Financial literacy and financial advice seeking: Does product specificity matter?

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ABSTRACT

We study the effect of financial literacy on financial advice seeking. We test the relationship across different measures of the former and the latter, providing a contribution to the existing literature. Overall results suggest complementarity, but when considering product-specific financial literacy and financial advice seeking, a complementary effect emerges for investments and debt, while a substitution effect prevails for insurance and pension products. Financial advising services can therefore compensate for the lack of financial literacy in insurance and pension planning in the short run. Conversely, greater policy efforts are needed for investment and loans, where poor financial literacy translates into a scarce demand for financial advice.

1. Introduction

For years, financial literacy and financial advice have been key topics for financial authorities required to ensure investors' protection in Europe and in the US (MiFID2 in Europe and Regulation Best Interest in the US). Academics and practitioners have been aware for a long time now that a lack of financial literacy leads to unsuitable financial choices in terms of retirement planning and wealth accumulation (Lusardi and Mitchell, 2007), portfolio diversification (Abreu and Mendes, 2010; Guiso and Jappelli, 2008) and credit behaviors (Allgood and Walstad, 2011; Lusardi and Tufano, 2015). Nevertheless, while an acceptable level of financial literacy needs time and effort to be achieved, financial advice may quickly improve the quality of investors' decision-making (Gentile, Linciano and Soccorso, 2016), possibly mitigating the negative effect of poor financial literacy on financial choices, at least in the short run. From a policy perspective, it is therefore important to understand if demand for financial advice and financial literacy are complements or substitutes. Nonetheless, such question has not yet been unambiguously answered in the literature.

Most of the previous studies supported the complementarity theory, maintaining that more (less) financially literate households are more (less) inclined to seek financial advice (Collins, 2012; Hackethal et al.,

2012; Lachance and Tang, 2012; Robb et al., 2012; Calcagno and Monticone, 2015; Alyousif and Kalenkoski, 2017; Kim et al., 2021).

A few other studies (Georgarakos and Inderst, 2011; Stolper, 2018; Hsu, 2022) support the opposite idea that the probability of seeking advice from a financial planner and the level of financial literacy are negatively linked (substitution theory). Finally, some authors find no statistically significant relationship between financial literacy and financial advice seeking (Hung and Yoong, 2010; Von Gaudecker, 2015; Kramer, 2016).

If advice-seeking and financial literacy are substitutes, then the negative effects of low financial literacy on consumers' investment and life goals can be mitigated by seeking financial advice. Therefore, promoting and subsidizing cost-effective financial advising services can provide an alternative to traditional financial literacy education programs (Barthel and Lei, 2021), in the short run.

If the complementarity theory prevails, much more effort is needed in terms of financial education initiatives and financial advice boosting tools.

The inconsistency that affects previous empirical evidence might be possibly due to the variety of definitions of financial literacy and financial advice seeking that are employed; depending on the definition of financial literacy and financial advice seeking that are used, opposite

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results might emerge.[1] However, even more relevant is how the product-specificity might affect the influence of financial literacy on financial advice seeking; previous studies employ comprehensive measures of both financial literacy and financial advice seeking, disregarding the fact that the relationship could be influenced by the type of financial literacy and the type of advice given in relation to the financial product being advised. Finally, some studies do not control for the possible endogeneity in the relationship.

As a first contribution, this paper investigates the role of financial literacy in financial advice seeking by testing different types of objective financial literacy (BIG3, BIG5 and BIG7) and one's confidence in own financial competences. In this context, we also checked for differences in the results, which might depend on the depth of the advice that is offered, in terms of generic, bank-offered, and professional advice.

The main contribution, however, is that related to product specificity, which has been scarcely explored by the extant literature. Financial literacy measures tailored to specific products, encompassing investments, insurance products, pension funds, and debt, are examined in relation to the demand for product-specific advice in areas such as investment strategies, debt management, pension planning, and insurance products. This analysis aims to identify potential variations in the complementarity or substitutability effects, contingent upon the specific product being considered.

We then run a series of probit models (with an instrumental variable to control for the possible endogeneity in the relationship) where the different measures of financial advice seeking were related to various measures of financial literacy.

Our evidence suggests a complementarity effect for both professional, bank and generic financial advice seeking and across all the measures of financial literacy. Confidence in own financial skills exerts a negative effect, possibly reducing the complementarity above revealed. When considering product-specific effects, while for some products (investments and debt) a complementarity effect of financial literacy and financial advice seeking emerges, for others (insurance and pension products) substitutability prevails.

Our paper provides new and interesting insights in the financial literacy-financial advice seeking relationships which translate into policy implications. Notwithstanding the positive effect that financial literacy plays in both generic, bank and professional financial advice seeking and the need to control for personal traits such as confidence in own financial skills which could hamper such a positive effect, policy measures addressed to increase financial literacy and financial advice seeking should be tailor-made according to the financial sectors considered. More specifically, promoting and subsidizing cost-effective financial advising services can provide a short-term solution to compensate for the lack of financial literacy in insurance and pension planning. Greater effort is instead needed both in the short and in the long run in the investment and debt sectors, where poor financial literacy translated into a scarce demand for financial advice.

The rest of the paper is organized as follows: Section 2 provides a review of the previous literature on the topic with a focus on the different measures of financial literacy and financial advice seeking that were employed in previous studies and illustrates our hypotheses. Section 3 describes our data and methodology. Section 4 provides empirical results and Section 5 concludes.

2. Literature review and hypotheses

The link between households' financial literacy and financial advice seeking is a crucial but unsolved topic of research. Previous literature provides conflicting evidence, possibly due to the different facets of financial literacy and financial advice seeking that can be applied.

Previous authors employ different tools to reveal one's financial literacy, which investigate in greater or less depth the objective knowledge; also, financial advice seeking is not consistent across previous research, ranging from generic to professional financial advice and considering different intensities of the advice (from mere information to delegation) (see Tables 1 and 2). Results are therefore hardly comparable.

Table 1 show that previous papers investigating objective financial literacy alternatively employed wide or narrow tools to reveal one's financial knowledge, ranging from 3-questions to 10-questions tests. Such a variety of tools makes results hardly comparable, given that a same subject could be profiled as more or less financially literate when employing a narrow FL tool rather than a wide one.

Table 2 shows that previous research made use of a variety of tools for investigate Financial Advice Seeking, which differ for the nature of the advice (generic vs bank vs professional), for the intensity (information vs delegation) and for the broadness of the advice (product-specific vs general). Given this heterogeneity in measurement tools, two mainstreams emerge from papers on the topic. Most of previous authors maintain a complementarity theory, which supports the idea that more financially literate households seek for financial advice because they know they will receive relevant and additional information from advisors (Hacketal, Haliassos and Jappelli, 2012; Calcagno and Monticone, 2015), so that higher levels of financial literacy increase the benefits associated with receiving general financial advice.

Complementarity is also found when considering product-specific measures of financial advice; Robb et al. (2012), and more recently Alyousif and Kalenkoski (2017) find that while seeking savings and investments, insurance, tax planning, and mortgage and loan advice is generally positively associated with financial literacy, debt advice is found to be negatively linked to financial literacy (or non-significant relationship is found as in Collins, 2012). A few studies support the opposite idea that financial advice seeking, and the level of financial literacy are negatively linked, thus suggesting that financial advice enables consumers to forgo the effort of acquiring information and financial expertise by themselves. Stolper (2018) finds that households' degree of following advice is negatively linked to their financial literacy score, supporting the notion that an increase in financial literacy leads to a higher confidence in one's own judgment and prompts individuals to use financial advice as just another source of information they process when making their financial decisions. Similarly, Georgarakos and Inderst (2011) show that investors with a perceived low financial knowledge participate in the stock market only when their trust in the financial advisor is sufficiently high. Authors interpret their findings as evidence for financially sophisticated consumers preferring to make their own judgments, i.e. to combine the financial advice they obtain with their own information before making a decision, instead of heavily relying on advisors' recommendations. More recently Barthel and Lei (2021) find evidence of a negative link between financial literacy and financial advice seeking, thus supporting the substitution effect with an alternative approach to measuring financial literacy which models investment in financial literacy as a choice, rather than as an exogenously determined characteristic of the consumer. Differently, Kramer (2016) finds that no significant relationships emerge between objective measures of literacy and advice seeking. Results are therefore not always consistent across the literature, despite a positive relationship prevails in previous studies. In addition to this, some models suggest that the influence of financial literacy on the propensity to financial advice is not a monotonic function but depends on the level of financial knowledge; in other words, the role of financial literacy may differ for individuals with high and low levels of financial literacy.

According to the model of Calcagno and Monticone (2015) "*rational investors who are aware of the advisor's selling incentives will demand professional advice only if they are sufficiently knowledgeable, but the less informed investors will either delegate the portfolio choice to the advisor or choose their own portfolio autonomously*"; this prediction is supported by the data of their sample: "*The investors with a low level of financial literacy*

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[1] An in-depth analysis of the previous literature considering each of these measures is provided in Section 2.

Table 1

Inconsistency in Financial Literacy survey tools.

Type of FL	Tools	Authors
Objective FL (narrow)	5 questions on compound interest, inflation, bond prices, mortgage interest, and risk (source: The National Financial Capability Study 2012)	Alyousif and Kalenkoski (2017); Robb (2012)
	5 financial literacy quiz	Collins (2012)
	3 questions on saving and investment (source SCF).	Barthel and Lei (2021)
Objective FL (wide)	10 questions (source: Van Rooij et al. (2011)	Kramer (2016)
	8 questions on interest, inflation, understanding of risk diversification, and the understanding of the riskiness of various financial products (source:Guiso and Jappelli, 2008)	Calcagno and Monticone (2015)

are less likely to consult an advisor, but they delegate their portfolio choice more often or do not invest in risky assets at all." Consequently, the level of financial literacy of the investor determines the existence of two groups with different attitudes towards professional advice: on the one hand, sufficiently knowledgeable investors turn to the advisor to obtain information and advice as input for their decisions; on the other hand, investors with low financial literacy avoid financial consulting or use it to delegate the decision, probably based on their trust in the advisor. In the first case, the probability of contacting the consultant increases with financial literacy, while in the second, the probability decreases as financial literacy increases if the propensity to delegate increases with financial ignorance. In this regard, Georgarakos and Inderst (2011) theorize and then find that: "*Investors participate in the stock market and rely on professional advice only when their own perceived financial capability is sufficiently low and their trust in the advisor is sufficiently high. On the contrary, investors who believe they are well informed enter the stock market but disregard the advice.*"

Our descriptive statistics (see Table 3) show that those seeking professional advice for debt or investments decisions have on average a level of financial literacy – both general and product-specific – higher than those who seek advice for insurance or pension related decisions. The following research hypotheses can therefore be advanced:

H1. . The relationship between financial literacy and the use of generic, bank and professional advice is positive within the whole sample.

As complementarity has been observed in studies employing both a narrow measure of financial literacy (Alyousif and Kalenkoski, 2017; Robb, 2012; Collins, 2012) and a broader measure (Calcagno and Monticone, 2015), we anticipate that H1 holds true regardless of the scope of the financial literacy measure used (BIG3, BIG5, and BIG7).

H2. . The relationship between financial literacy and advice-seeking takes on different signs according to the specific request for advice. In detail:

H2.1. . The relationship between financial literacy and advice-seeking is positive if it is required to obtain financing or to make investments.

H2.2. . The relationship between financial literacy and advice-seeking is negative if required to evaluate the underwriting of insurance policies or supplementary pension schemes.

3. Data and methodology

Our analysis is based on the data provided by the Edufin Report (2022) (Italian Financial Education Committee). This is a survey on the economic condition of Italian families and their level of financial education carried out by the DOXA research institute in June 2022 through

online interviews with a representative national sample of individuals aged 18 and over, responsible for managing the family economy or more informed on the economic/financial issues of the family. The 5000 subjects interviewed were extracted from a proprietary BVA-Doxa panel, comprising about 120,000 members.[2]

To estimate the relationship between financial literacy and financial advice seeking we estimate Probit models of the following form:

$$\Pr(Y_i = 1|X_i) = \Phi(\beta FL_i + \delta X_i) \tag{1}$$

where the dependent variable measures the probability of respondent i to engage in financial advice seeking ($Y_i = 1$). The term Φ is the standard normal cumulative distribution with respect to the independent variables of the Probit model. To mitigate potential confounding effects, control variables besides financial literacy noted above are included in the X_i vector. It is conceivable that estimates of [1] could be biased due to unobservable omitted variables, for instance, if FL reflected some unobservable personal characteristics that could also affect the demand for financial advice. For example, professional advisors might enhance clients' financial literacy, which in turn could lead to more demand for financial advice. Such simultaneity could amplify the association between financial literacy and the demand for professional advice, making the coefficients overstate the effect of financial literacy on the demand for professional financial advice. To address such potential endogeneity concerns, we undertake an instrumental variable (IV) analysis for our key explanatory variable (FL) by means of the variable Edufin_school.[3] The idea behind this choice is that being favorable to the introduction of financial education in schools relates to one's level of financial literacy in that parents that are aware of the importance of the theme would support initiatives addressed to increase the level of financial education for their children. The same variable is though not expected to be connected to financial advice seeking. This choice is in line with the commonly used instrumental variable dealing with respondent's own financial education in school (Christiansen et al., 2008; Kramer, 2016); however, despite the use of a similar approach by other authors in the literature, concerns remain that financial advice seeking and supporting financial education in schools are both dependent on unobserved individual characteristics.

The F-statistic for the weak IV test is above 100 across all the models we tested, well above the Stock and Yogo (2005) threshold.

Below a description of the dependent and independent variables, as well as some descriptive statistics of the sample.

3.1. Dependent variables

A first contribution of this paper is the variety of measures of financial advice seeking we employ to test and support its

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Table 2

Inconsistency in Financial Advice Seeking survey tools.

Type of FAS		Tools	Authors
Nature of Advisory	Professional	Data from online brokerage accounts that likely attracts a selected sample of the German population interested in trading (professional advice)	Hackethal Haliassos Jappelli (2012)
	Bank	Data on bank accounts from branches that reach a broad cross-section of the German population (generic advice)	Hackethal Haliassos Jappelli (2012)
	Generic	How do you (and your spouse/partner) make decisions about savings and investments? Using financial planners was coded as a dummy variable equal to "1"; "0" was used for those who read newspapers, material mail, use information from television, radio, an online service or advertisements, which represents generic advice.	Barthel and Lei (2021)
Intensity of advice	Information	"What is the most important source of advice when you have to make important financial decisions for the household?" Value 1 for answers "Professional financial advisers" and 0 otherwise	Kramer (2016)
		Dummy variables for investors choosing to consult advisors (value 1) vs those who invest by themselves (value 0).	Calcagno and Monticone (2015)
		"How do you (and your[spouse/partner]) make decisions about savings and investments? Value 1 for answers "using financial planners" and 0 otherwise.	Barthel and Lei (2021)
	Delegation	Dummy variable with value 1 when an investors is registered as client of the financial advisory or delegated portfolio management department at the bank and 0 otherwise.	Kramer (2016)
		"Which of these statements best describes your behavior in deciding how to invest your savings?''. Answers D4: investors rely mainly on advisors for their investment decisions and d5: investors let the advisors decide everything take value 1, 0 otherwise.	Calcagno and Monticone (2015)
Broadness of advice	General	Advice in savings and investments	Calcagno and Monticone (2015),Kramer (2016),Barthel and Lei (2021),Hackethal Haliassos Jappelli (2012)
	Product-specific	Five different types of financial advice: debt counseling, savings / investment, taking out a mortgage/ loan, insurance of any type, and tax planning. Each variable takes a value of 1 if the specific type of advice was sought from a financial professional and 0 if it was not.	Alyousif and Kalenkoski (2017)
		"In the last 5 years, have you asked (saw) for any advice from a financial professional about any of the following?" asked in the contexts of "debt counseling," "savings or investments," "taking out a mortgage or a loan," "insurance of any type," and "tax planning." Value 1 for positive response and 0 otherwise.	Robb (2012) andCollins (2012)

Table 3
Financial literacy variables: descriptive statistics.

Variables		PFA = 1 (a)			PFA = 0 (a)			Diff	*t*	*p*
		Obs#	Avg	StDev	Obs#	Avg	StDev			
BIG3	Correct answers BIG3	984	3.38	1.12	4016	2.82	1.42	0.56	13.31	0.00
BIG5	Correct answers BIG5	984	4.32	1.52	4016	3.55	1.84	0.77	13.58	0.00
BIG7	Correct answers BIG7	984	5.61	1.96	4016	4.92	2.32	0.70	9.59	0.00

(a) D25. What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? PFA= 1 if g) Financial/Insurance advisors = 1, otherwise PFA = 0.
Diff = difference between averages. *t* = test t. *p* = probabilities.
BIG3. Number of correct answers to BIG3 questions: D34 (interest rate), D35 (inflation), D36 (diversification); values from 0 to 3.
BIG5. BIG3 + correct answers to questions D38 (compound interest) and D40 (risk-return relationship); values from 0 to 5.
BIG7. BIG5 + correct answers to questions D38bis (longevity risk) and D39 (relationship between insurance premium and coverage); values from 0 to 7.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Variables	COUNS_INVEST = 1			COUNS_INVEST = 0			Diff	*t*	*p*
	Obs#	Avg	StDev	Obs#	Avg	StDev			
FL_INVEST	1037	1.57	0.64	3963	1.37	0.75	0.20	7.77	0.00

CONS_INVEST represents value 1 associated to Question 56_1. FL_INVEST takes value 0-2 if the responses to questions 36 & 40 are both wrong, one correct or both correct. Diff = difference between averages. *t* = test t. *p* = probabilities.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Variables	COUNS_DEBT = 1			COUNS_DEBT = 0			Diff	*t*	*p*
	Obs#	Avg	StDev	Obs#	Avg	StDev			
FL_DEBT	417	0.68	0.46	4583	0.60	0.48	0.08	3.13	0.00

CONS_DEBT represents value 1 associated to Question 56_2. FL_DEBT takes value 1 if the response to question 37 is correct. Diff = difference between averages. *t* = test t. *p* = probabilities.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Variables	COUNS_INSURANCE = 1			COUNS_INSURANCE = 0			Diff	*t*	*p*
	Obs#	Avg	StDev	Obs#	Avg	StDev			
FL_INSURANCE	540	0.47	0.49	4460	0.59	0.49	0.02	5.39	0.00

CONS_INSURANCE represents value 1 associated to Question 56_3. FL_INSURANCE takes value 1 if the response to question 39 is correct. Diff = difference between averages. *t* = test t. *p* = probabilities.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Variables	COUNS_PENSION = 1			COUNS_PENSION = 0			Diff	*t*	*p*
	Obs#	Avg	StDev	Obs#	Avg	StDev			
FL_PENSION	294	0.62	0.48	4706	0.66	0.47	0.04	1.57	0.11

CONS_PENSION represents value 1 associated to Question 56_3. FL_PENSION takes value 1 if the response to question 45bis is option b) 'Yes and I know how they work'. Diff = difference between averages. *t* = test t. *p* = probabilities.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

complementary effects with financial literacy, as listed below:

– Generic, bank and professional financial advice (Question 25)
– Product-related financial advice (debt, investments, insurance, pension) (Question 56)

Question 25 was used to identify those who resorted to advice seeking in making financial decisions:

Question 25. *What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? Up to three answers allowed.*

a)Documents of banking–financial–insurance services & products (product sheet, prospectuses).
b)Non-specialized media (TV, radio, magazines and newspapers).
c)Brochure/marketing material.
d)Institutional websites (revenue agency website, INPS website, …).
e)Press and specialized sites (institutional sites, product comparators …).
f)Bank/Post Office staff.
g)Financial/Insurance advisors.
h)Accountant/Labor consultant.
i)CAF/patronage/trade associations.
j)Consumer associations.
k)Family/friends/colleagues.
l)Non-specialized websites, blogs, social networks.
m)Other.
n)I do not consult any information source.

A Professional Financial Advice (PFA) variable was identified, which takes the value of 1 if g) was one of the selected answers and 0 otherwise. The concept of financial advice behind PFA is stricto sensu since it refers to financial and insurance advisors. Question 25 allows to identify two additional measures of advice seeking: i) one from less specialized consultants such as bank and post office staffs,[4] a Banking Financial Advice (BFA) variable that takes the value of 1 if f) was one of the selected answers and g) was not selected, and 0 when the respondent disregards both the options f) and g); ii) one from press and websites, a Generic Financial Advice (GFA) variable that takes the value of 1 if e), and/or b), and/or l) were among the selected answers and f) and g) were not selected, and 0 when the respondent disregards the options e), b) and l). The three measures differ in the degree of sophistication and personalization of financial advice: maximum in PFA and zero in GFA. PFA has a frequency of 19.7% (984 out of 5000 subjects), BFA a frequency of 23.4% (1168 out of 5000), and GFA a frequency of 31.66% (1583 out of 5000).

To deepen the demand for financial advice at the product-specific

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[4] It should be noted that in Italy post offices offer a wide range of financial products and services including mutual funds, bonds, insurance policies, loans, credit and debit cards, checking accounts.

level, we relied on Question 56:

Question 56. *Since the beginning of the pandemic (March 2020) have you and/or your partner turned to a financial advisor, bank or other intermediary? Multiple answers allowed. .*

1. *Yes, to obtain funding.*
2. *Yes, to evaluate investments.*
3. *Yes, to evaluate the purchase of insurance policies.*
4. *Yes, to evaluate adherence to a supplementary pension form.*
5. *Yes, for other reasons.*
6. *No, we did not consult a financial advisor.*

The question is similar to the one Collins (2012) used to estimate the take-up of financial advice (in our case latu sensu: financial advisor, bank or another intermediary). For every single product (funding, investments, insurance policies, pension funds) the variable takes value 1 if the respondent marked the correspondent option and 0 otherwise. Question 56 was answered positively by 1948 out of 5000 subjects, equal to 39% of respondents. The sum of the answers is 2428 for the presence of multiple answers: Funding 454; Investments 834; Policies 411; Pension funds 235; Other 494.

Table A1 in the appendix lists and describes our dependent variables.

3.2. Independent and control variables

We identified independent and control variables belonging to four categories: Financial literacy, Preferences and behavioral biases, Economic and financial condition, Socio-demographic condition. Some of these variables are taken from the previous literature and some are newly measured, representing a contribution to the existing literature on the topic (Table A2 in the appendix provides a description of each variable and Table A3 the related questions in the survey).

A further contribution of our paper is the variety of financial literacy measures that we employ to test and support its complementary effects with financial advice seeking, as listed below:

– Objectively measured FL (BIG3, BIG5 and BIG7) (Questions from 34 to 40);
– Confidence in ones' financial competencies (Question 30);
– Product-specific measures of financial literacy (Questions 36 and 40 for investments, 37 for debt, 39 for insurance and 45bis for pensions).

Objectively measured financial literacy refers to the number of correct answers to three (BIG3; Kim et al., 2021; Lusardi and Mitchell, 2014), five (BIG5; Brunetti et al., 2022; Collins, 2012) and seven (BIG7; Calcagno and Monticone, 2015; Guiso and Jappelli, 2008) questions of the level of financial literacy (these are Questions 34–40 in the questionnaire). Question 30 provides an overall estimation of individuals' confidence in their financial competencies (as in Collins, 2012). Finally, Questions 36, 37, 39, 40 and 45bis provide detailed information on the financial literacy as far as investment, debt, insurance and pensions are concerned.

Control variables are consistent with those employed in the previous literature. We make use of socio-demographic variables (gender, age, education, having children, and self-employed), economic and financial variables (income, saving, homeowner) and we add the financial risk tolerance and pessimism to control for some behavioral characteristics of the sample. A detailed description of control variables is provided in Table A2 in the appendix.

3.3. Descriptive statistics

Table 3 provides some descriptive statistics for the financial literacy variables. Data show that those who have engaged in professional advice seeking reveal a higher level of actual knowledge measures on 3, 5 and 7

questions. The same result is found for investments and debt, when putting into a relationship product-specific financial advice seeking and product-specific measures of financial literacy. No statistically significance is found for pensions advice, while for insurance counselling people seeking advice show lower levels of financial literacy.

The category of Preferences and behavioral biases includes 3 variables: declared risk appetite (Brunetti et al., 2022; Calcagno and Monticone, 2015; Hanna, 2011), degree of pessimism about the future and one measures of confidence (Brunetti et al., 2022). Data from Table 4 show that those who rely on professional advice report greater risk tolerance and confidence, and lower pessimism about the future.

The category of the economic and financial conditions is represented by 3 variables: the monthly income (Brunetti et al., 2022; Calcagno and Monticone, 2015; Collins, 2012; Hanna, 2011), the ownership of the house (Collins, 2012; Hanna, 2011), and the ability to save (Brunetti et al., 2022). Respondents who have turned to professional counselling declare higher monthly income, home ownership, and ability to save (Table 5).

The category of socio-demographic conditions includes 5 variables: age (Brunetti et al., 2022; Kim et al., 2021; Calcagno and Monticone, 2015), educational degree (Brunetti et al., 2022; Kim et al., 2021; Calcagno and Monticone, 2015; Collins, 2012; Hanna, 2011), gender (Brunetti et al., 2022; Kim et al., 2021; Calcagno and Monticone, 2015; Collins, 2012), presence of minor children in the household (Hanna, 2011), status of self-employed worker (Brunetti et al., 2022; Calcagno and Monticone, 2015; Hanna, 2011). Table 6 shows that those who have engaged in professional counselling have a higher level of education, tend to be male, to have minor children, to have more self-employed workers. No significant age differences.

4. Empirical results

Table 7 show results for the effects of financial literacy measures (FL) on professional, bank and generic financial advice seeking (FAS). Results show that across all the 9 models the effect of financial literacy on FAS is always positive and significant, no matter the measure of financial literacy that is considered (BIG7, BIG5 or BIG3) and the professional, bank or generic financial advice seeking that is under consideration. Full complementarity therefore emerges, which strengthens the strand of the literature supported by Hacketal, Haliassos and Jappelli (2012), Robb (2012), Calcagno and Monticone (2015) and Alyousif and Kalenkoski (2017). Results also show that confidence in own financial skills has a negative and significant effect when professional financial advice (PFA) seeking is considered (and once again across all the measures of financial literacy) (Finke et al., 2011; Hackethal et al., 2012; Robb et al., 2012); no significant emerges in the bank (BFA) and generic (GFA) financial advice seeking instead. Such evidence suggests that for professional financial advice seeking the positive role of financial literacy is polluted by one's confidence, which might therefore narrow the complementarity issue. These findings are consistent with the literature in that more confident investors fail to seek financial advice because they might overestimate their financial knowledge and capability (Kramer, 2016; Lusardi and Mitchell, 2007; Porto and Xiao, 2016).

As far as control variables are concerned, we find that age is a significant determinant of professional and generic advice seeking, while it has no effect on bank advice; in particular, younger households are more inclined to seek professional financial advice (Grable and Joo, 1999). Gender also influences the decision to seek for all the forms of financial advice in that females are more inclined to seek advice; this is possibly due to males' overconfidence in managing finances which induces them to resist financial counseling compared to females (Finke et al., 2011; Hackethal et al., 2012; Robb et al., 2012). Income has been found to be related positively to the demand for financial advice (Robb et al., 2012), as well as being self-employed and being homeowners (Hacketal et al., 2012). Financial fragility (as measured by low saving capacity) is linked to a higher probability of bank financial advice seeking and a lower

Table 4

Preferences and bias variables: descriptive statistics.

Variables		PFA = 1 (a)			PFA = 0 (a)			Diff	*t*	*p*
		Obs#	Avg	StDev	Obs#	Avg	StDev			
FRT	Financial risk tolerance	984	4,63	2,50	4016	3,77	2,47	0,86	9,72	0,00
Pessimism	Pessimism	984	0,71	1,03	4016	1,06	1,26	-0,36	-9,34	0,00
Conf_fs	Confidence in own financial skills	984	5,71	2,00	4016	4,92	2,37	0,79	10,66	0,00

(a) D25. What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? PFA= 1 if g) Financial/Insurance advisors = 1, otherwise PFA = 0.
Diff = difference between averages. *t* = test t. *p* = probability.
FRT: Self-assessed risk appetite (Q29). A scale of 1 to 10 with 1 = "no risk-taker" and 10 = "very risk-taker".
Conf_fs: Confidence in one's financial skill and competences (Q30). A scale of 1 to 10 with 1 = "not at all" and 10 = "very much".
Pessimism: value 1 to 5 to the second option of questions 22 (how much to you rate as true "I fear not being able to provide a safe future for me and my family").
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Table 5

Economic and financial variables: descriptive statistics.

Variables		PFA = 1 (a)			PFA = 0 (a)			Diff	*t*	*p*
		Obs#	Avg	StDev	Obs#	Avg	StDev			
Income	Monthly income	984	11.99	2.48	4016	10.81	3.20	1.18	12.60	0.00
Home	Home ownership	984	0.64	0.48	4016	0.59	0.49	0.05	2.92	0.00
Saving	Saver	984	0.52	0.50	4016	0.36	0.48	0.16	9.08	0.00

(a) D25. What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? PFA= 1 if g) Financial/Insurance advisors = 1, otherwise PFA = 0.
Diff = difference between averages. *t* = test t. *p* = probabilities.
Income: Fifteen income brackets from < 440 euros (1) to 3875 euros (15).
Home: 1 if the option 'b) full ownership' in D4 has been chosen and 0 otherwise.
Saving: 1 if the option '1) has spent less than income, managing to set aside some savings' in D14 has been chosen and 0 otherwise.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

Table 6

Socio-demographic variables: descriptive statistics.

Variables		PFA = 1 (a)			PFA = 0 (a)			Diff	*t*	*p*
		Obs#	Avg	StDev	Obs#	Avg	StDev			
Age	Age	984	52.66	13.52	4016	53.05	13.62	-0.38	-0.80	0.43
Education	Educational degree	984	3.87	1.18	4016	4.17	1.07	-0.30	-7.21	0.00
Gender	Gender	984	0.65	0.48	4016	0.62	0.49	0.04	2.11	0.04
Children	Minor children	984	0.33	0.47	4016	0.29	0.45	0.04	2.45	0.01
Self_employ	Self employed	984	0.19	0.39	4016	0.13	0.33	0.06	4.64	0.00

(a) D25. What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? PFA= 1 if g) Financial/Insurance advisors = 1, otherwise PFA = 0.
Diff = difference between averages. *t* = test t. *p* = probabilities.
D5bis. 1 + the number of family members.
Age: in years
Education: 1 =Master/Ph.D.; 2 =Graduate; 3 =Undergraduate; 4 =High school; 5 =Middle school; 6 =Elementary school; 7 =No degree (Question TITOLO DI STUDIO).
Gender: 1 if the option 'male' has been chosen and 0 otherwise.
Children: expressed in numbers.
Self_employ: 1 if the option 'a)' in D7 has been chosen and 0 otherwise.
To make the distribution of the interviewed sample adherent to that of the reference universe, the data collected were weighted by: a) age, municipality size, region and level of education (source ISTAT); b) presence of children 0-14 years, income and profession (source Doxa).

probability of professional advice seeking. As far as behavioral aspects are concerned, high financial risk tolerance increase the probability of seeking financial advice (both bank and professional) (Collins, 2012; Grable and Joo, 1999, 2001; Hanna, 2011; Robb et al., 2012) but exerts a negative influence on the probability of seeking generical financial advice.

Table 8 shows results for the effects of product-specific financial literacy measures on product-specific financial advice seeking. Results

show that complementarity emerges for investment and debt (positive and significant coefficient) while a substitutive effect characterizes the relationship between financial literacy and financial advice seeking in insurance and pension advice (negative and significant coefficient). Such opposite results can be ascribed to the specificity of the advice seeking that is under consideration. As already hypothesized in Section 2, the level of financial literacy of the investors might influence their attitude towards financial advice seeking: investors with a sufficient

Table 7
Effects of Financial literacy on professional, bank and generic financial advice seeking.

	PFA		PFA		PFA		BFA		BFA		BFA		GFA		GFA		GFA	
	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
BIG7	0.17	* *					0.22	* **					0.13	* *				
	(0.07)						(0.06)						(0.06)					
BIG5			0.23	* *					0.31	* **					0.18	* *		
			(0.09)						(0.08)						(0.08)			
BIG3					0.34	* *					(0.46)	* **					0.27	* *
					(0.13)						0.12						(0.11)	
Conf_fs	-0.16	* **	-0.03	* *	-0.03	* *	-0.01		-0.01		-0.01		0.01		0.01		0.01	
	(0.04)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
Age	-0.24	* **	-0.17	* **	-0.17	* **	0.00		-0.01		-0.02		0.10	* *	0.09	* *	0.09	* *
	(0.05)		(0.04)		(0.04)		(0.04)		(0.04)		(0.04)		(0.03)		(0.03)		(0.04)	
Gender	-0.01		-0.23	* **	-0.25	* **	-0.10	*	-0.09	*	-0.11	* *	-0.11	* *	-0.10	* *	-0.12	* *
	(0.01)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)	
Income	0.29	* **	-0.01		-0.01		0.02	*	0.02	*	0.02		-0.01		-0.01		-0.01	
	(0.07)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
Self_employ	0.05		0.29	* **	0.27	* **	0.12	* *	0.12	* *	0.10		-0.30	* **	-0.30	* **	-0.31	* **
	(0.05)		(0.07)		(0.07)		(0.06)		(0.06)		(0.06)		(0.06)		(0.06)		(0.06)	
Home	0.11	* *	0.05		0.05		0.08	*	0.08	*	0.08	*	-0.02		-0.02		-0.02	
	(0.05)		(0.05)		(0.05)		(0.04)		(0.04)		(0.04)		(0.04)		(0.04)		(0.04)	
Children	-0.11	* *	0.11	* *	0.13	* *	0.00		-0.01		0.01		-0.02		-0.02		-0.01	
	(0.05)		(0.05)		(0.05)		(0.05)		(0.04)		(0.05)		(0.04)		(0.04)		(0.04)	
Saving	-0.01		-0.11	* *	-0.12	* *	0.08	*	0.08	*	0.07		0.05		0.04		0.04	
	(0.02)		(0.05)		(0.05)		(0.05)		(0.05)		(0.05)		(0.04)		(0.04)		(0.04)	
Education	0.03	* *	0.00		-0.01		0.01		0.02		0.01		-0.04	* *	-0.04	* *	-0.04	* *
	(0.01)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	
FRT	-0.01		0.03	* *	0.03	* *	0.05	* **	0.05	* **	0.05	* **	-0.02	*	-0.02		-0.02	*
	(0.02)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
Pessimism	-0.01		-0.01		-0.01		-0.01		0.00		-0.01		0.00		0.00		0.00	
	(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	
Number of obs	5000		5000		5000		5000		5000		5000		5000		5000		5000	

* . * *. * ** denote statistical significance at 10%. 5%. 1% respectively. Standard errors in brackets.

Table 8
Effects of Financial literacy on financial advice seeking (product-specific).

	COUNS_INVEST		COUNS_DEBT		COUNS_INSURANCE		COUNS_PENSION	
FL_invest	0.38	* *						
	(0.17)							
FL_debt			1.63	* **				
			(0.19)					
FL_insurance					-1.00	* **		
					(0.25)			
FL_pension							-1.39	* **
							(0.25)	
FRT	0.13	* **	0.05	* **	0.07	* **	0.07	* *
	(0.01)		(0.01)		(0.029)		(0.02)	
Gender	-0.02		-0.13	* *	0.05		-0.01	
	(0.05)		(0.05)		(0.06)		(0.06)	
Income	0.02	*	-0.02	* *	0.02	* *	0.04	* **
	(0.01)		(0.01)		(0.01)		(0.01)	
Self_employ	-0.07		0.02		-0.07		0.01	
	(0.06)		(0.06)		(0.07)		(0.07)	
Home	0.31	* **	-0.07		0.14	* *	0.10	*
	(0.05)		(0.05)		(0.05)		(0.05)	
Age	0.03		-0.04		-0.08	*	-0.06	
	(0.04)		(0.04)		(0.05)		(0.06)	
Saving	0.14	* **	-0.16	* **	-0.05		-0.01	
	(0.05)		(0.05)		(0.05)		(0.05)	
Optimism	-0.01		0.09	* **	-0.01		0.01	
	(0.02)		(0.02)		(0.02)		(0.02)	
Education	0.05	* **	-0.06	* **	0.05	* *	0.09	* **
	(0.02)		(0.02)		(0.02)		(0.02)	
Children	0.08	*	0.08	*	0.24	* **	0.01	
	(0.05)		(0.05)		(0.06)		(0.06)	
Number of obs	5000		5000		5000		5000	

* . * *. * ** denote statistical significance at 10%. 5%. 1% respectively. Standard errors in brackets.

level of financial literacy might seek financial advice to obtain information and support as inputs for their decisions; on the other hand, investors with low financial literacy might use it to delegate decisions, if their trust in the advisor is sufficiently high. So far, our results might

suggest that for investment and debt decisions (where the average level of financial literacy is higher - see descriptive statistics in Table 3) households seek for financial advice in terms of information and support to make decisions; when pensions and insurance products are under

consideration, the low level of knowledge of these issues prompts the delegation of the relevant decision.[5]

Risk tolerance is related positively to seeking all types of financial advice (Alyousif and Kalenkoski, 2017), as well as being homeowners and having children and these are the only control variables showing a consistency across most of the different types of financial advice seeking. For the remaining variables, we find that the determinants of seeking advice regarding investments, insurance and pensions are different from the determinants of seeking advice regarding debt, as in Elmerick et al. (2002). In particular, income and education are positively related to the probability of seeking financial advice in all areas apart from debt counselling. In addition, financial fragility (as measured by saving capacity) increases the demand for debt counseling and decreases that for investment advice.

As a further contribution, we consider possible variations in the relationship between financial literacy and financial advice seeking depending on the possession of the financial products under analysis. The tables below show the results with reference to the subgroup of those who own the products (Table 9) and those who do not own the products (Table 10).

With reference to investments, which by nature require portfolio revisions that nurture an ongoing relationship with the advisor, a complementarity between FL and FAS emerges for those who already hold investments; the same relationship turns into non-significant for those who do not yet invest. This underscores the theme of financial advice as a support for investment decisions, that we already suggested at the beginning of Section 4: those with greater FL use financial advisors as a support, especially in managing decisions about existing portfolios.

Table 9
Financial literacy and financial advice seeking – No possession of financial product.

	COUNS_INVEST		COUNS_INSURANCE		COUNS_PENSION	
FL_invest	0.23					
	(0.48)					
FL_insurance			-1.28	* **		
			(0.24)			
FL_pension					-1.62	* **
					(0.21)	
FRT	0.07	* *	0.04	*	0.04	*
	(0.03)		(−0.02)		(0.02)	
Gender	-0.14		0.14	*	0.06	
	(0.13)		(0.06)		(0.06)	
Income	-0.03		0.02	*	0.03	* *
	(0.03)		(0.01)		(0.01)	
Self_employ	-0.26		-0.06		0.00	
	(0.20)		(0.09)		(0.07)	
Home	0.20	* *	0.08		0.05	
	(0.12)		(0.06)		(0.06)	
Age	-0.03		-0.09	*	-0.03	
	(0.10)		(0.05)		(0.06)	
Saving	0.13		-0.07		-0.06	
	(0.13)		(0.06)		(0.06)	
Optimism	0.06		0.00		-0.02	
	(0.06)		(0.02)		(0.02)	
Education	0.05		0.06	* *	0.09	* **
	(0.05)		(0.03)		(0.02)	
Children	0.28	* *	0.24	* **	-0.02	
	(0.12)		(0.07)		(0.06)	
Number of obs	5000		5000		5000	

*, * *, * ** denote statistical significance at 10%, 5%, 1% respectively. Standard errors in brackets.

Table 10
Financial literacy and financial advice seeking – Possession of financial product.

	COUNS_INVEST		COUNS_INSURANCE		COUNS_PENSION	
FL_invest	0.40	* *				
	(0.18)					
FL_insurance			-0.05			
			(0.96)			
FL_pension					-0.51	
					(0.81)	
FRT	0.14	* **	0.07	* **	0.07	* *
	(0.01)		(0.03)		(0.03)	
Gender	0.00		-0.23	* *	-0.26	* *
	(0.06)		(0.12)		(0.12)	
Income	0.03	* *	-0.02		0.04	
	(0.01)		(0.04)		(0.03)	
Self_employ	-0.04		-0.16		0.16	
	(0.07)		(0.13)		(0.16)	
Home	0.31	* **	0.20	* **	0.20	*
	(0.05)		(0.10)		(0.12)	
Age	0.02		-0.17		-0.17	
	(0.04)		(0.12)		(0.13)	
Saving	0.15	* *	-0.07		0.06	
	(0.05)		(0.10)		(0.13)	
Optimism	-0.01		-0.01		0.12	* **
	(0.02)		(0.04)		(0.05)	
Education	0.05	* *	0.01		0.05	
	(0.02)		(0.05)		(0.05)	
Children	0.05		0.18	*	0.09	
	(0.05)		(0.10)		(0.13)	
Number of obs	5000		5000		5000	

*, * *, * ** denote statistical significance at 10%, 5%, 1% respectively. Standard errors in brackets.

In contrast, since pensions and insurance are characterized by a lower intensity in the advisor-client relationship, substitution evidence (delegation effect) emerges for those who do not hold such products. In other words, those with higher FL make use of financial advisory with a delegation purpose at the subscription time; this effect declines in time since by nature insurance and pensions do not need ongoing portfolio revisions (no significance in those already holding pension and insurance products).

5. Discussion

In this paper, we analyze the effect of the households' financial literacy on their decision about seeking financial advice. The data set we use offers the opportunity to test the relationships across different measures of financial literacy and financial advice seeking, especially product-specific measures, which represents a contribution to the existing literature. Previous papers did not shed light on the complementarity vs substitutability effect - despite a prevalence of complementarity emerges - possibly, due to the different measures that are employed from time to time and did not explore any possible heterogeneity in the complementarity or substitutability effect depending on the specific product under consideration.

Our empirical findings show that a high degree of financial literacy increases the probability of consulting an advisor, no matter the measure of financial literacy that is considered and the generic, bank or professional financial advice seeking that is under consideration. Full complementarity therefore emerges. Results also show that for professional financial advice seeking the positive role of financial literacy is sided by a negative effect of one's confidence in own financial skills, which might therefore narrow the complementarity issue.

More importantly, when considering the role of product-specific financial literacy measures on product-specific financial advice seeking, results show that complementarity emerges for investment and debt while a substitutability characterizes the relationship between financial literacy and financial advice seeking in insurance and pension advice. Such opposite results can be ascribed to the specificity of the

[5] Confidence in own financial skills was not considered in the model represented in Table 8 because our dataset does not provide any product-specific measures of confidence. However, we ran the model including the general measure (conf_fs) and the result on financial literacy remained unchanged.

advice seeking that is under consideration and might be linked to the different level of product-specific financial literacy; investment and debt advice seeking might be more driven by informational and supportive purposes, while for insurance and pensions advice may take more the form of delegation.

These result holds even after controlling for several factors including the households' demographic variables, economic situation, behavioral characteristics and so on. Our results are also robust to potential endogeneity.

The analyses we carried out in this study are relevant both for academics and for policy makers because it addresses timely policy issues and contributes to the recent literature on the substitutability versus the complementarity of financial literacy and advice. The concerns about the lack of financial literacy might be less worrying if individual gaps were compensated for by external advice coming from reliable and qualified sources. In particular, the intensity and urgency of policy measures addressed to stimulate financial literacy should be set according to Fig. 1 below.

Where low financial literacy emerges, a substitutive role of financial advisors might compensate – at least in the short run – for the lack of knowledge, meaning that policy measures can be more focused on long-run initiatives addressed to increase households' level of financial literacy. On the contrary, if a complementary role of financial advisors prevails, a greater effort is needed from policy makers: less financial literacy translates into less advice seeking and no substitutive role of financial advisors can be exploit, so that both short and long run financial education initiatives need to be designed.

Where high financial literacy is revealed, a complementarity with

financial advice seeking would engage authorities in maintaining and stimulating that level of financial literacy; if a substitution effect emerges instead, authorities may need to focus their efforts on resolving potential trust issues toward financial counseling.

Our work provides new insights into the relationship between financial literacy and financial advice seeking, which translate into policy implications. Although financial literacy plays a positive role on financial advice seeking - both generic and professional - policy measures to increase financial literacy and financial advice seeking should be tailored according to the financial sectors under consideration. As substitutability emerges for insurance and retirement planning advice, promoting and subsidizing cost-effective financial advice services may be a short-term solution to compensate for the lack of financial literacy. In contrast, more policy efforts are needed, both in the short and long term, in the investment and debt sectors, where low financial literacy translates into low demand for financial advice.

Future research might be therefore addressed to dig deep into the peculiarities of the product-specific advice, possibly relying on specific and in-depth questions about the use of advice and financial literacy in the different financial sectors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper. No conflicts of interest then to be disclosed.

Appendix A

Table A1

– Description of dependent variables.

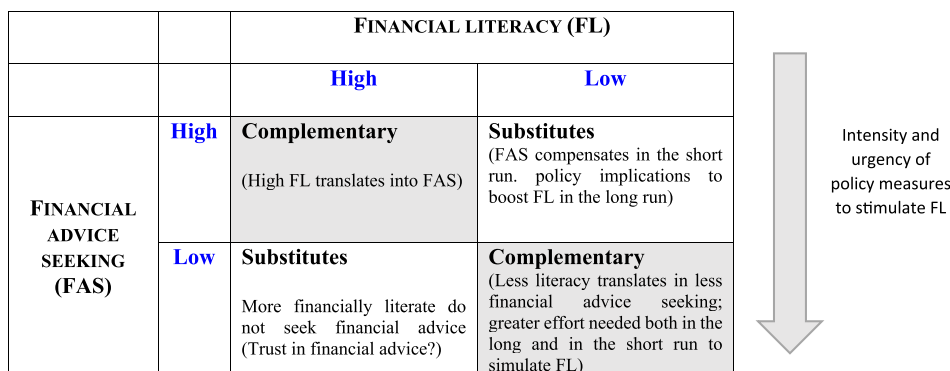| Variable	Description
Question 25	Q25. What are the sources of information normally consulted for the economic and financial decisions of your family (savings, investments, debt, insurance, taxes, contributions …)? Up to three answers allowed. a)Documents of banking–financial–insurance services & products (product sheet, prospectuses) b)Non-specialized media (TV, radio, magazines and newspapers) c)Brochure/marketing material d)Institutional websites (revenue agency website, INPS website, …) e)Press and specialized sites (institutional sites, product comparators …) f)Bank/Post Office staff g)Financial/Insurance advisors h)Accountant/Labor consultant i)CAF/patronage/trade associations j)Consumer associations k)Family/friends/colleagues l)Non-specialized websites, blogs, social networks m)Other n)I do not consult any information source

		FINANCIAL LITERACY (FL)	
		High	**Low**
FINANCIAL ADVICE SEEKING (FAS)	**High**	**Complementary** (High FL translates into FAS)	**Substitutes** (FAS compensates in the short run. policy implications to boost FL in the long run)
	Low	**Substitutes** More financially literate do not seek financial advice (Trust in financial advice?)	**Complementary** (Less literacy translates in less financial advice seeking; greater effort needed both in the long and in the short run to simulate FL)

Intensity and urgency of policy measures to stimulate FL

Fig. 1. Intensity and urgency of policy measures in the FL vs FAS issue.

Table A1 (*continued*)

Variable	Description
Professional Financial Advice (PFA)	1 if option g) in Q25 was chosen and 0 otherwise.
Bank Financial Advice (BFA)	1 if option f) in Q25 was chosen and g) was not selected, and 0 otherwise.
Generic Financial Advice (GFA)	1 if the respondent selected option b), e) or l) in Q25 but not options g) or f).
Question 56	Q56. Since the beginning of the pandemic (March 2020) have you and/or your partner turned to a financial advisor, bank or other intermediary?
Recourse to Financial Advice (RFA)	Multiple answers allowed.
	1-Yes, to obtain funding
	2-Yes to evaluate investments
	3-Yes, to evaluate the purchase of insurance policies
	4-Yes, to evaluate adherence to a complementary pension form
	5-Yes, for other reasons
	6-No, we did not consult a financial advisor.
	Similar question in Collins (2012).
COUNS_DEBT	1 if option 1 in Q56 was chosen and 0 otherwise.
COUNS_INVEST	1 if option 2 in Q56 was chosen and 0 otherwise.
COUNS_INSURANCE	1 if option 3 in Q56 was chosen and 0 otherwise.
COUNS_PENSION	1 if option 4 in Q56 was chosen and 0 otherwise.
Source	EduFin Report 2022 – DOXA and Committee for the planning and coordination of financial education activities, Rome, October 2022.

Table A2

Description of independent and control variables.

Variable	Description
Category: Financial literacy	
BIG3	Number of correct answers to questions Q34 (interest rate), Q35 (inflation), Q36 (diversification), values from 0 to 3.
BIG5	BIG3 + correct answers to questions Q38 (compound interest) and Q40 (risk-return relationship), values from 0 to 5.
BIG7	BIG5 + correct answers to questions Q38bis (longevity risk) and Q39 (relationship between insurance premium and coverage), values from 0 to 7.
FL_INVEST	2 if the responses to Q36 (diversification) and Q40 (risk-return relationship) are both correct, 1 if one is correct and 0 when both responses are wrong.
FL_DEBT	1 if the response to Q37 (mortgage) is correct and 0 otherwise
FL_INSURANCE	1 if the response to Q39 (relationship between insurance premium and coverage) is correct and 0 otherwise
FL_PENSION	1 if the response to Q45bis (supplementary pension) is correct and 0 otherwise.
Category: Preferences and biases	
Declared risk appetite	Self-assessed risk appetite. A scale of 1 to 10 with 1 = "no risk-taker" and 10 = "very risk-taker". (Q29)
Pessimism	Value 1 to 5 to the second option of Q22 (how much to you rate as true "I fear not being able to provide a safe future for me and my family").
Conf_fs	Confidence in one's financial skills and competences. A scale of 1 to 10 with 1 = "not at all" and 10 = "very much". (Q30)
Category: Economic and financial condition	
Monthly income	Q8. Fifteen income brackets from < 440 euros (1) to 3.875 + euros (15); values from 1 to 15.
Home ownership	1 if the option 'b) full ownership' in Q4 was chosen and 0 otherwise.
Saver	1 if the option '1) has spent less than income, managing to set aside some savings' in Q14 was chosen and 0 otherwise.
Category: Socio-demographic condition	
Age	Age in years (Question ANNI).
Educational degree	1 =Master/Ph.D.; 2 =Graduate; 3 =Undergraduate; 4 =High school; 5 =Middle school; 6 =Elementary school; 7 =No degree (Question TITOLO DI STUDIO).
Male	1 if the option 'male' in Question GENDER was chosen and 0 otherwise.
Minor children	1 if the options 'a)' or 'b)' in Q2 was chosen and 0 otherwise.
Self employed	1 if the option 'a)' in Q7 was chosen and 0 otherwise.
Source	EduFin Report 2022 – DOXA and Committee for the planning and coordination of financial education activities, Rome, October 2022.

Table A3

Questionnaire.

Question	Description
Q2	QUESTION 2
	In your family besides you are permanently present: a) Children under 14 years; b) Minor children between 15 and 18 years of age; c) Non-minor children; d) Persons over 70 years of age; e) Persons who are not self-sufficient or with disabling pathologies.
Q4	QUESTION 4
	The house where you live is: a) Property with mortgage loan; b) Full ownership; c) Rent; d) Other.
Q7	QUESTION 7
	Are you self-employed or employed? (a) self-employed; (b) permanent public sector employee; (c) fixed-term public sector employee; (d) permanent private sector employee; (e) fixed-term private sector employee; (f) not applicable because I am retired; (g) not applicable because I am unemployed; (h) other.
Q8	QUESTION 8
	Tell what monthly income range (after tax) your household was in in April 2022:
	1: Up to E. 439 / 2: E. 440 - E. 539 / 3: E. 540 - E. 644 / 4: E. 645- E. 749 / 5: E. 750- E. 849 / 6: E. 850- E. 954 / 7: E. 955- E. 1.059,00 / 8: E. 1.060,00 - E. 1.159,00 / 9: E. 1.160,00 - E. 1.264,00 / 10: E. 1.265,00 - E. 1.369,00 / 11: E. 1.370,00 - E. 1.549,00 / 12: E. 1.550,00 - E. 1.939,00 / 13: E. 1.940,00 - E. 2.454,00 / 14: E. 2.455,00 - E. 3.875,00 / 15: E. 3.875,00 + .
Q14	QUESTION 14
	Think about all your family's sources of income (income from work, rent, capital gains, etc.).
	Could you tell me if your family since the beginning of the COVID emergency: 1) has spent less than income, managing to set aside some savings; 2) spent all income, without being able to save anything; 3) spent more than income, having to use savings or going into debt.
Q22	QUESTION 22
	How much you agree or disagree with each of the following statements:
	(indicate your answer on a scale of 1 to 5 where 1 ="I strongly disagree", 3 ="neither agree nor disagree", 5 ="I completely agree")
	1) Thinking about my financial situation makes me anxious
	2) I am afraid of not being able to give a peaceful and safe future to me and my family.

Table A3 (*continued*)

Question	Description
Q29	QUESTION 29 - Risk appetite
	When you think about your financial decisions, including financial investments, how likely are you to risk?
	(Indicate your answer on a scale of 1 to 10, where 1 means "no risk-taker" and 10 means "very risk-taker").
Q30	QUESTION 30
	When you think about your financial decisions, including financial investments, how much confidence do you have in your financial skills and competencies?
	(Indicate your answer on a scale of 1 to 10, where 1 means 'not at all' and 10 means 'very much').
Q34	QUESTION 34 - Understanding interest rates
	Suppose you have 100 euros deposited in a checking account that earns you an annual interest rate of 2% without management fees. How much do you think you will find yourself on the account after 5 years without ever having withdrawn?
	a) More than 102 euros (correct answer); b) Exactly 102 euros; (c) Less than EUR 102; d) I don't know
Q35	QUESTION 35 - Understanding inflation
	Suppose you leave 100 euros on a checking account that earns you an interest rate of 1% per annum without management fees. Imagine also that inflation is equal to 2%. After 1 year, with that amount how much can you buy?
	a) More than today; b) Exactly the same; c) Less than today (correct answer); d) I don't know
Q36	QUESTION 36 - Understanding risk diversification
	The following statement: "In general, investing 1000 euros in shares of one company is a less risky investment than investing 1000 euros in shares of 10 different companies", in your opinion, is it true or false?
	a) True; b) False (correct answer); c) I don't know.
Q37	QUESTION 37 – Understanding mortgages
	A mortgage with a duration of 15 years usually involves the payment of higher installments than a mortgage with a duration of 30 years, but the total interest paid during the overall term of the loan is lower.
	a) True
	b) False
	c) I don't know
Q38	QUESTION 38 – Understanding compound interest
	Suppose you deposit money into your bank account for 2 years at the hypothetical rate of 5% per annum with no management fees. The bank: (a) will pay you more money in the second year than in the first (correct answer); (b) will pay you the same amount for both years; (c) I don't know.
Q38bis	QUESTION 38 bis - Understanding longevity risk
	Which of the following statements is true: a) If life expectancy increases, the monthly pension amount decreases (correct answer); (b) If life expectancy increases, the monthly pension amount increases; (c) The amount of the pension does not depend on life expectancy; d) I don't know.
Q39	QUESTION 39 - Understand the relationship between insurance premium and coverage
	In your opinion, an insurance policy that provides that at the occurrence of the damage, a part of this remains the responsibility of the insured (deductible) is on average more expensive or less expensive than a policy that does not provide for it and reimburses the damage in full? a) More expensive; (b) Equal; c) Less expensive (correct answer); d) I don't know.
Q40	QUESTION 40
	Is the following statement "In general, investments that offer higher returns tend to be riskier than investments that offer lower returns," in your opinion, true or false? a) True (correct answer); b) False; c) I don't know.
Q45bis	QUESTION 45bis
	The supplementary pension is:
	●the mandatory social security system managed by INPS
	●the social security system managed by the professional associations and addressed to freelancers
	●a system of pension schemes responsible for collecting private savings and providing a pension supplementary to the mandatory one
	●I don't know
Source	EduFin Report 2022 – DOXA and Committee for the planning and coordination of financial education activities, Rome, October 2022.

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