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by Marianna Brunetti, Rocco Ciciretti, Monica Gentile, Nadia Linciano and Paola Soccorso

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CEFIN – Centro Studi di Banca e Finanza www.cefin.unimore.it
Dipartimento di Economia Marco Biagi – Università di Modena e Reggio Emilia
Viale Jacopo Berengario 51, 41121 MODENA (Italy) tel. 39-059.2056711
(Centralino) fax 39-059 205 6927

Attitude towards financial planning of Italian households

M. Brunetti, R. Ciciretti**, M. Gentile***, N. Linciano***, P. Soccorso****

Abstract

Employing structured financial planning to manage personal finances on is associated with higher levels of financial well-being and increased ability to react to shocks. Therefore, it is important to understand the factors associated with the propensity to plan and what it is that promotes financial planning. Our empirical evidence for a sample of Italian households shows a poor inclination for financial planning. CONSOB Survey data on the financial investments made by of Italian household (or FIIH) are used to estimate a probit model which shows a positive association between financial planning and financial knowledge, and the relevance of personal traits such as financial anxiety and financial self-efficacy, financial control (control over savings, spending and indebtedness) and financial conditions. The findings provide useful insights for financial decision-makers in the context of financial education initiatives and client-intermediary relationship aimed at promoting appropriate attitudes and choices towards managing money.

JEL Classifications: D14, G51, G53, C21, C51.

Keywords: financial planning, budgeting, household finance, financial control, financial self-efficacy, financial literacy, financial knowledge.

1. Introduction

Theoretical and empirical research shows that financial planning and virtuous personal finance management habits help to reduce expenses and smooth consumption, ensuring a better standard of living along the life-cycle and enhanced financial resilience. These benefits are increasingly relevant in the current context of an ageing population and economic and geopolitical uncertainty.

The progressive ageing of the population has been a characteristic of the European Union countries: in the EU-28 countries, the median age has risen from 40 years in 2007 to around 44 years in 2021, and the proportion of individuals aged 65 and over is estimated to reach 22% in 2025. The Italian population is relatively older than the populations in other EU countries: in 2021, the median age in Italy was around 48 years, while the share of people aged over 65 is expected to reach 25% by 2025. In line with these demographic dynamics, at the beginning of 2021 in Italy the dependency rate of individuals aged 65 and over on the working-age population (15-64) reached 37%, around 5 percentage points higher than the Eurozone value.[1]

In this context, the saving capacity of individuals and their ability to save for retirement or for a 'rainy day', constitute strictly necessary skills for household financial well-being - and financial stability more generally. Also, higher life expectancy and the resulting longevity risk, combined with vulnerability and uncertainty, make the ability to participate in proper financial planning activities increasingly important, to allow transfers of resources over time, maintenance of the same living standards during retirement as were enjoyed during working life, and enhanced financial resilience to economic shocks.

The 2021 CONSOB (Commissione Nazionale per le Società e la Borsa) Observatory survey report on 'The approach to finance and investment of Italian households' (alternatively 'the CONSOB Observatory' or 'the Survey') shows that more than 70% of Italian financial decision makers declared that they (either regularly or occasionally) saved.[2] However,

1 Eurostat 'Population structure and ageing', 2021. The ageing population attracted the attention of many policy makers including the European Commission which in 2018 published a Report on the so-called silver economy, aimed at identifying the strategies that member countries can put in place to address the challenges posed by an increasingly ageing population (European Commission, 2018).

2 The CONSOB Observatory on 'The approach to finance and investment of Italian households' collects survey data. The main findings of the Observatory are presented in the annual Report on financial investments of Italian households (CONSOB, 2021). The survey is representative of the population of Italian financial decision-makers, defined as the primary family income earner (or in the case of non-working male and female households, the oldest man or in all female households the oldest woman), aged between 18 and 74 years. Since 2019, the survey has included a longitudinal component (panel) to track the evolution of respondents' financial attitudes and behaviours over time.

in line with previous surveys, the 2021 data confirm that most respondents had no financial plan in place and did not live within their financial budget at all times (only around 10% reported both habits). Precautionary saving is the main driver of saving, although the percentage of people who stated that they did not have a particular reason for saving has increased significantly, often as a result of reduced ability to consume due to the Covid-19 restrictions.[3]

This and other evidence gathered through the Survey, confirm that the health crisis had an impact on Italian households' ability to save and the reasons for saving, and point to the need to investigate the determinants of financial planning in order to identify what incentives could be implemented to help savers in their decision making and allow them to exploit all of the benefits associated with a well-structured financial control process.

The present study relies on probit estimates based on CONSOB Observatory survey data to measure the association between financial planning habits and several other factors, including socio-demographic variables, actual and perceived financial knowledge, financial control habits, personal traits and psychological attitudes.

The results show that there is a positive association between financial planning and financial knowledge (actual and perceived). Emotional factors and self-perceptions, such as self-efficacy and financial anxiety, also play a role and have a negative effect on the probability to have a financial plan. In particular, financial decision-makers, who consider it straightforward to identify a solution to a financial problem, and respondents who prefer not to think about their particular financial conditions, are less likely to have in place a financial plan. Also relevant are financial control habits and financial conditions: financial decision makers who are in debt, wealthy individuals, individuals who prefer to stick to a budget and individuals who save regularly are more likely to set financial plans.

This study adds to the literature on household finance and financial control. The findings from our analysis could be of interest to both institutions engaged in financial education programmes and practitioners concerned with money management. The findings discussed

3 The predominance of the precautionary motive reflects the hierarchy of needs represented by Maslow's pyramid, which identifies 6 different levels from the most basic to the most complex (Lee and Hanna, 2015). Purchase of durable goods is the lowest level and corresponds to the most basic saving needs; house purchase and saving to cope with unforeseen events belong to the 2nd level of the hierarchy (emergency/safety motives), financial security and physical safety and saving for retirement belong to the 3rd level and reflect the desire to avoid financial difficulties after retirement (retirement motive). The 4th level (love/societal needs goal) includes savings for specific family or child care expenses while the 5th level includes 'enjoying life' (e.g., purchase of a second home, purchase of a car/boat, travel). The 6th level (esteem/luxuries) is associated with achievement of self-esteem, and saving for self-actualisation linked to the effort to achieve one's full potential in life (self-actualisation).

above provide food for thought in relation to a segmentation of the population targeted by financial education initiatives and the policies and methods implemented to encourage appropriate financial attitudes and behaviours.

The rest of the paper is structured as follows: Section 2 provides a review of the literature on the determinants of financial planning; Sections 3 and 4 describe the data and the methodological approach, and present the descriptive statistics of the estimation sample, respectively; Section 5 presents the main results and Section 6 concludes the paper.

2. Review of the literature

Financial planning refers to the activity of organizing the allocation of income across expected expenditures and savings, over a certain period of time, as part of a defined plan. In line with the Financial competence framework for adults in the European Union (or the Framework), a financial planning process involves identifying and prioritising 'needs' and 'wants' and controlling money in-flows and out-flows. It relies on «*competences related to both saving and investments, and credit and debt management*» (European Union/OECD, 2022, p. 9).

Theoretical and empirical studies suggest that the main potential benefits stemming from financial planning include: reducing expenses and smoothing consumption and, thereby, ensuring a better standard of living along the life-cycle, increasing savings, reducing over-indebtedness and enhancing financial resilience (see among others Anderson et al., 2000; Elder and Rudolph, 1999; Hanna and Lindamood, 2010; van Rooij et al., 2012; Warschauer, 2008; Williams, 1991). Ameriks et al. (2003) found that individuals with a higher propensity to plan were better able to control their spending, to save more and to achieve their financial goals. More generally, several studies show that financial planning is correlated positively with healthy financial behaviours (Strömbäck et al., 2017; Topa et al., 2018). Also, Kim and Hanna (2017) argue that the ability to save increases with the adoption of one or more rules of behaviour, while the mere setting of a saving target (e.g., for retirement purposes) may not be a sufficient incentive to save.

Financial planning research uses a range of conceptual frameworks, such as the Life Cycle Hypothesis (Modigliani and Brumberg, 1954), Modern Portfolio Theory (Markowitz, 1952) and Behavioural Finance Theory and Prospect Theory (Tversky and Kahneman, 1973, 1975; see also Acharjya and Natarajan, 2018 and Bogan et al., 2020). Bogan et al. (2020)

identify eight interrelated fields informing financial planning: behavioural finance; consumer financial decision-making; consumer protection, policy, and regulation; financial therapy, literacy, and wellness; household finance; human sciences; portfolio choice; and psychology and human decision-making. Traditional theoretical models of financial decision making, suppose rational agents optimizing utility over time whereas most recent behavioural finance studies recognise that financial choices are affected by a number of cognitive and behavioural biases and emotional factors. Empirical analysis allows the identification of commonalities in the factors underpinning financial planning, such as the role of financial literacy, personal traits and socio-demographics. We refer to these factors briefly in the following paragraphs.

The role of financial literacy

Financial literacy can be defined as «*a combination of financial awareness, knowledge, skills, attitudes and behaviours necessary to make sound financial decisions and ultimately achieve individual financial well-being*» (European Union/OECD, 2022, p.71). A large stream of the empirical literature suggests that individual choices about savings, loans, investments, insurance and pensions are driven not only by financial knowledge but also by a larger set of skills and awareness, such as an understanding of the long-term consequences of current choices (Lusardi and Mitchell, 2007, 2011b; Nye and Hillyard, 2013).

Financial knowledge promotes saving planning and, consequently, the accumulation of wealth (Behrman et al., 2012; Hilgert et al., 2003). Yakoboski et al. (2019) point out that decision makers with higher levels of financial knowledge are more able to manage financial shocks and to save for retirement on a regular basis, and are less likely to be debt constrained. Other studies highlight the relevance of adequate financial knowledge for pursuing and achieving financial goals through appropriate saving choices (Lusardi, 2008; van Rooij et al., 2012), postponing present satisfaction for future results (Brounen et al., 2016) and planning for retirement (Lusardi and Mitchell, 2007, 2008, 2011b). Alhenawia and Elkhalb (2013) find a positive, albeit small correlation between knowledge and financial planning.

Financial choices are affected by both actual and perceived financial knowledge, since individuals often make decisions based on what they believe they know (Hung et al., 2009; Robb and Woodyard, 2011). Several studies show that taking account of self-assessed financial knowledge provides a deeper understanding of observed behaviours. Allgood and

Walstad (2016) estimated the effects of both actual and perceived financial knowledge and show that the latter helps to explain some decisions, such as those regarding credit card management. The authors assume that a positive self-assessment may be driven by an interest in personal finance topics, an individual positive attitude and the perception of self-control, that is, the perception of being able to cope with a specific financial situation.

The impact of an upward bias in self-assessed knowledge and skills is a highly debated issue. Although many studies show that overvaluation of personal 'skills might induce suboptimal investment choices (Barber and Odean, 2001; Biais et al., 2005; Brohianne et al., 2014; Glaser and Weber, 2007; Nosic and Weber, 2010), some authors find a positive correlation between over-confidence and the propensity to plan and save (Parker, et al., 2012). This a somewhat surprising result since, as the level of financial literacy contributes to competence in decision making, it might be expected that correct financial behaviours, such as planning, would be associated to a self-assessment that is in line with the actual degree of financial literacy.

Anderson et al. (2015) point to a learning-by-doing effect, whereby a favourable self-assessment of one's abilities induces engagement in one's financial decisions, which, in turn, increases both actual and perceived knowledge. These results underline the need to identify and correct for endogeneity and reverse causality in analyses of the relationship between literacy and financial choices (such as planning).

The role of personal traits

In addition to financial knowledge, psychological traits have an important influence on financial decisions, attitudes and behaviours.

The seminal paper by Katona (1974) published in the *Journal of Consumer Research* was the first to acknowledge the relevance of psychological factors for shaping consumption plans and observed spending, saving, and wealth accumulation. Subsequent analyses show that psychological traits are powerful predictors of economic outcomes (Borghans et al., 2008; Brounen et al., 2016).

The ability to structure a decision-making process oriented to multiple financial goals with different priorities and time frames, requires complex reasoning and problem analysing (or deliberate thinking) skills. It can be affected, also, by utility preferences and attitudes to risk.

Stewart and Vogt (1999) explored the role of subjective preferences and argue that people may differ about whether or not they like planning and experience positive associations - such as competence and security- or negative associations - such as lack of spontaneity. Ameriks et al. (2003) consider that, while more risk averse people might receive greater utility from planning, individuals operating in unpredictable environments may find improvisation rather than planning more beneficial. On the other hand, Chatterjee et al. (2017) shows that tolerance to risk explains the propensity to save for emergencies or retirement.

However, households with similar economic and demographic characteristics accumulate radically different amounts of wealth and these differences cannot be explained empirically by observed differences in risk preferences and discount factors. Therefore, we need to explore the role of attitudes and skills underlying the propensity to plan, which, in turn, may explain differential wealth accumulation patterns (Ameriks et al., 2003).

The choice to plan may result from a rational response to subjective preferences or from psychological biases and personal attitudes (Dow and Jin, 2013), such as short-termism, inclination to procrastinate or financial anxiety. All these factors might be interacting over time and might have unpredictable and heterogeneous effects on financial decisions.

Empirical research shows that attitude towards procrastination, perceived self-control and the propensity for deliberate thinking are important predictors of financial behaviour (Gamst-Klaussen et al., 2019; Strömbäck et al., 2017). Several authors provide evidence of a positive association between poor personal finances and impulsivity and reduced appreciation of the long-term consequences of current choices (Gamst-Klaussen et al., 2019; Steel, 2007, 2010).

Steel (2007) and Steel et al. (2018) show that procrastination (i.e., voluntary delaying of an intended course of action despite the probability of a worse outcome due to the delay) is associated strongly with impulsivity and present-bias preferences. Impulsive individuals are often poor or absent planners and planning shows a moderate and negative correlation with procrastination. Brown and Previtero (2014) demonstrate that, in the context of important financial decisions, related to retirement planning, for instance, procrastinators

behave differently from non-procrastinators and are less likely to participate in saving plans and to save a fixed sum every month. Sekita et al. (2018) show that myopia has a negative impact on wealth accumulation.

Several papers explore the disempowering impact of various perceptions and emotions on the ability to manage financial resources effectively, through a well-structured planning activity, such as self-efficacy,[4] self-control and financial anxiety (Burchell, 2003; Grable et al., 2015; Kim and Hanna, 2017; Shapiro and Burchell, 2012; Shefrin and Thaler, 1981).

Shim et al. (2009) and others have suggested that there is an important link between self-efficacy and financial knowledge and financial behaviour. Lown et al. (2015) highlight the relevance of financial self-efficacy for household saving choices. Gamst-Klaussen et al. (2019) argue that self-efficacy reflects the ability and, in turn, may affect the motivation to save, since those individuals who consider themselves as ineffective will be more likely to quit or reduce efforts when faced with financial challenges or obstacles and, thus, are likely to be more prone to unhealthy financial behaviours such as impulse buying. In line with empirical research on the negative relationship between lack of self-control and accumulation of wealth (Ameriks et al., 2003; Ameriks et al., 2007), Gathergood (2012) found that individuals with low self-control and poor financial literacy were more likely to suffer adverse financial shocks and suggested that their impulsive behaviour might affect several dimensions of their economic choices - from consumption and saving to over-indebtedness. Since self-efficacy reflects an optimistic belief in personal ability to succeed, it is correlated strongly with self-assessment of personal skills and self-motivation and, thus, may encourage people to actively control their finances (Gamst-Klaussen et al., 2019).[5]

The findings in Gamst-Klaussen et al. (2019) suggest the interplay among different dimensions of individual self-control and possible interactions between self-efficacy and motivation on the one side and procrastination and financial anxiety on the other.

4 Self-efficacy can be defined as the individual's belief in her/his ability to succeed at specific tasks (Bandura, 1977, 1986 and 1997). Self-efficacy expresses the perception of difficulties, challenges, confidence and fears in dealing adequately with financial problems (Lown, 2011) and, in this sense, interplays with the degree of awareness about one's own knowledge.

5 These results are consistent with the Theory of Planned Behaviour (TPB), according to which intentions are the precursors of a specific behaviour. Indeed, intentions depend on attitudes (i.e., one's personal overall evaluation of the behaviour), social pressure (which feeds into social norms and motivation) and behavioural control (i.e., perception of one's ability to enact the behaviour). All these psychological constructs are underpinned by background variables, such as individual features (e.g., personality traits or experience), social features (e.g., education, age, gender and income) and information features (e.g., knowledge and media). In this framework, intention towards a specific behaviour can be boosted by interventions that affect attitudes, perceived social pressure and feelings of control (Billari et al., 2019).

There is a stream of literature that confirms that financial anxiety may reduce the propensity for planning (Grable et al., 2015; Burchell, 2003; Shapiro and Burchell, 2012), suggesting that financial anxiety may be intertwined with the feeling of avoidance (i.e., the will to avoid thinking about the state of one's own personal finance) and disengagement (i.e., lack of commitment to managing personal finances). However, the impact of financial anxiety on attitudes to financial planning is an open question. In principle, it might also be positive if more anxious individuals were able to mitigate their discomfort by planning, which would enhance their resilience to financial shocks.

The role of socio-demographic factors

Among the socio-demographic factors considered by Becker and Mulligan (1997), life expectancy and age are shown to be poor predictors of a good attitude to planning, while sex, education and wealth can have a significant impact. In the specific context of retirement planning, Lusardi and Mitchell (2007) confirm that women and low-income and poorly educated individuals are less likely to plan. In a follow-up study conducted in 2008, the authors provide further evidence of women's lower propensity to engage in retirement planning, especially in the older-age subgroup. Similar evidence on attitudes to retirement planning and the link to education level and income has been documented for Italy (Fornero and Monticone, 2011), France (Arrondel et al., 2013), Russia (Klapper and Panos, 2011), the United States (Lusardi and Mitchell, 2011b) and Canada (Boisclair et al., 2014).

The direction of the relationship between financial planning and wealth accumulation is not clear a priori. On the one hand, it might be assumed that poor households would be more likely to focus on meeting their immediate financial needs and, thus, not engage in financial planning. On the other hand, a well-directed planning process might benefit poor individuals (Dow and Jin, 2013). Also, individuals who are more future-oriented are more likely to save and invest, which will result in their greater wealth over time (Ameriks et al., 2003).[6]

6 In order to identify the impact of wealth on planning, the authors use instruments for planning to isolate the impact of exogenous shocks of planning on wealth.

3. The sample and construction of the key variables

The CONSOB survey collects data for a representative sample of the population of Italian financial decision-makers.[7] Since 2019, the survey has included a longitudinal component (*panel*) to track the evolution of respondents' financial attitudes and behaviours over time. The survey asks about individuals' financial control habits in terms of financial planning, budgeting and saving.

In the context of 'financial planning', respondents are asked about the existence of a financial plan 'in the previous 12 months, in the previous 3 years, in the previous 5 years, for more than 5 years'. For our study, we consider only those individuals with a financial plan in place as those reporting having a financial plan in place for the previous 12 months. Considering the activity over such a short time span allows detection of changes in respondents' behaviour from one year to another.[8]

For the other variables describing financial control, 'budgeting' is defined as indicating absolute sticking to a budget, and 'saving' is defined as regular setting aside of part of the respondent's income. The survey also asks about indebtedness - towards both banks and financial intermediaries and relatives and friends (See Appendix Table A1 for more a description of the variables).

Table 1 reports the descriptive statistics for the above-mentioned variables.

Table 1 – Average values by year

variable	2019	2020	2021	all years
financial planning (previous 12 months)	8%	10%	6%	8%
budgeting	25%	21%	21%	22%
saving	37%	39%	37%	38%
indebtedness towards banks	39%	41%	40%	39%
indebtedness towards relatives and friends	8%	9%	9%	8%
n° observations	2,920	3,089	2,695	8,704

Source: authors' elaborations on CONSOB Observatory on 'The approach to finance and investment of Italian households'. Statistics computed by applying sample weights. Table 1 reports rates of diffusion as percentages.

7 The financial decision maker is defined as the primary family income earner (or the most senior man, when nobody works, or the most senior woman, when there are no male family members), aged between 18 and 74.DO YOU NEED THIS FOOTNOTE AGAIN – IF SO THEN CORRECT AS I DID BEFORE BUT I WOULD HAVE THOUGHT IT COULD BE DELETED OR AT LEAST THE FOOTNOTE COULD SAY : See fn ????

8 However, if we take account of those who report having financial planning in place for more than 12 months, the results do not change significantly (results available upon request).

From 2019 to 2021, the proportion of interviewees who stated having had a financial plan in place during the previous 12 months peaked in 2020 (10%) and then declined significantly in 2021 (6%). The proportion of respondents declaring themselves able to stick to a budget shows a decline over time, from 25% in 2019 to 21% in 2021, but attitudes to saving have remained stable. Indebtedness to banks and financial institutions has increased (3-year average of 40%) more than indebtedness to relatives and friends (8%).

Financial knowledge is measured through five- question quiz about the basic notions of inflation, compound interest, mortgages, diversification and the risk-return relationship (the so called big-five).[9] The responses were used to compute two financial knowledge indicators. The first is the first principal component computed on the correct answers to the financial knowledge quiz, normalised between zero and 1 (*financial indicator*). The second is the first principal component computed on the correct answers, net of potentially unintentional correct answers, where the latter are identified whenever interviewees did not know or refused to self-assess the number of correct answers given to the quiz (hereafter also *adjusted financial knowledge indicator*).

The responses to the Survey questions allow us to proxy individual perceived financial knowledge and overconfidence. The first is measured as the share of financial items respondents declared being familiar with before responding to the quiz questions (ex-ante self-assessment).[10] Similarly, ex-post self-assessment is evaluated based on the respondents' opinions about the number of correct answers given to the financial knowledge questions. The dummy overconfidence is equal to 1 if the ex-post assessed number of correct answers to the financial knowledge quiz is greater than the actual number of correct answers.[11]

Table 2 – Actual and perceived financial knowledge: survey questions

variable	questions
financial knowledge (*FK*)	Financial knowledge is the first principal component computed on the correct answers given to the following questions: (Q1) Please tell me whether the following statement is true or false: When investments offer higher rates of return, they are probably riskier than investments offering lower rates of return; answer options: 1. True; 2. False; 3. Don't know; 4. Refusal;

9 Lusardi and Mitchell (2008); Lusardi and Mitchell (2009); Lusardi and Mitchell (2011a); Lusardi and Mitchell (2014); Lusardi et al. (2010); van Rooij et al. (2011).

10 In the model *perceived financial knowledge* is expressed in quintiles, since this allows the variable to be homogeneous across different surveys since the number of questions on financial knowledge was 7 in 2019 and 5 in 2020 and 2021.

11 Broihanne et al. (2014).

	(Q2) Suppose the interest rate on your savings account was 1% per year, and inflation 2% per year. After one year, with the money you have on the savings account you would be able to buy…; answer options: 1. More than today; 2. Exactly the same as today; 3. Less than today; 4. Don't know; 5. Refusal; (Q3) Suppose you had €100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?; answer options: 1. More than €102; 2. Exactly €102; 3. Less than €102; 4. Don't know; 5. Refusal; (Q4) A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less. True or false?; answer options: 1. True; 2. False; 3. Don't know; 4. Refusal; (Q5) When an investor decides to buy different financial instrument, the risk of losing the invested capital…; answer options: 1. Grows; 2. Decreases; 3. Remains the same; 4. Don't know; 5. Refusal. In 2019 only, the additional following questions were also asked: (Q6) The spread between Italian and German Government bonds is set by …; answer options: 1. The European Commission; 2. The bank selling government bonds; 3. The Italian state; 4. Depends on how risky it is to invest in Italian Government bonds; 5. Don't know; 6. Refusal'; (Q7) If the interest rate falls, what should happen to bond prices?; answer options: 1. Rise; 2. Fall; 3. Stay the same; 4. None of the above; 5. Don't know; 6. Refusal.
perceived financial knowledge (*PFK*),	Perceived financial knowledge is measured by means of the quintiles of the sample distribution of the number of financial items that respondents reported heard about and understood before engaging in the financial knowledge quiz.
overconfidence/underconfidence (*OC/UC*)	The over/underconfidence indicators are based on the difference between the number of the correct answers given to financial knowledge questions (Q1)-(Q5) and those assessed ex-post (i.e., after answering the financial knowledge quiz). Underconfidence takes the value 1 if the difference between the number of the correct answers as assessed ex-post and the actual number of correct answers is negative, and 0 otherwise. Overconfidence takes the value 1 if the difference is positive, and 0 otherwise.

Table 3 reports the descriptive statistics for actual and perceived financial knowledge.[12]

Table 3 – Financial-knowledge related variables: average values by year

variable	2019	2020	2021	all years
financial knowledge indicator	0.42	0.48	0.48	0.46
adjusted financial knowledge indicator	0.30	0.35	0.39	0.35
overconfidence	28%	23%	22%	24%
underconfidence	16%	15%	19%	17%
n° observations	2,920	3,089	2,695	8,704

Source: authors' elaboration of CONSOB Observatory on 'The approach to finance and investment of Italian households'. Statistics computed on the sample weights. Table 3 reports average values for the financial knowledge indicator and adjusted financial knowledge indicator and the proportions for the overconfidence and underconfidence indicators.

The level of financial knowledge is quite low. The three-year mean value of the first principal component indicator is slightly less than 0.5 and falls to 0.35 if computed on the adjusted answers. However, in both cases the indicators show a slight increase over the period 2019–2021.

The proportions of respondents that can be regarded as overconfident and underconfident respectively are 24% and 17% in the three-year pooled sample. Over the time span considered, overconfidence fell down by 6 basis points from 28% to 22%, while underconfidence grew slightly from 16% to 19%.

Personal traits include financial anxiety, self-efficacy, risk aversion and trust in financial advisors, measured by the questions reported in Table 4.[13]

Table 4 – Personal traits: survey questions

variable	survey question
financial anxiety	Respondents are asked to state their opinion on the following statements: 'Thinking about my personal finances can make me feel anxious (anxiety); There's little point in saving money, because you could lose it all through no fault of your own (helplessness); I prefer not to think about the state of my personal finances (avoidance); I find monitoring my bank or credit card accounts very boring (boredom); I would rather someone else who I trusted kept my finance organised (unburdening); discussing my finances can make my heart race or make me feel

12 On average, PFK belongs to the third quintile which corresponds to self-declared familiarity with approximately 40% of the financial knowledge items.

13 An additional personal trait that might affect financial planning is attitude to procrastination (Lay, 1986). In our case, this was surveyed only in the 2019 and 2020 waves and is not comparable across waves since the questions differed. However, in Section 5, we describe some empirical investigations.

	stressed (stress); I get myself into situations where I do not know where I'm going to get the money to 'bail' myself out (hopelessness); I don't make a big effort to understand my finances (disengagement); Thinking about my personal finances can make me feel guilty (guiltiness)'. Single answers are given on a 5-point Likert scale, from 1 – 'strongly disagree' to 5 – 'strongly agree'. For references see: Burchell (2003), Grable et al., (2015), Shapiro and Burchell (2012).
self-efficacy	Respondents were asked to state their opinions about the following statements: 'It is easy to stick to my spending plan when unexpected expenses arise; It is easy to reach my financial goals; When unexpected expenses occur I usually have to use credit; When faced with a financial challenge, I have an easy time figuring out a solution; I lack confidence in my ability to manage my finances; I worry about running out of money in retirement'. Single answers are given on 4-point Likert scale, from 1 – 'totally true' to 4 – 'totally false'. For references see: Lown (2011).
risk aversion	Respondents were asked to choose which, among the following, best described their preferred investment profile: 1) low return and low risk; 2) moderate return and moderate risk; 3) high return and high risk; 4) very high return and very high risk. For reference see: Guiso et al. (2018).
trust in financial advisors[14]	The financial trust variable counts the number of financial actors considered either 'trustworthy' or 'absolutely trustworthy' among the following: 'banks' (or 'my bank'), 'financial advisors' (or 'my financial advisor' or 'independent advisors') and 'insurance companies' (or 'my insurance company'). 'High financial trust' is an indicator that takes the value 1 if Financial Trust variable is higher than the sample median.

For estimation purposes, the variable 'financial anxiety' is defined as an indicator based on the principal component analysis of the answers to the question reported in Table 4, normalised between zero and 1. We also used three sub-indicators (see Appendix Table A.1 for more details), that is, 1-5 Likert scale variables based respectively on the items identified as 'avoidance' ('I prefer not to think about the state of my personal finances'), and 'boredom' ('I find monitoring my bank or credit card accounts very boring'), 'guilt' ('thinking about my personal finances can make me feel guilty'). These sub-indicators were selected following analysis of the principal component factor loadings and their economic meaning.

The variable 'self-efficacy' is computed based on principal component analysis of the responses to the question reported in Table 4, normalised between zero and 1. We also used two sub-indicators (see Appendix Table A1 for more details), that is, 1-4 scale variables,

14 'Financial advisors' refer to either investment advisors or bank staff or portfolio managers. The models were estimated also considering trust in the financial system, but the results were not significantly different.

measuring respectively perceived easiness of achieving goals ('it is easy to reach my financial goals') and perceived easiness of solving problems ('when faced with a financial challenge, I have an easy time figuring out a solution'). As before, these sub-indicators were selected following analysis of the principal component factor loadings and their economic meaning.

'Risk aversion' is a dummy that equal to 1 if the respondent declares preference for investment with low/moderate risk and low/moderate returns.

'Trust in financial advisors' is a dummy variable that is equal to 1 if the respondent declares trust in financial advisors.

Table 5 report the descriptive statistics of the personal traits variables.

Table 5 – Personal-trait related variables: average values by year

variable	2019	2020	2021	all years
financial anxiety indicator	0.41	0.38	0.34	0.37
self-efficacy indicator	0.57	0.56	0.55	0.56
self-efficacy - easy to reach goals	2	2	2	2
self-efficacy - easy to solve problems	3	3	3	3
financial anxiety - boredom	2	2	2	2
financial anxiety - avoidance	3	2	2	2
financial anxiety - guiltiness	2	2	2	2
risk aversion	39%	41%	38%	39%
trust in financial advisors	10%	11%	10%	10%
n° observations	2,920	3,089	2,695	8,704

Source: authors' elaboration of CONSOB Observatory on 'The approach to finance and investment of Italian households'. Statistics computed applying sample weights. Table 5 reports diffusion rates (%) for trust in financial advisors and risk aversion.

On average, the financial anxiety indicator shows a slight decline over time while the self-efficacy indicator is fairly stable. The proportion of respondents who can be regarded as risk averse remains at around 40%, and those showing trust in financial advisors remain at about 10%.

Among socio-demographic characteristics, on average, 73% of financial decision makers are men, 32% live in the South of Italy or the Islands, 20% have a bachelor's degree, 61% are married, and the average age is 52 years. In terms of professional status, 48% are employees and around 24% are retired. In addition, as expected, financial wealth distribution is left skewed, given that for 70% of respondents savings and investments amount to a

maximum of 25.000 euro. Indebtedness to banks or financial institutions affects 39% of respondents. Finally, the average household includes three family members.

Appendix Tables A.2 and A.3 respectively report the descriptive statistics of the waves, pooled over the three year-period 2019-2021 and the average values by year.

4. Model specification

Here, we explore the link between the propensity for financial planning, financial knowledge and personal traits. We specify the following probit model:

$$P(Y_{it} = 1) = \Phi(\beta_0 + \beta_1 FK_{it} + \beta_2 PFK_{it} + \beta_3 OC_{it} + [PT'_{it} * \eta] + [X'_{it} * \gamma] + \tau_t + \varepsilon_{it}) \quad (1)$$

where Y_{it} is a dummy variable that takes the value 1 if individual *i* in year *t (*with *t*= 2019, 2020, 2021) declares having had a financial plan in place during the previous 12 months and 0 otherwise. Φ is the cumulative normal distribution; τ_t are fixed effect and ε_{it} is the error term. The covariates of interest include: FK_{it}, which is the financial knowledge indicator, PFK_{it}, which is ex-ante perceived financial knowledge and OC_{it}, which is overconfidence.

The vector PT_{it} includes the personal-trait variables, namely: financial anxiety, financial self-efficacy, risk aversion, and trust in financial advisors. The vector X_{it} includes the control variables, that is:

- financial control dummy variables: saving (at least regularly), budgeting and indebtedness;

- socio-demographic variables: age (in linear and quadratic terms), gender, education (secondary school, high school, university degree, with primary school as reference category), marital status (cohabiting, married, divorced, widowed, with single the reference category), occupational status (self-employed, retired and non-professional status, that is, student, housewife, unemployed, with employee the reference category), dummy for monthly family income level in euro (with less than €900 the reference category)[15], dummy for level of financial wealth (family saving and investment amount expressed in euro, with less than

15 Missing data on family income are imputed by GfK Italia.

€6.000 the reference category)[16], and geographic area (Centre, and South and Islands, with North the reference category).

Based on the above model, we tested the following hypotheses.

The empirical evidence reviewed in Section 2 suggests a positive relationship between attitude to financial planning and (after checking for endogeneity) both actual and perceived financial knowledge (Hypothesis 1).

With regard to personal traits, we hypothesize a negative association between propensity for financial planning and financial anxiety (Hypothesis 2.1) and a positive association between financial planning and financial self-efficacy (Hypothesis 2.2). We expect the association with risk aversion to be ambiguous since it could lead individuals to plan to counteract the risks associated with financial shocks, but might, instead, promote feelings of anxiety and unease and, consequently, disengagement (Hypothesis 2.3). Finally, for the link with trust in financial advisors, we expect this to be positive since individuals trusting professionals will be more likely to request financial advice and show a greater propensity for planning to the extent that this is associated with a more structured decision-making process and/or reflects the orientation recommended by financial advisors (Hypothesis 2.4).

Planning is also expected to be linked positively to financial habits, such as being able to save regularly, to adhere to a budget and not to be indebted (Hypothesis 3).

4.1 Alternative model specifications

We estimated alternative specifications of model (1). First, *FK* is replaced by the adjusted FK indicators (*AFK*; model 2) and inclusion of the dummy *UC (Underconfidence),* which takes the value 1 if the number of correct answers to the financial knowledge quiz assessed *ex-post* is lower than the actual number of correct answers. Second, the indicators of financial self-efficacy and financial anxiety are replaced by dummies based on the subset of the items described in Section 3.

We also considered all the cross-sections pooled (see Section 5.1) and the individual cross-sections (see Section 5.2), whereby the latter track potential changes in the link between financial planning and the dependent variables, over time.

16 Real estate assets are excluded; missing data on financial wealth are imputed by GfK Italia.

Finally, we ran two robustness checks based on testing the linear probability models and inserting the lagged values of the financial knowledge indicator to overcome possible endogeneity problems (see Appendices A2 and A3).

In the case of all of the specifications, sample weights and robust standard errors were applied in the estimation process.

5. Estimation results

5.1 Pooled sample model specifications

Table 5 reports the marginal effects estimated for the different probit model specifications.

Financial planning attitude is correlated positively to financial knowledge (measured by both FK and AFK). Notably, in line with the literature, perceived knowledge, proxied by *ex-ante* self-assessed financial knowledge (PFK) and especially for the highest quintile, is associated positively with the probability to plan. The association for the misalignment between *ex-post* self-evaluation and actual knowledge appears less relevant, since overconfidence (OC) is significant in only one model specification and underconfidence (UC) is never significant. These results support Hypothesis 1.

With the exception of risk aversion (which is never significant), all the personal traits are significant in almost all the models. Specifically, both financial anxiety and self-efficacy are related negatively to the probability of having a financial plan, which supports Hypothesis 2.1 but rejects Hypothesis 2.2 rejected. Financial decision makers who trust their financial advisors are more likely to engage in financial planning, which supports Hypothesis 2.3.[17]

Personal financial management habits and financial conditions are also relevant. Financial decision makers who are in debt, stick to a budget and save regularly, are more likely to have a financial plan, which supports Hypothesis 3.

17 Similar to the procrastination estimates (available upon request from the authors), responses to the 2019 wave suggest a negative role of procrastination in the propensity for financial planning, which is in line with the empirical literature. However, the estimates for the 2020 cross-section show that procrastination is not significant.

Table 6 – Propensity for financial planning - Marginal effects pooled sample estimates

explicative variables	**Model (1)**	**Model (2)**	**Model (3)**	**Model (4)**
financial knowledge	0.05***		0.05***	
adjusted financial knowledge		0.02*		0.02*
PFK 2° quintile	0.02*	0.02**	0.02**	0.02**
PFK 3° quintile	0.03**	0.03***	0.03**	0.03***
PFK 4° quintile	0.04***	0.04***	0.04***	0.04***
PFK 5° quintile	0.07***	0.07***	0.06***	0.07***
overconfidence	0.02**	0.01		
underconfidence			-0.01	-0.01
2020	0.01	0.01	0.01	0.01
2021	-0.02***	-0.02***	-0.03***	-0.02***
trust in financial advisors	0.04***	0.04***	0.04***	0.04***
self-efficacy indicator	-0.08***	-0.08***	-0.08***	-0.08***
financial anxiety indicator	-0.06**	-0.07***	-0.06**	-0.07***
risk aversion	-0.004	-0.004	-0.006	-0.004
debts towards banks	0.03***	0.03***	0.03***	0.03***
debts towards relatives and friends	0.04**	0.04**	0.04**	0.04**
budgeting	0.07***	0.07***	0.07***	0.07***
saving	0.03***	0.03***	0.03***	0.03***
socio-demographic controls	YES	YES	YES	YES
n° observations				

Table 6 reports the marginal effects estimated applying sample weights. Significance levels are based on robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

Given the importance of personal traits, we ran a specification to identify the effects of the individual items for financial anxiety and self-efficacy indicators (Tab. 7). When we consider these single items we find great heterogeneity in both significance levels and marginal effects. In particular, the effect for self-efficacy seems to be driven by financial decision makers who find it easy to resolve financial problems, whereas for the item financial anxiety, the negative association in Table 6 seems to be driven by investors who prefer to ignore their financial situation.

Table 7 – Propensity for financial planning: disentangling self-efficacy and financial anxiety impact

explicative variables	**Model (5)**	**Model (6)**	**Model (7)**	**Model (8)**
financial knowledge	0.05***		0.05***	
adjusted financial knowledge		0.02*		0.02*
PFK 2° quintile	0.02*	0.02**	0.02*	0.02**
PFK 3° quintile	0.03**	0.03**	0.03**	0.03***
PFK 4° quintile	0.03***	0.04***	0.04***	0.04***
PFK 5° quintile	0.06***	0.07***	0.06***	0.07***
overconfidence	0.02**	0.01		
underconfidence			-0.01	-0.01
2020	0.01	0.01	0.01	0.01
2021	-0.03***	-0.02***	-0.03***	-0.03***
trust in financial advisors	0.04***	0.04***	0.04***	0.04***
self-efficacy - easy to reach goals	-0.001	-0.003	-0.001	-0.003
self-efficacy - easy to solve problems	-0.01***	-0.01**	-0.01***	-0.01**
financial anxiety - boredom	-0.005	-0.005	-0.005	-0.005
financial anxiety - avoidance	-0.01***	-0.02***	-0.01***	-0.02***
financial anxiety - guiltiness	-0.0002	-0.001	-0.0001	-0.001
risk aversion	-0.004	-0.004	-0.006	-0.005
indebtedness towards banks	0.03***	0.03***	0.03***	0.03***
indebtedness towards relatives and friends	0.04**	0.04**	0.04***	0.04***
budgeting	0.06***	0.06***	0.06***	0.07***
saving	0.03***	0.03***	0.03***	0.03***
socio-demographic controls	YES	YES	YES	YES
n° observations				

The table reports marginal effects estimated applying sample weights. Significance levels are based on robust standard errors.***, ** and * are respectively 1%, 5% and 10% levels of significance. Estimates computed applying sample weights. Coefficients of the socio-demographic variables were inserted in the model as control variables and are available upon request.

The results reported in this section were confirmed by robustness checks (Appendix Sections A.2 and A.3), which test the linear probability models and take account of financial knowledge endogeneity issues.

5.2 Cross section model analysis

It is possible that households' financial habits might have changed significantly in response to the Covid-19 crisis. In order to track possible changes over time, in the relationship between attitude to financial planning and the above-mentioned variables, we ran cross-section estimations for each year in the period 2019-2021. In addition to the previous model specifications, we included financial condition variables available only for 2021. Specifically, we considered: whether respondents decreased their saving (*decreased saving*) or suffered a temporary or permanent decrease in family income compared to before the pandemic (*vulnerability*); whether the household struggled to cope with expenses (*financial fragility*) or was exposed to unexpected expenses quantified in '000 euro (*unable to cope with unexpected expenses*). Appendix A1 provides further details on the descriptive statistics.

Table 8 shows that in the period 2019-2021, the impact of financial knowledge on the attitude to financial planning was significant and positive, although the marginal effect decreased from 6 to 4 basis points. Similarly, the marginal effect of self-assessed financial knowledge for the highest quintile fell by approximately 2 basis points, from 0.06 in 2019 to 0.04 in 2021.

The misalignment between actual and perceived financial knowledge, the positive association with overconfidence in 2019, becomes not significant in 2020 and 2021.[18]

In relation to personal traits, the significant and negative link with self-efficacy in 2019, loses significance in 2021, while the marginal effect of trust in financial advisors declines from 4 basis points in 2019 to 2 basis points in 2021.

However, in 2021, financial conditions and personal finance management proxies are more important. In particular, indebtedness to financial institutions and banks increases the probability that the decision maker will adopt a financial plan by 4 basis points in 2020

18 As a robustness check, we also ran a model specification including underconfidence rather than overconfidence; underconfident significantly reduced (by 4 basis points) the probability of making a financial plan only for the 2021 wave.

(+2 basis points in 2019). The marginal effect of indebtedness to friends and relatives increased to 7 basis points in 2021 from 3 basis points in 2019. In addition, always remaining within one's budget increased attitude to financial planning by 8 basis points in 2021 (+4 in 2019).

For the variables available only for the 2021 wave, more vulnerable financial decision makers, who have experienced a temporary or a permanent decrease in the family income, are more inclined to have a financial plan (+3 basis point), in contrast to more fragile financial decision makers who always struggle to cope with expenses. Finally, we find that having experienced a decrease in savings since the outbreak of the pandemic worsens the attitude to financial planning.

Table 8 – Propensity for financial planning - Marginal effects, by year

Explicative variables	**2019**	**2020**	**2021 (a)**	**2021 (b)**
financial knowledge	**0.06****	**0.05****	**0.04****	**0.03***
PFK 2° quintile	0.05**	0.02	0.004	0.004
PFK 3° quintile	0.03	0.03	0.023	0.03
PFK 4° quintile	0.06***	0.02	0.03	0.03*
PFK 5° quintile	**0.06*****	**0.07*****	**0.04****	**0.05****
overconfidence	0.04***	0.02	-0.002	-0.004
trust in financial advisors	0.04**	0.04**	0.02*	0.03
self-efficacy indicator	-0.08**	-0.09*	-0.04	-0.02
financial anxiety indicator	-0.06	-0.08	-0.02	-0.04
risk aversion	-0.007	-0.01	0.007	0.008
indebtedness towards banks	0.02	0.01	0.04***	**0.04*****
indebtedness towards relatives and friends	0.02	0.02	0.05***	**0.07****
budgeting	0.04***	0.07***	0.07***	**0.08*****
saving	0.04***	0.02	0.02*	0.02
fragility				**-0.02****
vulnerability				**0.03****
unable to cope with unexpected expenses				-0.02
decreased savings				**-0.04****
socio-demographic controls	yes	yes	yes	yes
n° observations	2,920	3,053	2,695	2,695

The table reports marginal effects estimated applying sample weights. Significance levels are based on robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

6. Conclusions

Financial planning is key to correct management of personal finances. Financial well-being also depends crucially on the ability to look beyond the short-term and consider long-term financial needs. The OECD Financial competence framework for adults in the European Union, referred to earlier, devotes a specific section to *Planning and managing finances*, which identifies the «*competences for managing the financial situation of an individual or household in the short and long term*» and specifies that «*this not only includes managing income and expenditure on a day-to-day basis but also planning for the future*» (European Union/OECD, 2022, p. 9).

From a policy perspective, it is important to identify those factors that are linked positively to the propensity for financial planning. The present study investigated Italian decision makers' attitudes to financial planning, using CONSOB Observatory survey data. We investigated the roles played by financial knowledge and some personal traits, controlling for socio-demographic characteristics and the household's financial situation.

Our estimates suggest a positive association between attitude to financial planning and financial knowledge, both actual and perceived, which is in line with expectations and the empirical literature.

However, our findings for the estimated impact of personal traits are more mixed. On the one hand, the attitude to financial anxiety and, in particular, the will to avoid thinking about the state of one's personal finances, are, as expected, negatively associated with the propensity to plan. On the other hand, the negative relationship with self-efficacy is an unexpected finding, which may be driven by the attitude captured by one of the items in the self-efficacy indicator, regarding individual perception of personal ability to manage financial problems. That is, the perception that it will not be difficult to find a solution to a potential financial problem. This confidence might be linked to better financial conditions and/or higher overconfidence. In fact, 86% of higher income individuals show higher levels of financial self-efficacy and 64% of those showing overconfidence exhibit higher financial self-efficacy. This evidence is relevant to the segmentation of individuals by personal attributes and psychological traits, and identification of the measures that need to be put in place to obtain value from financial planning within financial education programmes, and from interactions with financial intermediaries and advisors.

The positive association between trust in financial advisors and attitude to planning would seem to highlight that professionals are already influencing customers towards better management of their finances. In addition, according to a qualitative survey on the value of financial advice and robo-advice (Caratelli et al., 2019), Italian investors assign high value to the educational stimuli obtained during interactions with their advisors and, especially, of this support is particularly timely (a sort of just-in-time financial education). In this context, professionals could encourage investors to adopt a long-term approach to their personal finance management and offer appropriate support and guidance. However, as demand for financial advice is more frequent among higher income individuals and since individuals seem more inclined to rely on 'informal advice' (from trusted individuals such as family, friends and colleagues), reliance only on professional support to foster a long-term attitude to money management might not be enough.

Finally, in relation to the association between financial planning and the other financial control components, the positive link between saving and financial wealth is in line with expectations, whatever is the causal direction of the connection; however, the association with indebtedness needs further investigation to show whether it persuades individuals who are indebted to use resources more efficiently to meet their financial obligations or reflects the positive correlation between wealth and indebtedness, that is, the possibility of being granted a loan from a financial intermediary.

This study adds to the literature on household finance and financial control and offers insights which should be useful for the design of financial education programmes and information on the potential role of financial intermediaries in orienting their customers towards a correct attitude to money management.

As both perceived knowledge and perceived ability to solve financial issues play (opposite) roles in financial planning, more attention should be paid to enabling the population to have a better and unbiased awareness of their financial skills and actual level of financial knowledge. It is important to take account of personal traits, such as financial anxiety and self-efficacy, when considering individual segmentation and the definition of content and methods to promote appropriate attitudes and behaviours. In this respect, the tools used to elicit individuals' personal traits will be crucial. The use of multi-item questionnaires, corroborated by the experimental literature, should help to mitigate the risk of unreliable self-assessments.

Also, given the difficulty involved in promoting the benefits of a long-term vision, which is at the basis of financial planning, education programmes should provide not only financial notions but also easy-to use techniques and personal budget management and financial planning tools. They should also include motivational techniques, such as goal-setting, that are immediately applicable. This would increase perception of self-control over personal decision-making without promoting overconfidence and the illusion that it will always be possible to manage economically.

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Appendix

A.1 Variable definition and descriptive statistics

Table a.1 – Variable definition

variable	Description
financial planning	dummy equal to 1 if the respondent reports a financial plan dating back at most the previous 12 months, and 0 otherwise.
budgeting	dummy equal to 1 if the respondent declares her/his attitude of always sticking to her/his own budget, and 0 otherwise.
saving	dummy equal to 1 if the respondent declares her/his habit of setting aside part of her/his own income at least regularly, and 0 otherwise.
indebtedness towards banks	dummy equal to 1 if the respondent declares to be in debt towards a financial institution, to purchase or refurbish a house and/or to cover current expenses, and 0 otherwise.
indebtedness towards relatives and friends	dummy equal to 1 if the respondent declares to be in debt towards relatives and/or friends, to purchase or refurbish a house and/or to cover current expenses, and 0 otherwise.
financial knowledge indicator (FK)	first principal component computed on the correct answers to financial knowledge quiz normalised between zero and one
adjusted financial knowledge indicator (AFK)	first principal component computed on the correct answers net of potentially unintentional correct answers, where the latter were identified whenever interviewees did not know or refused to self-assess the number of correct answers given to the quiz
perceived financial knowledge (PFK)	sample distribution quintiles referring to the number of financial knowledge items that respondents report to have heard and understood
overconfidence/ underconfidence	overconfidence (underconfidence) is a dummy equal to 1 if the number of the correct answers to the financial knowledge quiz as assessed ex-post is higher (lower) than the actual number of correct answers, and 0 otherwise.
financial anxiety	first principal component computed on the correct answers to financial anxiety test normalised between zero and one
financial anxiety – guiltiness	agreement level on a 1-5 Likert scale (where 0='totally disagree' and 5='totally agree') with the following statement: ' Thinking about my personal finances can make me feel guilty '

financial anxiety - avoidance	agreement level on a 1-5 Likert scale (where 0='totally disagree' and 5='totally agree') with the following statement: 'I prefer not to think about the state of my personal finances'
financial anxiety - boredom	agreement level on a 1-5 Likert scale (where 1='totally disagree' and 5='totally agree') with the following statement: 'I find monitoring my bank or credit card accounts very boring'
financial self-efficacy	first principal component computed on the correct answers to financial self-efficacy test normalised between zero and one
self-efficacy - easy to reach goals	disagreement level on a 1-4 scale (where 1='totally true' and 4='totally false') with the following statement: 'it is hard to reach my financial goals'
self-efficacy - easy to solve problems	disagreement level on a 1-4 scale (where 1='totally true' and 4='totally false') with the following statement: 'when faced with a financial challenge, I have an hard time figuring out a solution'
risk aversion	dummy equal to 1 if the respondent declares to be oriented towards investment with low/moderate risk and low/moderate returns, and 0 otherwise.
trust in financial advisors	dummy equal to 1 if the respondent declares to trust financial advisors, and 0 otherwise.
secondary school	dummy equal to 1 if the respondent has a secondary school degree, and 0 otherwise.
high school	dummy equal to 1 if the respondent has a high school degree, and 0 otherwise.
university degree	dummy equal to 1 if the respondent has at least a bachelor's degree, and 0 otherwise.
male	dummy equal to 1 if the respondent is a male, and 0 otherwise.
North	dummy equal to 1 if the respondent lives in the North of Italy, and 0 otherwise.
Centre	dummy equal to 1 if the respondent lives in the Centre of Italy
South and Island	dummy equal to 1 if the respondent lives in the South of Italy or in the major Italian islands, and 0 otherwise.
single	dummy equal to 1 if the respondent lives alone, and 0 otherwise.
cohabitant	dummy equal to 1 if the respondent lives in domestic partnership, and 0 otherwise.
married	dummy equal to 1 if the respondent is married, and 0 otherwise.
widowed	dummy equal to 1 if the respondent is widowed, and 0 otherwise.
divorced	dummy equal to 1 if the respondent is divorced, and 0 otherwise.
employee	dummy equal to 1 if the respondent is employee, and 0 otherwise.

self-employed	dummy equal to 1 if the respondent is self-employed, and 0 otherwise.
retired	dummy equal to 1 if the respondent is retired, and 0 otherwise.
non-professional status	dummy equal to 1 if the respondent is a housewife, a student or is unemployed, and 0 otherwise.
financial wealth (5 classes expressed in euro)	dummy equal to 1 if the respondent belongs to the reported class, and 0 otherwise.
monthly family income (9 classes expressed in euro)	dummy equal to 1 if the respondent belongs to the reported class, and 0 otherwise.

Table a.2 – Descriptive statistics: pooled sample

variable	Mean	S.D.	Median	Min	Max	n
financial planning	8%	0.28	0	0	1	8,704
financial knowledge	0.46	0.36	0.42	0	1	8,704
adjusted financial knowledge	0.35	0.39	0.18	0	1	8,704
PFK	3	1.5	3	1	5	8,704
overconfidence	24%	0.43	0	0	1	8,704
underconfidence	17%	0.37	0	0	1	8,704
trust in financial advisors	10%	0.31	0	0	1	8,704
self-efficacy indicator	0.56	0.19	0.57	0	1	8,704
financial anxiety indicator	0.37	0.18	0.38	0	1	8,704
risk aversion	39%	0.49	0	0	1	8,704
indebtedness towards banks	39%	0.49	0	0	1	8704
indebtedness towards relatives and friends	8%	0.28	0	0	1	8704
budgeting	22%	0.42	0	0	1	8,704
saving	38%	0.48	0	0	1	8,704
primary school	5%	0.22	0	0	1	8,704
secondary school	32%	0.47	0	0	1	8,704
high school	43%	0.50	0	0	1	8,704
university degree	20%	0.40	0	0	1	8,704
age	52	12.74	52	22	95	8,704
number of components	3	1.26	3	1	8	8,704
male	73%	0.44	1	0	1	8,704
North	49%	0.50	0	0	1	8,704
Centre	19%	0.39	0	0	1	8,704
South and Island	32%	0.46	0	0	1	8,704
single	11%	0.32	0	0	1	8,668
cohabitant	14%	0.34	0	0	1	8,668
married	61%	0.49	1	0	1	8,668
widowed	7%	0.25	0	0	1	8,668
divorced	7%	0.25	0	0	1	8,668
employee	48%	0.50	0	0	1	8,704
self-employed	18%	0.39	0	0	1	8,704
retired	24%	0.42	0	0	1	8,704
non-professional status	10%	0.30	0	0	1	8,704
financial wealth						
<€5.000	28%	0.45	0	0	1	8,704
€5.000-€10.000	22%	0.41	0	0	1	8,704
€10.000-€25.000	20%	0.40	0	0	1	8,704

€25.000-€51.000	7%	0.26	0	0	1	8,704
€51.000-€250.000	18%	0.39	0	0	1	8,704
more than €250.000	4%	0.20	0	0	1	8,704
monthly family income						
<€900	17%	0.38	0	0	1	8,704
€900-€1200	9%	0.29	0	0	1	8,704
€1200-€1500	18%	0.38	0	0	1	8,704
€1500-€1800	12%	0.32	0	0	1	8,704
€1800-€2100	12%	0.33	0	0	1	8,704
€2100-€2400	10%	0.30	0	0	1	8,704
€2400-€3000	11%	0.32	0	0	1	8,704
€3000-€4000	7%	0.25	0	0	1	8,704
€4000-€5000	2%	0.16	0	0	1	8,704
more than €5000	2%	0.13	0	0	1	8,704
investors	33%	0.47	0	0	1	8,704

Statistics are computed by applying sample weights.

Table a.3 – Descriptive statistics by wave

variable	2019	2020	2021	all years
primary school	6%	5%	5%	5%
secondary school	27%	34%	33%	32%
high school	48%	41%	41%	43%
university degree	19%	20%	20%	20%
age	53	52	52	52
number of family members	3	3	3	3
male	74%	73%	72%	73%
North	48%	49%	49%	49%
Centre	20%	19%	19%	19%
South and Island	32%	32%	32%	32%
single	9%	11%	14%	11%
cohabitant	16%	14%	11%	14%
married	61%	62%	61%	61%
widowed	7%	6%	7%	7%
divorced	49%	48%	48%	48%
employee	19%	18%	18%	18%
self-employed	23%	24%	23%	24%
retired	9%	10%	11%	10%
non-professional status	49%	48%	48%	48%
financial wealth				
<€5.000	28%	28%	29%	28%
€5.000-€10.000	24%	22%	20%	22%
€10.000-€25.000	21%	20%	19%	20%
€25.000-€51.000	6%	7%	8%	7%
€51.000-€250.000	17%	19%	19%	18%
more than €250.000	4%	4%	4%	4%
monthly family income				
<€900	19%	16%	16%	17%
€900-€1200	10%	9%	8%	9%
€1200-€1500	17%	18%	18%	18%
€1500-€1800	12%	12%	11%	12%
€1800-€2100	11%	13%	12%	12%
€2100-€2400	8%	10%	12%	10%
€2400-€3000	11%	11%	11%	11%
€3000-€4000	7%	6%	7%	7%
€4000-€5000	3%	2%	2%	2%
more than €5000	2%	2%	1%	2%
investors	32%	32%	34%	33%
n° observations	2,920	3,089	2,695	8,704

Statistics are computed applying sample weights.

A.2 Linear probability model

As a robustness check the analysis reported in Section 5 was repeated using a linear probability model. Appendix Tables .a4 and a5 report the results.

Table a.4 – Propensity to financial planning – Linear probability model pooled sample estimates

variable	(9)	(10)	(11)	(12)
financial knowledge	0.04***		0.05***	
adjusted financial knowledge		0.02*		0.03**
PFK 2° quintile	0.02	0.02*	0.02	0.02*
PFK 3° quintile	0.02	0.03**	0.0222*	0.03**
PFK 4° quintile	0.03**	0.04***	0.03***	0.03***
PFK 5° quintile	0.07***	0.08***	0.07***	0.07***
overconfidence	0.01	0.01		
underconfidence			-0.02	-0.02
2020	0.01	0.01	0.01	0.01
2021	-0.02***	-0.02**	-0.02***	-0.02***
trust in financial advisors	0.04***	0.0435***	0.04***	0.04***
self-efficacy indicator	-0.07***	-0.08***	-0.07***	-0.08***
financial anxiety indicator	-0.07**	-0.07***	-0.06**	-0.07***
risk aversion	-0.004	-0.003	-0.005	-0.004
indebtedness towards banks	0.03***	0.03***	0.03***	0.03***
indebtedness towards relatives and friends	0.04**	0.04**	0.04**	0.04**
budgeting	0.07***	0.07***	0.07***	0.07***
saving	0.03***	0.03***	0.03***	0.03***
R squared	0.08	0.08	0.08	0.08
socio-demographic controls	yes	yes	yes	yes

ble a.4 reports the estimates for linear probability model applying sample weights and robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

Table a.5 – Propensity to financial planning: Disentangling self-efficacy and financial anxiety impact, linear probability model

variable	(13)	(14)	(15)	(16)
financial knowledge	0.04***		0.04***	
adjusted financial knowledge		0.02*		0.03**
PFK 2° quintile	0.01	0.02	0.02	0.01
PFK 3° quintile	0.02	0.02*	0.02	0.02*
PFK 4° quintile	0.03**	0.03***	0.03**	0.03***
PFK 5° quintile	0.07***	0.07***	0.07***	0.07***
overconfidence	0.01	0.01		
underconfidence			-0.01	-0.01
2020	0.01	0.01	0.01	0.01
2021	-0.02***	-0.02***	-0.02***	-0.02***
trust in financial advisors	0.04***	0.04***	0.04***	0.04***
self-efficacy - easy to reach goals	-0.001	-0.002	-0.0005	-0.002
self-efficacy - easy to solve problems	-0.01**	-0.01**	-0.01***	-0.01**
financial anxiety - boredom	-0.004	-0.004	-0.004	-0.004
financial anxiety - avoidance	-0.01***	-0.02***	-0.01***	-0.02***
financial anxiety - guiltiness	-0.002	-0.003	-0.002	-0.003
risk aversion	-0.003	-0.003	-0.004	-0.003
indebtedness towards banks	0.03***	0.03***	0.03***	0.03***
indebtedness towards relatives and friends	0.04**	0.04**	0.04**	0.04**
budgeting	0.07***	0.07***	0.07***	0.07***
saving	0.03***	0.03***	0.03***	0.03***
R squared	0.08	0.08	0.08	0.08
socio-demographic controls	yes	yes	yes	yes

ble a.5 reports the estimates for the linear probability model applying sample weights and robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

A.3 Financial knowledge endogeneity issue

By estimating a model specification including the lagged value of the financial knowledge indicator, this robustness check takes account of possible endogeneity issues. The estimates reported in Tables a.6 and a.7, confirm a positive association between the propensity for financial planning and financial knowledge, although the coefficients are poorly estimated due, likely, due to power issues, since lagging the variable means that one out of the three available waves is lost.

Table a.6 – Propensity for financial planning - Marginal effects accounting for endogeneity of financial knowledge

variable	**(1)**	**(2)**	**(3)**	**(4)**
financial knowledge lag(1)	0.02		0.02	
adjusted financial knowledge lag(1)		0.03*		0.03**
PFK 2° quintile	0.02	0.02	0.02	0.02
PFK 3° quintile	0.02	0.02	0.03	0.0276
PFK 4° quintile	0.02	0.02	0.02	0.0244
PFK 5° quintile	0.05**	0.05**	0.05**	0.0455**
overconfidence	0.001	0.0007		
underconfidence			-0.02*	-0.0240*
2021	-0.04***	-0.04***	-0.04***	-0.0354***
trust in financial advisors	0.04**	0.04**	0.04**	0.0387**
self-efficacy indicator	-0.07**	-0.07**	-0.08**	-0.0753**
financial anxiety indicator	-0.07*	-0.07*	-0.07*	-0.0688*
risk aversion	-0.0008	-0.0004	-0.001	-0.0006
indebtedness towards banks	0.04***	0.03***	0.04***	0.0355***
indebtedness towards relatives and friends	0.04*	0.04*	0.04*	0.0387*
budgeting	0.03***	0.08***	0.08***	0.08***
saving	0.03**	0.03**	0.02**	0.02**
socio-demographic controls	yes	yes	yes	yes
n° observations	4,272	4,272	4,272	4,272

ble a.6 reports the marginal effects estimated applying sample weights. Significance levels are based on robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

Table a.7 – Propensity for financial planning: Disentangling self-efficacy and financial anxiety impact, accounting for endogeneity of financial knowledge

variable	**(1)**	**(2)**	**(3)**	**(4)**
financial knowledge lag(1)	0.02		0.02	
adjusted financial knowledge lag(1)		0.02		0.03**
PFK 2° quintile	0.02	0.02	0.02	0.02
PFK 3° quintile	0.02	0.02	0.02	0.02
PFK 4° quintile	0.02	0.02	0.02	0.02
PFK 5° quintile	0.04**	0.04**	0.04**	0.04**
overconfidence	-0.0002	-0.0005		
underconfidence			-0.02	-0.02*
2021	-0.04***	-0.04***	-0.04***	-0.04***
trust in financial advisors	0.04**	0.04**	0.04**	0.04**
self-efficacy - easy to reach goals	-0.006	-0.006	-0.006	-0.007
self-efficacy - easy to solve problems	-0.01	-0.01	-0.0108	-0.01
financial anxiety - boredom	-0.001	-0.001	-0.0012	-0.0008
financial anxiety - avoidance	-0.02***	-0.02***	-0.0182***	-0.02***
financial anxiety - guiltiness	-0.003	-0.002	-0.0027	-0.003
risk aversion	-0.002	-0.002	-0.0025	-0.002
indebtedness towards banks	0.04***	0.04***	0.0362***	0.04***
indebtedness towards relatives and friends	0.04*	0.04**	0.0439**	0.04**
budgeting	0.07***	0.07***	0.0731***	0.07***
saving	0.02**	0.02**	0.0240**	0.02**
socio-demographic controls	yes	yes	yes	yes
n° observations	4,272	4,272	4,272	4,272

ble a.7 reports the marginal effects estimated applying sample weights. Significance levels are based on robust standard errors. ***, ** and * are respectively 1%, 5% and 10% levels of significance.

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Viale Jacopo Berengario 51, 41121 MODENA (Italy) tel. 39-059.2056711
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