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## 4 Personality traits and financial behaviour

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- ▶ Personality traits are significantly associated with household financial behaviour, even when conditioning on partners' cognition and other observable characteristics
  - ▶ The personality of both partners matters when determining household financial decision making, although to different extents and through different traits
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### 4.1 Introduction

The recent financial crisis has exacerbated the potential negative consequences of the lack of portfolio diversification and of the presence of financial indebtedness for households. Although the traditional economic literature has analysed individuals' financial behaviour through the lens of cognitive abilities and socio-demographic characteristics, light has been recently cast on the role played by non-cognitive skills and personality traits in determining risk-taking behaviours (Almlund et al., 2011). This stream of research is clearly relevant to help better address policy interventions that aim to increase the level of citizens' financial knowledge through incentives for education and financial literacy.

Our chapter aims to estimate the association between individual personality traits and financial behaviours among European couples with a financial head aged 50 or older. In doing this, we add to the existing literature (Buccioli and Zarri, 2017; Parise and Peijnenburg, 2017) by explicitly accounting for both partners' personality traits. Compared with the exercise proposed by Brown and Taylor (2014), who are inspired by a similar intent and use a couple's average personality as an explanatory variable, we explicitly distinguish between household financial head and non-financial head, as well as by the gender of the financial head.

Estimating a model with adult-life outcomes as a dependent variable and personality traits as an explanatory variable is not without problems. First, personality cannot be measured directly and must instead be inferred from questionnaires. Therefore, the measures used in our empirical analysis might be

imperfect proxies of true non-cognitive abilities, introducing measurement error. Second, personality traits may themselves be the result of a dynamic process of investment in cognitive and non-cognitive skills, such that there might be omitted variables that jointly determine both personality and the outcome. Together with measurement error, their presence would bias estimates of the effects of personality traits. The literature has deeply investigated these issues. For instance, Heckman, Stixrud, and Urzua (2006) proposed a dynamic factor model in which cognitive and non-cognitive skills influence a large set of behaviours. Their approach allows for the presence of measurement errors and permits latent skills to determine measured skills and schooling, as well as schooling to determine measured skills. Such a setup is beyond the purposes of this descriptive paper; however, bearing in mind these considerations when interpreting our results is important.

We find that some personality traits of the financial household head, namely, consciousness, risk aversion and neuroticism, are significantly associated with stock market participation. The role played by risk aversion shrinks or is even absent when the likelihood of having financial liabilities is considered. In this case, whenever the financial household head is female, her degree of agreeableness and neuroticism are positively associated with proneness to indebtedness. The openness and consciousness of the (male) partner also attract significant coefficients.

The next section describes the data used in the empirical analysis. The following section illustrates the empirical specification and the main results, and the last section concludes.

## 4.2 Data

We use data on individuals who were interviewed in both Wave 6 and Wave 7. We retain only financial respondents – individuals who answered questions on financial investments on behalf of the entire household – aged between 50 and 80 years who are in a couple and whose partner has been interviewed. We consider such financial respondents to be the financial heads for their households. We end up with a reference sample of 11,976 observations from 17 European countries and Israel. The 50.12 per cent of the financial respondents are males and the average age of the household head (financial respondent) is 64.93. Approximately 94 per cent of the couples are married.

We draw most of our data on personality traits from Wave 7, which asked questions on the so-called Big Five (extraversion, agreeableness, consciousness,

neuroticism and openness) for the first time. Our set of personality traits includes also a measure of risk aversion that is available for SHARE interviewees – although only at the entry wave – who were asked to state the amount of risk that they are willing to take when they save or make investments.

Table 4.1 shows the correlation between partners' personality traits: all correlation coefficients are positive and statistically significant at the 1 per cent level, with values ranging from 0.11 for neuroticism to 0.44 for risk aversion. See, for instance, Bacon et al. (2014) on assortative mating and risk attitude.

**Table 4.1:** Correlation coefficients among partners' personality traits.

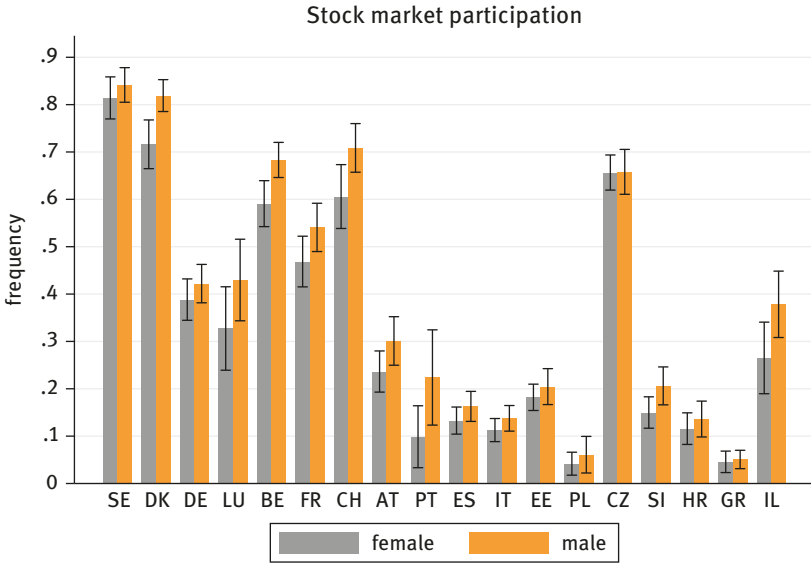
Personality traits	Correlation between spouses' personality traits
Extraversion	0.12
Agreeableness	0.23
Consciousness	0.25
Neuroticism	0.11
Openness	0.28
Risk aversion	0.44

**Note:** N = 11,976.

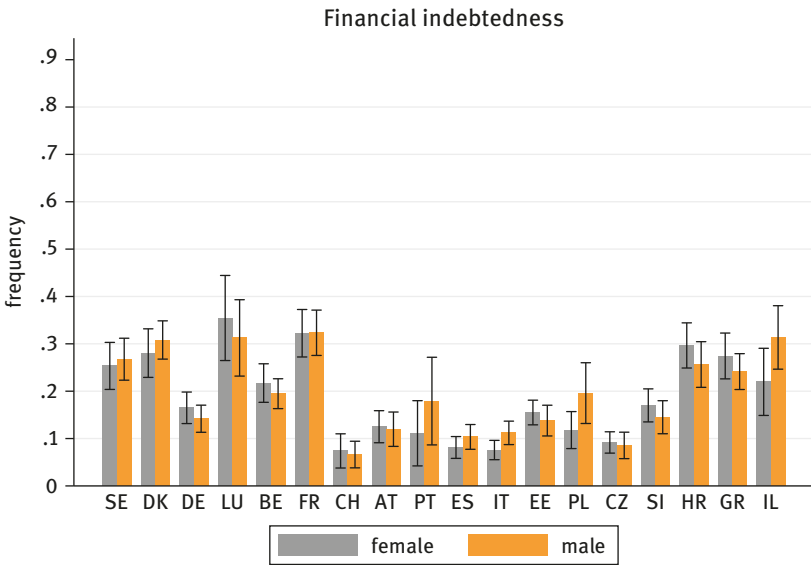
**Source:** SHARE Wave 7 release 0 (for risk aversion also Wave 4, Wave 5, Wave 6 release 6.1.1)

We obtain our outcomes from Wave 6. We investigate two main financial behaviours: participating in the stock market and having or not having financial liabilities. Stock market participation is interesting because it is considered a suitable measure of the individual propensity to take financial risks. We define stock market participation as investing in stocks, mutual funds and/or individual retirement accounts (see Bucciol and Zarri, 2017). Differently, the presence of financial liabilities can be considered a risk factor for financial distress. A better understanding of the individual traits that increase the likelihood of going through financial distress in old age may well be relevant from a policy perspective.

Figures 4.1 and 4.2 show the fractions of households that participate in the stock market and have financial liabilities across countries and distinguishes between couples with a male or female financial respondent. The percentage of couples that invest in stocks, mutual funds or individual retirement



**Figure 4.1:** Stock market participation across SHARE countries. N = 11,976.  
**Source:** Wave 6 release 6.1.1.



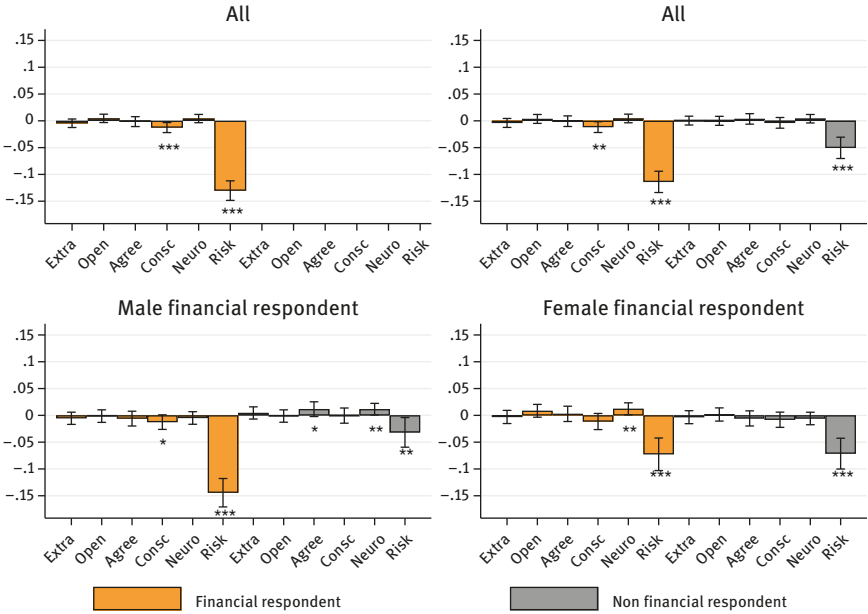
**Figure 4.2:** Frequency of financial indebtedness across SHARE countries. N=11,976.  
**Source:** Wave 6 release 6.1.1.

accounts varies significantly across countries, with Sweden and Denmark being countries in which stocks market participation is most common, with Greece and Poland the least. Additionally, in all countries, stock market participation turns out to be higher among couples with a male financial head relative to households with a female financial respondent. Noticeably, a lower variation can be observed for the frequency of financial indebtedness. In that case, no systematic difference between households with a male or a female financial respondent can be observed.

### 4.3 Empirical specification and results

We use a linear probability model to estimate the association between stock market participation/financial indebtedness and partners' personality traits. In doing so, we distinguish between the personality traits of the financial respondent and those of the non-financial respondent. Our list of control variables for both financial and non-financial respondents includes gender, age, age squared, education, employment status, self-reported health and numeracy. Additional household controls are household size, total net wealth and total net yearly income.

Figure 4.3 shows the results obtained from this exercise when the outcome is a dummy that takes the value of 1 if the couple has invested in stocks, mutual funds and/or individual retirement accounts and 0 otherwise. The top-left panel shows the estimates obtained from a specification that controls only for the financial respondent's characteristics. The top-right panel adds the personality traits and other individual controls of the non-financial respondents. The bottom panel of Figure 4.3 restricts the sample to male (left panel) and female (right panel) financial respondents, respectively. A focus on the financial respondent (Figure 4.3 top-left and top-right) shows that the personality traits that matter for stock market participation are consciousness and risk aversion, and both are negatively correlated with the outcome. Switching from a consciousness level of 1 (minimum) to a level of 5 (maximum) decreases, *ceteris paribus*, the probability of investing in stocks, mutual funds or individual retirement accounts by approximately 4.8 percentage points (Figure 4.3 top-right). The change associated with a switch from willingness to unwillingness to take any financial risk is larger in magnitude (12 %). Additionally, consciousness seems to matter only (and risk aversion matters more) for male financial respondents (Figure 4.3 bottom panels). Interestingly, a positive significant association between neuroticism and stock market participation is observed for



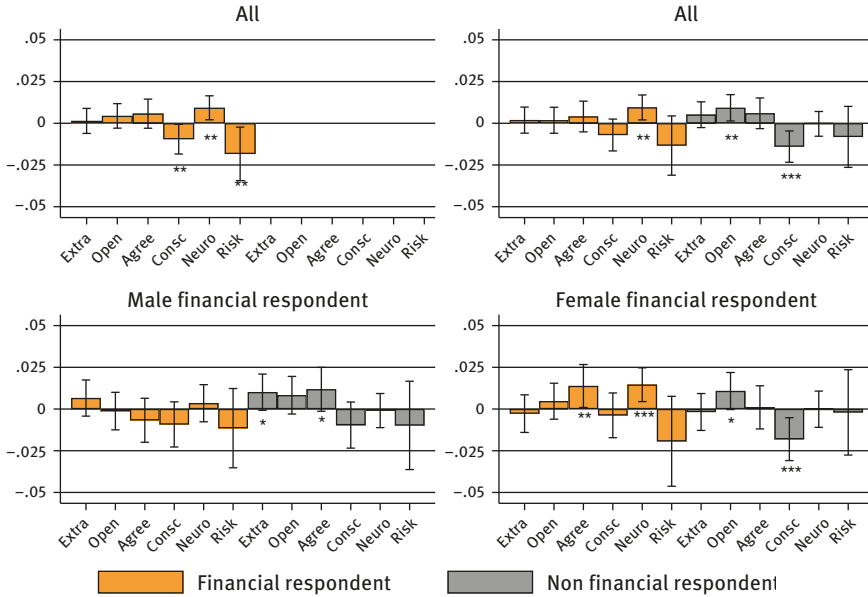
**Figure 4.3:** Linear probability model estimates. Outcome: respondent and partner have invested in stocks, individual retirement accounts and/or mutual funds (AS section, items AS063, AS064 and AS065).

**Note:** N = 11,976 in the top-left panel; N = 11,059 in the top-right panel; N = 5,691 in the bottom-left panel; N = 5,368 in the bottom-right panel. Individual controls for financial and non-financial respondents include gender, age, age squared, education, employment status, self-reported health and numeracy. Household controls include household size, total net wealth and total net yearly income. Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

**Source:** SHARE Wave 6 release 6.1.1, Wave 7 release 0.

female financial respondents. Regarding the non-financial respondent, risk aversion again matters, although to a lesser extent, and agreeableness and neuroticism are positively and significantly (though at the margin) associated with the outcome for female non-financial respondents. Financial respondent's education is positively and significantly correlated with the outcome across all specifications, except for the one that restricts the sample to female financial respondents: in this case, the partner's numeracy attracts a positive and significant coefficient.

Figure 4.4 shows the results obtained for the likelihood of financial indebtedness. Focusing on the financial respondent, our results suggest that a couple



**Figure 4.4:** Linear probability model estimates. Outcome: respondent and partner have financial liabilities (AS section, item AS054).

**Note:** N = 11,976 in the top-left panel; N = 11,059 in the top-right panel; N = 5,691 in the bottom-left panel; N = 5,368 in the bottom-right panel. Individual controls for financial and non-financial respondents include gender, age, age squared, education, employment status, self-reported health and numeracy. Household controls include household size, total net wealth and total net yearly income. Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

**Source:** SHARE Wave 6 release 6.1.1, Wave 7 release 0.

is more likely to incur financial liabilities if, holding other factors fixed, the household head is a female with a relatively high degree of agreeableness and/or neuroticism. Regarding the non-financial respondent, openness and conscientiousness attract significant coefficients (one positive, the other one negative) for males, whereas extraversion and agreeableness are positively and significantly associated – although marginally – with the outcome when the non-financial respondent is a woman. Financial indebtedness is more likely among (non-female) financial respondents with a high education or low numeracy skills. A partner's numeracy skills contribute to decreasing the likelihood of financial indebtedness because they are negatively associated with the outcome.

## 4.4 Conclusions

This chapter has investigated the association between financial decisions and partners' personality traits in late adulthood. The research question is relevant in light of the urgency of better addressing households' financial investments via public policy interventions and incentives to invest in education and financial literacy.

Our results suggest that some personality traits of the financial household head, namely, consciousness, risk aversion and neuroticism, are significantly associated with the proneness to participate in the stock market. The effect of risk aversion is reduced or even absent when the outcome of interest is the likelihood of having financial liabilities. In that case, whenever the financial household head is a female, her degree of agreeableness and neuroticism are positively associated with indebtedness proneness, and openness and consciousness of the (male) partner also attract significant coefficients.

Overall, our results suggest that considering non-cognitive skills is important in studying individual attitudes towards financial risk. Additionally, finding evidence that both partners' personality matters on top of education and numeracy is of potential policy relevance from the perspective of better addressing policy interventions that aim to increase financial literacy, especially among the adult and elderly population.

## References

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