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Wealth as a moderating effect on gender differences in portfolio holdings

Ylva Baeckström¹, Onur Kemal Tosun², and Raul Riefler³

Abstract

Using a unique data set of 6,556 investment advisory clients at a large European wealth management institution we reveal how wealth trumps gender in determining the investment risk taking behaviour of women. While overall the advisory portfolios held by women contain less equity exposure and therefore have lower risk and return profiles than those held by men, this effect is attenuated when controlling for portfolio size. The portfolios of women with less than EUR200,000 invested contain higher equity allocations, i.e., more risk, and achieve greater returns, but they do not incur higher advisory fees compared to women with larger portfolios. These results confirm the moderating effect of wealth on gender. Furthermore, across both genders these smaller investors absorb more risk and have higher returning portfolios than investors with larger portfolios. Contributing to research on the role of gender in financial advice and investment decision making, our results are relevant to financial advisors and their clients.

Keywords: gender differences; portfolio choice; financial advice; wealth

JEL Classification: E71, G20, J16

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1. Introduction

Does wealth have a moderating effect on gender differences in portfolio holdings? It is widely accepted that, compared to men, women are financially less risk tolerant (Brooks Sangiorgi, Hillenbrand, & Money, 2019; Hibbert, Lawrence, & Prakash, 2013), have lower levels of financial literacy (Bottazzi & Lusardi, 2021) and are less confident about making investment decisions (Cueva, Iturbe-Ormaetxe, Ponti, & Tomás, 2019). The gender gap in risk taking aptitude applies to women both when making decisions in the corporate domain and when making personal investment decisions. Women directors contribute to risk reductions in the firms they govern (Sattar, Biswas, & Roberts, 2022), which has been associated with better attention to corporate governance and sustainability (Aabo & Giorici, 2023). Compared to men, women also make lower allocations to equities in their personal investment portfolios (Bollen & Posavac, 2018), behaviour that is shown to explain 10% of the gender gap in wealth accumulation at retirement (Neelakantan, 2010). Addressing underinvestment by women can therefore have important implications for women's financial sustainability. To some extent, financial advisors as knowledgeable agents can attenuate these traits. However, despite the economic disadvantages for underinvested women, less is known about other influential factors, including the relationship between women's investment behaviour and portfolio size. This paper aims to start filling that gap.

Those investors who engage professional financial advisors are found to self-report higher risk tolerance and allocate a higher proportion of savings to risky assets when compared to self-directed investors. This effect can be especially strong for women who may be more likely than men to seek financial advice (Barthel & Lei, 2021). Therefore, although financial advice may only contribute to modest portfolio performance improvements (Bhattacharya, Hackethal, Kaesler, Loos, & Meyer, 2012), it can improve the economic outcomes of risk averse, financially less literate or underconfident individuals (Bellofatto, D'Hondt, & De

Winne, 2018), including women.

However, current literature about gender differences and financial advice has not investigated the association between gender and wealth (the total amount invested) in portfolio risk and return profiles. We address this in our paper where we analyse the asset allocation in the portfolios held by 6,556 individuals. Our participants, who are advisory clients of a large European wealth management institution, hold investment portfolios worth at least EUR100,000 managed by a financial advisor employed at the institution. Although all participants can therefore be considered affluent, we follow the approach adopted by the institution itself and have split the sample into ‘small’ and ‘large’ clients. We term those with portfolios worth less than EUR200,000 ‘small’ clients and those with more than EUR200,000 ‘large’ clients. To investigate whether wealth has a moderating effect on gender differences in portfolio holdings, we assessed the differences in the equity allocations, risk, return and fees in the portfolios held by both *small* and *large* clients.

Across the whole sample, we discover that women hold portfolios with lower allocation to equities that are less risky and produce lower returns, than those held by men. Such findings are in line with current literature (e.g., Brooks Sangiorgi, Hillenbrand, & Money, 2019). However, these gender differences do look different when clients’ wealth is considered, i.e., when splitting the sample into small and large clients. Female investors with smaller portfolios have higher allocations to the risky asset (equities) compared to women with larger portfolios. However, they do not incur increased advisory fees. The portfolios of these women with lower assets under management also generate higher returns. Therefore, ‘small’ female investors outperform their large peers. Our findings in relation to risk tolerance of smaller female investors do not necessarily concur with previous studies that show that female risk aversion extends to wealthy women (Baeckström, Marsh, & Silvester, 2021). Instead, they suggest that gender in isolation may be a less reliable predictor of risky investment behaviour than

previously thought. Gender needs to be considered in relation to other factors, such as portfolio size, wealth levels, and the availability of financial advice. Our results however confirm the work of Filippin & Crosetto (2016) who observe that gender differences in financial decision making are task dependent rather than applying to all situations, and also the work of Davydov, Florestedt, Peltomäki, & Schön (2017) who find that overconfident male investors underperform women, not because of their male gender but because they trade more frequently than women (Richards & Willows, 2018).

We make two important research contributions. Firstly, given the present scholarly focus on mass affluent advised individuals with investments worth below US\$100,000 (e.g., Bhattacharya, Hackethal, Kaesler, Loos, & Meyer, 2012; Foerster, Linnainmaa, Melzer, & Previtero, 2017), we extend the knowledge about financial advice to a wealthier demographic. This is important because of the relative prevalence of financial advice among the wealthy, relative to mass affluent individuals (Financial Conduct Authority, 2020). Secondly, we contribute to the literature about gender differences in investment behaviour and financial advice (e.g., Brooks Sangiorgi, Hillenbrand, & Money, 2019). In showing that gender has a less profound effect on risk taking than does financial wealth, our findings challenge the conjecture that gender trumps other characteristics for determining the riskiness of portfolio asset allocation. Our results reinforce the limited body of literature that highlights the importance of knowledge and financial advice for women's financial risk-taking behaviour, see for example, Bellofatto, D'Hondt, & De Winne (2018).

Encouragingly our results may suggest that advisors have the agency to encourage smaller investors (and in particular women) to increase their equity exposure for the benefit of their final wealth position (Gennaioli, Shleifer, & Vishny, 2015). This is paramount given the need to extend advice provision to the wider population whose lack of financial assets or knowledge currently precludes them from accessing financial advice. Our findings suggest that

financial advice may be most beneficial to individuals with the direst need to secure their financial futures. Our findings thus bear relevance to the wealth management industry and to advisors who seek to increase their success with female clients. Furthermore, regulators and policy makers interested in solutions to the relative underinvestment by women, would benefit from paying attention to gender and portfolio size when monitoring advisor activities, and when attempting to extend the financial advice model to a broader population.

2. Background Literature and Hypothesis

2.1 Financial Advice

Instead of managing their own investments, individuals may turn to financial advisors to guide them through the portfolio selection process. Financial advisors are responsible for evaluating the investment needs of their clients and then to recommend portfolios, in line with their clients' personal risk tolerance levels and investment goals (Bellofatto, D'Hondt, & De Winne, 2018). Financial advice is governed by financial market regulators who monitor financial advisors to ensure recommendations are suitable to meet clients' financial objectives (Financial Conduct Authority, 2015/2023). In their position as experts who share financial information and make investment recommendations, advisors have the potential to improve the (often biased and ill considered) decisions that investors make when left to their own devices (Kahneman & Tversky, 1973). Prior research shows the tendency for highly confident individuals to manage their own portfolios. Less financially literate (Stolper & Walter, 2017), underconfident individuals and women (Barthel & Lei, 2021) have a higher likelihood to seek financial advice than their more confident peers. Financial advice is found to act as a partial substitute for financial literacy as a means to unlock an acceptance of greater investment risk (Barthel & Lei, 2021). Financial advice can therefore be especially beneficial for underinvested women.

2.2 Gender and Portfolio Preferences

There is plenty of evidence in the literature of women's lower preference for holding less risky financial assets compared to men (e.g., Brooks Sangiorgi, Hillenbrand, & Money, 2019; Charness & Gneezy, 2012; Eckel & Füllbrunn, 2015). Women are also found to be less financially literate (Bannier & Neubert, 2016; Bottazzi & Lusardi, 2021) and have lower confidence in their financial knowledge and abilities to make sound investment decisions (Cueva, Iturbe-Ormaetxe, Ponti, & Tomás, 2019; Pikulina, Renneboog, & Tobler, 2017). Conversely male overconfident trading can result in inferior portfolio returns compared to women (Richards & Willows, 2018). Women's relatively lower self-confidence (Cueva, Iturbe-Ormaetxe, Ponti, & Tomás, 2019) and knowledge (Bottazzi & Lusardi, 2021) contribute to many women sticking to safe savings with low return potential. This has important consequences because the avoidance of the 'riskier' assets is linked to the finding that women's portfolios accrue 10% less wealth than men's over time (Neelakantan, 2010). However, studies of active male and female investors show that female trading behaviour can be advantageous. Richards & Willows (2018) associate the male gender with more frequent trading among 7,200 UK investors. Analysing 134,201 individual Swedish investors, Davydov, Florestedt, Peltomäki, & Schön (2017) show that, while women investors hold lower risk portfolios and trade less frequently, their portfolios outperform those of their male peers. These results suggest that there is more to uncover in relation to gender differences in allocation to risky assets.

2.3 Wealth and Portfolio Preferences

Wealthy individuals can absorb more investment risk through higher equity exposure than the less affluent (Calvet, Campbell, & Sodini, 2007; Merton, 1971), and they also tend to be more active equity investors (Dahlquist, Setty, & Vestman, 2018). There is wide scholarly

acceptance that the allocation to risky assets increases with financial wealth as does the propensity to seek financial advice. This is evident in the UK with advised clients having on average at least GBP150,000 in assets with their advisors (Financial Conduct Authority, 2020). In wealth terms, the investors in our sample are therefore representative of the typically advised demographic. However most current academic research focuses on investors with less than US\$100,000 in investable assets (e.g., Bhattacharya, Hackethal, Kaesler, Loos, & Meyer, 2012; Foerster, Linnainmaa, Melzer, & Previtero, 2017), and that gap is addressed in the present study.

There is substantial evidence that the proportion of funds allocated to risky assets rises with income and wealth, for advised investors of both genders. See, for example, the Calcagno & Monticone (2015) analysis of advised investors in Italy and the investigation into retail investors in Canada by Foerster, Linnainmaa, Melzer, & Previtero (2017). Studying financial advice to retail investors in Germany Bhattacharya, Hackethal, Kaesler, Loos, & Meyer (2012) document how the tendency to follow financial advisor recommendations is positively related to financial wealth. Baeckström, Marsh, & Silvester (2021) show that the risky asset allocation recommendations made to wealthy women are correlated both to the total amount invested and to their own gender and their financial advisor's gender.

Drawing on literature which documents 1) a higher risk tolerance among male relative to female investors, and 2) the expectation that the allocation to risky assets increase with financial wealth, our study tests whether wealth has a moderating effect on gender differences in portfolio holdings among wealthy advised female and male investors. The expectation would be that advised female investors will, in general, hold portfolios with lower risk and return profiles compared to their male peers. However, given the powerful influence of financial wealth, we hypothesise that there is an interaction effect between gender and wealth in the portfolios held by advised wealthy investors, as follows:

H1: *Wealth has a statistically significant moderating effect on the relationship between gender and portfolio risk and return profiles.*

3. Data and Methodology

3.1 Data Sample

Our data set consists of the portfolios of 6,556 advisory investment clients at a European wealth management institution between 30 June 2005 and 31 December 2018. Our hand collected data sample is unique because it covers the portfolio characteristics of wealthy advised clients over several years.⁴ Almost all of the clients are present for the majority of our sample period, making our sample consistent and reliable. There are two groups of investors depending on portfolio size: ‘small’ (N=5,279) with portfolios worth EUR100,000 up to EUR200,000 and ‘large’ (N=1,277) with EUR200,000 or more. Considering the particular prevalence among the wealthy to engage financial advisors, the sample is representative of a typically advised individual.

Table 1 shows the range of the investors and their portfolios. There are five portfolio types offered by this bank, with varied allocation to equities, i.e., risky assets, ranging from 5% (P1) to 80% (P5). Advisory fees range from 1% (P1) to 1.8% (P5) of amount invested. P1 is the most conservative portfolio (annual *Return* 2%, standard deviation in annual returns, i.e., *Risk*, 3.8%), and P5 the riskiest (*Return*, 18.5% and *Risk*, 5.9%). Consistent with Ghysels, Santa-Clara, & Valkanov (2005), returns increase with the riskiness of the portfolio.

[Insert Table 1 here]

Only portfolios P2 and P4 are available for small investors, whereas all five portfolios

⁴ To protect its clients, the institution requests to remain anonymous but consents to the material being published for research purposes. Further client confidentiality limits the information shared with the researchers to demographics such as gender and wealth only.

are available to large investors. Notably both small female (52%) and small male (65%) investors prefer the riskier P4 to safer P2 while the return of P2 is lower than that of P4. This also means that these investors receive revenue compensation for their higher equity exposure (Markowitz, 1991), which is further helped by the advisory fees remaining constant. However, when considering large investors, we find that the safer P2 is preferred by a majority of women (53%), and by 44% of male investors. Thus, our descriptive statistics suggest that an investors total wealth invested, may indeed affect their portfolio choice.

3.2 Empirical Design

Our data set includes different features of these advisory clients' portfolios. Moreover, we have information on the wealth and gender of those clients in the data sample. To study the moderating effect of wealth on gender differences in portfolio holdings, we follow a similar model as in Riefler, Tosun, & Baekström (2023). We use the following OLS regression setup to examine the association between portfolio choices and investors' gender and their level of wealth:

$$Portfolio\ characteristics_i = \alpha + \beta_1(Female \times Small)_i + \beta_2Female_i + \beta_3Small_i + \varepsilon_i \quad (1)$$

where $Portfolio\ characteristics_i$ represents *Return*, *Risk*, *Equities*, and *Fee* for portfolio of investor i . The binary $Female_i$ variable equals one for female investor i , and zero for male investment clients. The binary $Small_i$ variable equals one for investor i with invested wealth of EUR100,000 to EUR200,000, and zero if the wealth is above EUR200,000. ε_i denotes the error term. The interaction of *Female* and *Small* represents the relation of gender and wealth to investors' portfolio features. Standard errors are robust in the analysis. In robustness analyses, we also control for any systematic variation in portfolio characteristics across years with time period dummies.

4. Results

Keeping gender constant, we compare the portfolio choices made by small and large female investors to reveal any influence of wealth level on portfolio preferences. The statistically significant T-test mean comparison results are shown in Panel A, and Table 2 show that less wealthy female investors choose riskier portfolios with a higher allocation to equities than their wealthier peers. Moreover, smaller female investors pay higher fees and yet they obtain 0.6%-points higher returns than the women with large portfolios. Panel B displays similar results for male investors. Smaller male investors prefer riskier portfolios with 0.5%-points greater returns and higher fees than wealthier males. These preliminary results provide evidence that suggests that wealth influences portfolio choice more than gender, among investors who engage financial advisors.

Mindful that other factors, e.g., age and financial literacy, can influence portfolio choice, the absence of this information due to client confidentiality is a limitation to our data set. However, evidence that financial advisors can assist in raising financial literacy levels among their clients (Stolper & Walter, 2017), and research that links financial literacy to better investment decisions (Bellofatto, D'Hondt, & De Winne, 2018), provides comfort that participants in our sample, who are all advised investors, do benefit from the financial expertise of their advisors. Furthermore, our participants belong to a wealthy advised demographic of individuals which tends to exclude younger generations. Given that our participants hold portfolios worth at least EUR100,000, they represent individuals who have accumulated substantial wealth. This suggests they are from the older generations. This is because the median net worth accumulated increases substantially in people in their 40s and 50s, to average around EUR400,000 – EUR500,000 among the wealthiest demographic in Europe (Hammer,

2015).⁵ This is exemplified in Kramer’s (2016) study in which 79.6% of the advised Dutch retail clients⁶ are above 40 years of age. Although it is likely to fall outside of the scope of our paper, recent statistics show that the gender gap in relation to equity participation is narrowing also for younger generations.⁷ To allay concerns that the investors in our sample simply shift the asset allocation in their portfolios as they get older, we conduct additional untabulated analyses. Specifically, we compare *small*, *large* and *all* investors across different portfolios from 2006 to 2018 to find that the majority of investors stick to their portfolios, and therefore asset allocation, across the full period. This stability in portfolio choice provides reassurance that the omitted age variable problem is unlikely to affect the reliability of findings. Overall, the findings presented here might have implications for our understanding about investment behaviour, and the balance between the influence of wealth and gender among advised investors. Such recognition can support financial advisors in their suitability assessment and when constructing portfolios for their clients. These insights can also help advisors attract younger clients, which is important since studies show that the average age of those seeking financial advice is 60 (McCabe, 2021).

[Insert Table 2 here]

Regression results on portfolio return, risk, and equity allocation in Table 3 are statistically significant at the 1%, 5%, and 10% levels respectively, which confirms our previous findings. These findings also have meaningful economic significance. For instance, compared to *large* investors, *small* investors prefer 0.8%-points riskier portfolios with a 4.8%-points higher equity allocation, and they pay 0.07%-points more in fees (see Columns II, III,

⁵ Net worth includes financial assets, business, real property, pension assets and liabilities, see: https://www.ecb.europa.eu/pub/conferences/shared/pdf/20151217_4th_conference_hfcs/Hammer.pdf.

⁶ These clients, by their retail definition, are likely to have less than EUR100,000 invested in their portfolios and are therefore less affluent than those in the present study, see (Kramer, 2016).

⁷ A recent Fidelity study that finds evidence that three quarters of women aged between 25 to 40 now hold personal portfolios in addition to their pensions, see: <https://www.cnbc.com/2021/11/10/younger-women-are-narrowing-the-gender-investing-gap-study-finds-.html>

and IV, respectively). Their portfolios also generate 0.4%-points higher returns, as indicated in Column I. The negative finding for *Female* investors in Column II suggests a higher risk aversion compared to male investors, as also suggested by Eckel & Füllbrunn (2015). Economically, portfolios held by women carry 0.9%-points less risk with 4.3%-points lower equity allocation than their male counterparts. Female investors pay 0.06%-points lower advisory fees and earn 0.2%- points less returns than their male peers (see Columns IV and I, respectively).

[Insert Table 3 here]

Arguably, the most noteworthy findings are revealed by the coefficient estimates for *Female* $\times$ *Small* in Table 3. These reveal that female investors' risk and return preferences shift when wealth levels are considered simultaneously. *Small Female* clients hold portfolios with a 1.1%-points ($= 0.003\% + 0.008\%$) higher risk and a 6.2%-points ($= 0.014\% + 0.048\%$) higher allocation to equities compared to their *large* female counterparts (see Columns II and III, respectively). Further economic interpretation shows that the fees paid by female investors are not significant. These small female investors are compensated for adopting more risk by their portfolios producing 0.5%-points ($= 0.001\% + 0.004\%$) higher returns (Column I).

Considering the total magnitude of change, the sensitivity of both risk and equity to females remains positive and are 0.2%-points ($= 0.003\% - 0.009\% + 0.008\%$) and 1.7%-points ($= 0.014\% - 0.045\% + 0.048\%$) respectively, for smaller portfolios. Similarly, the sensitivity of return to small female investors stays positive and is 0.3%-points ($= 0.001\% - 0.002\% + 0.004\%$).

Overall, these findings suggest that wealth has a moderating effect on gender differences in portfolio risk and return profiles. Wealth therefore has the potential to alter women's conventionally more conservative investment preferences. This is evident in how the portfolios of less wealthy women have higher allocations to equities and are therefore more

risky. In support of our hypothesis, our findings provide evidence that a “one size fits all” classification of gender preference in investment choices is not always accurate. Furthermore, factors such as the level of wealth or portfolio size can alter traditional gender expected investment decisions. This result may suggest that having a financial advisor unlocks higher risk tolerance levels and equity participation rates, perhaps by raising the financial knowledge (Hibbert, Lawrence, & Prakash, 2013; Stolper & Walter, 2017), among these female clients.

In a further robustness test, we address potential endogeneity in our OLS regression model by using a GMM approach similar to that used by Khovansky & Zhylyevskyy (2020). Table 4 gives statistically significant, economically meaningful, and robust estimates supporting our original findings. Furthermore, the extremely low Chi2 values indicate that the Hansen test is under the null hypothesis and therefore that all instruments are valid.

[Insert Table 4 here]

We test the robustness of our results further by examining different time periods in our sample, which includes the Great Financial Crisis (GFC). The conditions of the GFC have been identified as influencing investors’ perception of financial risk (e.g., Hoffmann, Post, & Pennings, 2013; Tosun, Eshraghi, & Muradoglu, 2023). We therefore analyse whether our results remain stable after the GFC or if investor behaviour is significantly and consistently altered by this shock. We therefore split our sample into three periods: pre GFC (2005-2006), during GFC (2007-2009), and post GFC (2010-2018) to conduct a robustness analysis of our main results. Table 5 shows that our results for the pre and post GFC period remain statistically significant for the *Female* × *Small*, *Female*, and *Small* dummies, and also consistent with our original findings. However, the effect of gender and the moderating effect of wealth disappear during the GFC period. This finding confirms results found in related literature. For example, Hoffmann, Post and Pennings (2013) show substantial, but temporary, swings in trading and risk-taking behaviour driven by changes in perceptions among investors during the GFC.

During this shock event, investors' return expectations and risk tolerance decreased and their risk perceptions increased, attitudes which then reverted to their usual levels towards the end of the crisis (Hoffmann, Post, & Pennings, 2013). The identification of a similar pattern in the portfolio asset allocation decisions among the advised investors in our sample, validates the directional strength of our original results.

[Insert Table 5 here]

5. Summary and Conclusion

Using a unique data set of 6,556 clients of a large European wealth management institution, we study the link between portfolio preferences and investors' gender and their wealth. Consistent with the literature, our initial finding shows that female investors are more risk averse in general and thus earn lower returns from their investment portfolios compared to their male peers. Promisingly we also find that portfolios of small investors outperform those of large investors. This suggests that financial advisors can successfully motivate their less wealthy clients to increase their allocation to risky assets in order to gain the potential to increase their future wealth position. Perhaps our most revealing result is that small female investors hold portfolios with higher risk and return profiles compared to large female investors. By demonstrating that wealth in terms of portfolio size does have a significant influence on female investors to change their conventional investment preferences and making higher allocations to equities, we find support for our hypothesis. That smaller female investors hold portfolios with better return potential is perhaps surprising but is also encouraging.

When guided by their financial advisors, less wealthy investors, in particular women, may be more ambitious to grow their wealth, as demonstrated by their increased equity exposure. That gender has a less profound effect on risk taking than financial wealth further suggests that risk taking preferences are more situational, rather than universally true for all women, or indeed all men. Our findings may imply that financial advisors do play an important

role in raising the allocation to risky assets for less wealthy people, who most need to generate funds for the future. Advisors might indeed be recommending portfolios with higher risk and return profiles to these women because of their lower wealth levels. To understand this better, it would be beneficial for future research to investigate the causality of this relationship. Given that, on average, people do not tend to seek advice until they are nearing retirement, future research could also investigate how to appeal to younger investors.

Furthermore, professional financial advisors may be exhibiting less gender bias than previously thought when making portfolio recommendations to women, despite how women are generally considered less risk tolerant compared to men. With expert investment knowledge, these professionals have a valuable opportunity to increase both the investment knowledge and confidence of their clients. Also, their advice can unlock acceptance of portfolios with higher risk and return profiles which should improve the economic outcomes of their clients. By uncovering how wealth explains differences in the portfolio choices made by female and male investors (in some cases mitigating the gender effects) our study contributes to the literature about gender differences in investment behaviour and financial advice. Our findings have implications for the study of investor behaviour and financial advice by extending the current understanding about how these different factors simultaneously influence portfolio preferences. The results presented in this paper are relevant to the wealth management industry, financial advisors and financial market regulators. They can assist advisors as they evaluate their clients' investment needs, to the economic benefit of both clients and advisors. Regulators and the wealth management industry as a whole can benefit from paying attention to characteristics other than gender when evaluating financial advice to women. Our findings can also be useful to the regulator and policy makers in their attempts to extend the financial advice model to a broader underinvested population, including the younger generations, whose savings are insufficient to sustain their financial futures.

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Tables & Figures

Table 1: Investor and Portfolio Characteristics

This table presents description of investors and portfolio characteristics in our sample from 30 June 2005 to 31 December 2018. *Return* is the annual return of a portfolio; *Risk* is annual standard deviation in portfolio return; *Equities* is percentage of stocks in a portfolio; *Fee* is the fee associated with a portfolio. In Panel A, the mean values for individual portfolio's return and risk are given along with other portfolio characteristics, i.e., percentage of equities and fees. Panels B and C give the distribution of investors across portfolios according to their gender and their level of wealth.

Panel A: Portfolio Characteristics

Portfolio	Return	Risk	Equities (%)	Fee (%)
P1	0.020	0.038	5	1
P2	0.041	0.060	25	1.1
P3	0.032	0.080	35	1.3
P4	0.049	0.108	50	1.5
P5	0.059	0.185	80	1.8

Panel B: Description of Small Investors (EUR 100K – 200K) across Portfolios

Portfolio	Female Investors		Male Investors	
	N	%	N	%
P1	0	0	0	0
P2	1110	48	1041	35
P3	0	0	0	0
P4	1224	52	1904	65
P5	0	0	0	0
All	2334	100	2945	100

Panel C: Description of Large Investors (Above EUR 200K) across Portfolios

Portfolio	Female Investors		Male Investors	
	N	%	N	%
P1	16	3	9	1
P2	242	53	361	44
P3	115	25	198	24
P4	78	17	206	25
P5	8	2	44	5
All	459	100	818	100

Table 2: T-Test on Portfolio Characteristics for Different Type of Investors

This table presents results from T-Tests on mean comparison of portfolio characteristics for different investor groups. *Return* is the annual return of a portfolio; *Risk* is the annual standard deviation in portfolio return; *Equities* is the percentage of stocks in a portfolio; *Fee (%)*, is the fee associated with a portfolio. In Panel A (B), small and large female (male) investor groups are compared. The mean values for return, risk, equities, and fee are given along with the differences between groups. The *** indicates statistical significance at the 1% level.

Panel A: Female Investors			
	Small Investors	Large Investors	
Portfolio Characteristics:	(EUR 100K – 200K)	(Above EUR 200K)	<i>Difference</i>
Return	0.045	0.039	<i>0.006***</i>
Risk	0.085	0.075	<i>0.010***</i>
Equities	0.381	0.320	<i>0.061***</i>
Fee (%)	1.310	1.227	<i>0.083***</i>
Panel B: Male Investors			
	Small Investors	Large Investors	
Portfolio Characteristics:	(EUR 100K – 200K)	(Above EUR 200K)	<i>Difference</i>
Return	0.046	0.041	<i>0.005***</i>
Risk	0.091	0.084	<i>0.007***</i>
Equities	0.412	0.365	<i>0.047***</i>
Fee (%)	1.359	1.286	<i>0.073***</i>

Table 3: Analysis on Portfolio Choices by Investors with Different Gender and Level of Wealth

This table presents the results from OLS regression of *Return*, *Risk*, *Equities*, and *Fee* on *Female* $\times$ *Small* interaction term along with *Female* and *Small*. Dependent variables are *Return*, as the annual return of a portfolio; *Risk*, as annual standard deviation in portfolio return; *Equities*, as percentage of stocks in a portfolio; *Fee (%)*, as the fee associated with a portfolio. The main explanatory variable is *Female* $\times$ *Small* as the interaction term. *Female* is a dummy that is equal to one if the investor is female, and zero otherwise. *Small* is a dummy that is equal to one if the investor's wealth is between EUR 100K and 200K, and zero otherwise. Year dummies are included in the model. Robust standard errors are given in parentheses. The *** indicates statistical significance at the 1% level.

	Return	Risk	Equities	Fee (%)
	I	II	III	IV
Female $\times$ Small	0.001*** (0.000)	0.003** (0.002)	0.014* (0.008)	0.010 (0.013)
Female	-0.002*** (0.000)	-0.009*** (0.001)	-0.045*** (0.007)	-0.058*** (0.011)
Small	0.004*** (0.000)	0.008*** (0.001)	0.048*** (0.005)	0.072*** (0.008)
Constant	0.040*** (0.000)	0.082*** (0.001)	0.368*** (0.007)	1.288*** (0.011)
Time Dummies	YES	YES	YES	YES
Adj. R ²	0.148	0.036	0.043	0.039
Observations	6,556	6,556	6,556	6,556

Table 4: Robustness Analysis on Portfolio Choices by Investors

This table presents the results from GMM regression of *Return*, *Risk*, *Equities*, and *Fee* on *Female* $\times$ *Small* interaction term along with *Female*, *Small*, and year dummies as control variables. Dependent variables are *Return*, as the annual return of a portfolio; *Risk*, as annual standard deviation in portfolio return; *Equities*, as percentage of stocks in a portfolio; *Fee (%)*, as the fee associated with a portfolio. The main explanatory variable is *Female* $\times$ *Small* as the interaction term. *Female* is a dummy that is equal to one if the investor is female, and zero otherwise. *Small* is a dummy that is equal to one if the investor's wealth is between EUR 100K and 200K, and zero otherwise. Robust standard errors are given in parentheses. The Hansen test is under the null that all instruments are valid, and associated Chi² values are reported. The *** indicates statistical significance at the 1% level.

	Return	Risk	Equities	Fee (%)
	I	II	III	IV
Female $\times$ Small	0.001** (0.000)	0.003** (0.002)	0.014* (0.008)	0.010 (0.012)
Female	-0.002*** (0.000)	-0.009*** (0.002)	-0.043*** (0.008)	-0.057*** (0.011)
Small	0.004*** (0.000)	0.008*** (0.001)	0.049*** (0.006)	0.077*** (0.008)
Constant	0.044*** (0.000)	0.083*** (0.001)	0.367*** (0.007)	1.283*** (0.011)
Time Dummies	YES	YES	YES	YES
Hansen Chi ²	0.001	0.001	0.001	0.001
Observations	6,556	6,556	6,556	6,556

Table 5: Analysis on Portfolio Choices for Different Time Periods

This table presents the results from OLS regression of *Return*, *Risk*, *Equities*, and *Fee* on *Female* × *Small* interaction term along with *Female* and *Small*. Panels A, B and C give the results for pre-, during, and post- Great Financial Crisis (GFC) periods, respectively. Dependent variables are *Return*, as the annual return of a portfolio; *Risk*, as annual standard deviation in portfolio return; *Equities*, as percentage of stocks in a portfolio; *Fee* (%), as the fee associated with a portfolio. The main explanatory variable is *Female* × *Small* as the interaction term. *Female* is a dummy that is equal to one if the investor is female, and zero otherwise. *Small* is a dummy that is equal to one if the investor's wealth is between EUR 100K and 200K, and zero otherwise. Robust standard errors are given in parentheses. The *** indicates statistical significance at the 1% level.

Panel A: Pre-GFC Period (2005-2006)

	Return	Risk	Equities	Fee (%)
	I	II	III	IV
Female × Small	0.002** (0.001)	0.008** (0.004)	0.041** (0.021)	0.050 (0.034)
Female	-0.003*** (0.001)	-0.015*** (0.004)	-0.076*** (0.020)	-0.105*** (0.031)
Small	0.005*** (0.000)	0.009*** (0.002)	0.054*** (0.013)	0.083*** (0.020)
Constant	0.041*** (0.000)	0.083*** (0.002)	0.363*** (0.012)	1.285*** (0.018)
Time Dummies	YES	YES	YES	YES
Adj. R ²	0.146	0.034	0.040	0.037
Observations	924	924	924	924

Panel B: GFC Period (2007-2009)

	Return	Risk	Equities	Fee (%)
	I	II	III	IV
Female × Small	0.000 (0.001)	-0.001 (0.003)	-0.006 (0.017)	-0.022 (0.027)
Female	-0.001* (0.001)	-0.005 (0.003)	-0.024 (0.015)	-0.026 (0.024)
Small	0.004*** (0.000)	0.007*** (0.002)	0.044*** (0.011)	0.072*** (0.017)
Constant	0.042*** (0.000)	0.085*** (0.002)	0.371*** (0.011)	1.292*** (0.017)
Time Dummies	YES	YES	YES	YES
Adj. R ²	0.120	0.022	0.028	0.027
Observations	1,459	1,459	1,459	1,459

Panel C: Post-GFC Period (2010-2018)

	Return	Risk	Equities	Fee (%)
	I	II	III	IV
Female × Small	0.001*** (0.000)	0.003** (0.002)	0.016* (0.010)	0.014 (0.016)
Female	-0.002*** (0.000)	-0.009*** (0.002)	-0.046*** (0.009)	-0.062*** (0.014)
Small	0.005*** (0.000)	0.008*** (0.001)	0.046*** (0.006)	0.071*** (0.010)
Constant	0.041*** (0.000)	0.084*** (0.002)	0.368*** (0.008)	1.292*** (0.012)
Time Dummies	YES	YES	YES	YES
Adj. R ²	0.153	0.037	0.043	0.040
Observations	4,173	4,173	4,173	4,173