonstrated in recruitment and training, for example. For some activities, the use of AI changed the gender distribution of potential hires, more than doubling the proportion of women among the top candidates (Avery et al., 2024). Bao et al. (2024) use a natural experiment in which AI-based virtual trainers replace some human teachers. The introduction of AI, whose behavior is trained to be non-discriminatory, improves the educational outcomes of both men and women and reduces the pre-existing gender gap.

In the financial sector, one of the promises of the Fintech revolution is related to financial inclusion. New technologies allow for a dramatic reduction in fixed costs associated with services, facilitating access for social categories that were previously excluded. By examining the volume of funding passing through digital platforms in 114 countries, Loko and Yang (2022) show that the development of fintechs increases the number and proportion of female employees and alleviates the financial constraints of women-led businesses.

In terms of financial advice, robo-advisors implement simple algorithms to provide investment recommendations or tax-optimization techniques. The adoption of these advisory platforms leads clients to invest more in risky assets, with a particularly significant effect for households residing in areas with low coverage of financial services or for less wealthy households, which often have lower ex ante stock exposure (Hong et al., 2020; Bianchi and Brière, 2020). However, women are less inclined to subscribe to robo-advisory services and are also less likely to follow the robot's recommendations over time (Bianchi and Brière, 2024). These results may be explained by a lack of confidence in algorithms. Analyzing new survey data for 28 countries, Chen et al. (2023) confirm this gender gap in the use of financial technologies: 29% for men compared to only 21% for women. [14] Women are often more concerned about the implications of data sharing and privacy issues.[15] They are also very sensitive to the ease of use. This gap is confirmed for generative AI (Aldasoro et al., 2024). 50% of men use it compared to only 37% of women. Self-reported knowledge of respondents regarding generative AI explains three-quarters of this gap, while differences in privacy concerns and trust in algorithms explain the rest.

4. Implications for Public Policy

[14] The gap is even larger between older men and women: in the UK, for example, 44% of women over 75 are excluded from digital access compared to only 28% of men of the same age (FCA, 2021).
[15] Women are also less sensitive than men to "gamification" techniques used by trading platforms that encourage financial risk-taking (Broihanne, 2023).

Financial Adequacy in Retirement

The existence of gender differences raises important questions for public policy, particularly in light of the trend towards the individualization of retirement savings. Women invest less and are also less likely to invest in risky and high-yield assets, including in retirement savings vehicles (see, for example, Bajtelsmit et al., 1999; Tomar et al., 2021). This has consequences for the long-term performance of their portfolios and their accumulated wealth.[16] Unfortunately, women are also less likely to benefit from an adequate basic pension. On average, they have lower income and slower wage growth, partly due to more part-time work and interrupted careers (Ponthieux and Meurs, 2015), resulting in lower wealth and coverage/participation rates in retirement plans. Furthermore, the redistribution of wealth within couples has decreased, and wealth has become more individualized, primarily due to the decline of community property regimes (Frémeaux and Leturcq, 2020). At the same time, women's longer life expectancy means that their accumulated wealth must support a longer period of living. Unfortunately, only a minority of older women have adequately planned for retirement, particularly in the United States (Lusardi and Mitchell, 2008).

Promoting long-term investment among women, encouraging small and regular contributions, and offering dedicated investment solutions can make investment more accessible and appealing to women. The path is not easy, as they are less engaged regarding their retirement. In the UK, for example, 12% of women compared to 26% of men read their retirement statements and reviewed their assets (FCA, 2021). Women are also less receptive to incentives, such as tax incentives for retirement savings (Brière et al., 2024).

Development of Women-Led Businesses

The deficit of female investors is closely related to the deficit of female entrepreneurs. Women abandon entrepreneurial careers long before reaching the stage of seeking funding from a venture capitalist or angel investor. The gap between men and women is also widening due to a lower propensity of investors (especially male investors) to finance women entrepreneurs seeking capital.

The academic literature offers several useful avenues for female founders who must navigate unequal playing fields. Forming mixed founding teams including both men and women enhances the legitimacy of the team and provides access to a more developed social network (Godwin et al., 2006). Female founders can also mitigate the effects of sexist biases by highlighting the social or environmental impact of their activities (Lee and Huang, 2018). Balachandra (2018) recommends that women adopt a bolder and more assertive presentation of their activities, with a discourse more focused on innovations (Chilazi, 2019). However, public authorities and private investors also have a role to play in promoting access to dedicated

[16] From 1976 to 1995 in the United States, Jianakoplos and Bernasek (1998) estimate that, on average, the return on portfolios was 4.7% for women, compared to 5.5% for men.

funding programs targeting women entrepreneurs. This support can also take the form of mentoring programs, community building[17], incubators, etc.

Conclusion

Promoting women's investment requires creating a trusting environment and offering investment solutions that align with women preferences and tastes. Financial education programs from a young age[18], through courses, conferences (for example, in the workplace), and the organization of investment clubs, can familiarize women with investing, raise awareness of the issues they will face (longevity, interrupted careers, etc.), as well as their behavioral differences, ultimately giving them more confidence in their financial decisions. Investment solutions based on concrete goals such as retirement, as well as children's education and home purchases, may generate more appetite than general savings products.

Digital tools (financial planning apps, robo-advisors, retirement simulators, as well as online courses and podcasts[19]), if easily accessible, can be particularly suitable, offering women the opportunity to learn flexibly. Finally, highlighting role models and female investors in the media and on social networks, for example through female influencers, can be beneficial. Natural homophily can be used as a tool.

Men and women differ in their saving and investment approaches, with significant consequences for society. Demographic changes and sociological developments mean that more and more women will need to manage their wealth and make financial decisions on their own in the coming years. Promoting women's investment, for better financial adequacy in retirement, but also for a diverse and productive industry that includes women entrepreneurs, is a priority.

[17] See, for example, the World Economic Forum UpLink initiative: https://uplink.weforum.org/uplink/s/about

[18] In this regard, we can commend the initiative of the European project coordinated by Elsa Fornero, aimed at designing a financial education game accessible to all: https://www.cerp.carloalberto.org/angle-a-network-game-for-life-cycle-education/

[19] See, for example, the podcast "Osons l'oseille" by Vives Media or "Le Starter Pack" by Clara Moley.

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WORKING PAPER 168 | **MARCH 2025**