

Sustainable Finance

# Interest in sustainable investments

A characterisation exercise of Italian investors  
based on CONSOB surveys

*D. Costa, M. Gentile, N. Linciano*



The **Sustainable Finance Series** collects the analyses and insights carried out as part of the Steering Committee on Sustainability, which was established to enhance interventions in the areas of regulation and supervision assigned to CONSOB, as well as to encourage, within the existing regulatory framework, the matching of supply and demand for sustainable financial products.

Editorial Committee

Nadia Linciano (coordinator)

Daniela Costa

Giovanna Di Stefano

Monica Gentile

Paola Soccorso

Editorial secretary

Eugenia Della Libera, Paola Maione, Elena Frasca

All rights reserved.

Reproduction is allowed for educational and non-commercial purposes,  
on condition that the source is mentioned.

## CONSOB

00198 Roma - Via G.B. Martini, 3

**t** +39.06.84771

**f** +39.06.8477612

20121 Milano - Via Broletto, 7

**t** +39.02.724201

**f** +39.02.89010696

**h** [www.consob.it](http://www.consob.it)

**e** [studi\\_analisi@consob.it](mailto:studi_analisi@consob.it)

# Interest in sustainable investments

A characterisation exercise of Italian investors  
based on CONSOB surveys

*D. Costa, M. Gentile, N. Linciano\**

## Abstract

This paper analyses the individual characteristics that are associated with interest in sustainable investments as reported by participants in the 2019 and 2021 waves of the surveys of the CONSOB Observatory on 'Approach to Finance and Investments of Italian Households'. In line with the insights of the economic literature, interest is positively correlated with multiple features, such as the level of education and the robustness of the economic-financial situation, perceived knowledge of sustainable investments, financial knowledge, and digital knowledge, personal traits such as: social preferences; propensity for financial control; investment experience and holding of a diversified portfolio. Conversely, interest is found to be negatively correlated with age, risk aversion, and liquidity holding. The work provides empirical evidence that may be useful for the elicitation of investors' sustainability preferences, which the most recent European regulatory developments require as part of the suitability assessment to be carried out by investment firm offering investment advice or portfolio management services. The analysis provides useful indications with respect to the design of 'financial eco-literacy' initiatives and financial education, in particular with regard to segmenting the target audience of the initiatives and defining the training content.

Keywords: retail investors, sustainable investments, sustainability preferences, personal finance, financial advice, financial knowledge, financial education.

JEL Classifications: D14, D91, G11, G41, G53.

# Contents

1	Introduction and main conclusions	5
2	Recent European regulatory developments relating to sustainability preferences of retail investors	6
3	Approach to sustainable investments: review of the literature	8
4	Interest in sustainable investments: an exercise to characterise Italian investors	11
4.1	The sample and the construction of key variables	11
4.2	Descriptive statistics	13
4.3	Data analysis and findings	15
	<b>References</b>	<b>24</b>
	<b>Appendix 1</b>	<b>29</b>
	<b>Appendix 2</b>	<b>39</b>

# 1 Introduction and main conclusions

Retail investors' interest in sustainable investments has grown significantly in recent years. In the domestic context, according to the CONSOB surveys on investment choices of Italian households (SIFI), the share of investors stating they are willing to consider financial instruments with sustainability features has increased from 60% in 2019 to around 74% in 2021. The figure is also confirmed at international level<sup>1</sup>.

The evolution of the European regulatory framework on sustainable finance raises the need to understand the individual characteristics of investors interested in sustainable finance. Among the regulatory innovations introduced by the Action Plan on Financing Sustainable Growth published in March 2018<sup>2</sup>, Delegated Regulation (EU) 2021/1253 requires that as of 2 August 2022, intermediaries authorised to provide investment advice or portfolio management services must also take into account 'possible sustainability preferences' in the suitability assessment. ESMA intervened by providing information on possible adjustments to the questionnaires used for customer profiling (so-called MiFID questionnaires).

In this context and in line with the regulations, it is crucial to understand how sustainability preferences can be detected and, in particular, which are the characteristics to focus on as potentially revealing sustainability preferences<sup>3</sup>.

Economic literature provides some indications regarding the potential drivers of investors' approach to sustainable investments, suggesting, among other things, the detection of socio-demographic characteristics, financial knowledge, and personal traits. However, these indications must be supported by empirical evidence since the relationship between interest in sustainable investments and individual characteristics may vary depending on the context.

This Working Paper provides a contribution by identifying the variables that are associated with the interest of Italian financial decision-makers in sustainable investments, as noted in the CONSOB surveys on the investment choices of Italian households (SIFI) in 2019 and 2021. In line with the indications of the economic literature, interest is correlated with multiple aspects, including: the level of education and the soundness of the economic and financial situation; the perceived knowledge of sustainable investments, financial and digital knowledge; personal traits such as social

1 For international evidence, see 2Investing Initiative (2020), Invesco (2021a) and Globescan Radar (2021).

2 For a detailed reconstruction see Linciano et al. (2021).

3 As will be clarified shortly, this study is not concerned with the analysis of MiFID questionnaires (and the detection of sustainability preferences through them) but seeks to understand which individual characteristics can be associated with the interest in sustainable investments. In particular, the paper is based on the annual surveys by the CONSOB Observatory on the investment choices of Italian households for the years 2019 and 2021. The surveys are carried out based on a questionnaire prepared by CONSOB and administered to a representative sample of the population of Italian financial decision-makers. It should be noted that during the survey period, the obligation to identify sustainability preferences for the purposes of assessing the suitability of intermediaries when providing investment advice and portfolio management services had not entered into force yet.



preferences; the approach to financial control; experience in investment matters, owning a diversified portfolio together with stocks, corporate bonds and funds. Conversely, interest is negatively correlated with age, risk aversion and liquidity.

The analysis provides empirical evidence and food for thought useful with a view to identifying investors' sustainability preferences in the context of the suitability assessment. The detection of sustainability preferences for customer profiling can be distorted by poor knowledge, both when it refers to the general concept of sustainable investments and (and even more so) when it refers to the specific categories of sustainable investments identified by the European legislator. The preference for sustainability declared by individuals can also be influenced by behavioural biases and emotional factors that, if not adequately considered, can have a distorting effect on the detection. However, many of the variables relating to the interest in sustainable investments are already subject to detection by intermediaries for customer profiling purposes<sup>4</sup>. Therefore, the Working Paper allows potential synergies to be captured with respect to what intermediaries have already collected for the purpose of extracting information content that is useful for measuring sustainability preferences.

The paper also provides useful indications with respect to the design of 'financial eco-literacy' initiatives and financial education, with regard to the segmentation of the target audience of the initiatives and the definition of the training content. As will be detailed later, these initiatives prove necessary, because if interest in sustainable finance is increasingly widespread, most retail investors are not yet familiar with the notions relevant to investment choices, both basic notions and notions referring to sustainable financial instruments.

The Working Paper is organised as follows. After recapping the main regulatory innovations in terms of detection of investors' preferences for sustainability and transparency of information on sustainable financial products (section 2), the study briefly reviews the economic literature that has investigated the socio-demographic and behavioural characteristics and financial choices associated with individuals' approach to sustainable finance (section 3). This is followed and concluded by a description of the results (section 4). Finally, the Appendix contains a short analysis of the characteristics of those investors who declare to hold sustainable financial instruments, based on a matching sample exercise (Appendix 2).

## 2 Recent European regulatory developments relating to sustainability preferences of retail investors

One of the regulatory innovations following the launch of the European Commission's Action Plan on Financing Sustainable Growth in 2018 concerns the suitability assessment in the context of the advisory and portfolio management service.

4 See also the Discussion paper 'Customer profiling for suitability assessment. Follow up to the 2012 study on a sample of Italian intermediaries', Adria et al. (2022).

The provisions of Directive 2014/65/EU on the financial instruments markets (the so-called MiFID II) and the Guidelines issued by the European Securities Markets Regulator (ESMA)<sup>5</sup> were complemented by Delegated Regulation (EU) 2021/1253<sup>6</sup> concerning the integration of sustainability factors, sustainability risks and sustainability preferences in certain organisational requirements and operating conditions of investment firms. Delegated Regulation (EU) 2021/1253 established that as of 2 August 2022 intermediaries authorised to provide investment advice or portfolio management services shall also consider in the suitability assessment the 'possible sustainability preferences' of the investor with respect to defined categories of sustainable financial instruments<sup>7</sup>.

5 ESMA, "Guidelines on certain aspects of the MiFID II suitability requirements" 28 May 2018. <https://www.esma.europa.eu/press-news/esma-news/esma-publishes-final-guidelines-mifid-ii-suitability-requirements>. In more detail, ESMA recommended the collection of the following information in the suitability assessment:

- marital status of the client (especially the client's legal capacity to commit assets that may belong also to his partner);
- family situation (changes in the family situation of a client may impact his financial situation e.g., a new child or a child of legal age to start university);
- age (which is mostly important to ensure a correct assessment of the investment goals, and in particular the level of financial risk that the investor is willing to take);
- holding period/investment horizon, which indicates the willingness to hold an investment for a certain period of time);
- employment situation (the degree of job security or that fact the client is close to retirement may impact his financial situation or his investment objectives);
- need for liquidity in certain relevant investments or need to fund a future financial commitment (e.g., property purchase, education fees).

Furthermore, with specific reference to sustainability, ESMA, in light of the 2018 Action Plan on Financing Sustainable Growth of the European Commission and anticipating the spirit of the subsequent regulatory interventions, as part of the suitability assessment, deems it to be good practice to also consider non-financial elements and to collect information from the customer on their preferences with regard to environmental, social and corporate governance factors and to take them into account when assessing the range of financial instruments to be recommended.

6 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organizational requirements and operating conditions for investment firms.

7 Article 1 of Delegated Regulation (EU) 2021/1253 specifies that the definition of "sustainability preferences" refers to the choice, by a client or potential client as to whether and, if so, to what extent, one or more of the following financial instruments shall be integrated into his or her investment:

- a) a financial instrument for which the client or potential client determines that a minimum proportion shall be invested in environmentally sustainable investments as defined in Article 2, point (1), of Regulation (EU) 2020/852 of the European Parliament and of the Council (i.e., an environmental goal specifically addressed by the European taxonomy for example biodiversity, pollution...);
- b) a financial instrument for which the client or potential client determines that a minimum proportion shall be invested in sustainable investments as defined in Article 2, point (17), of Regulation (EU) 2019/2088 of the European Parliament and of the Council (SFDR Regulation), i.e., in activities with a social or environmental objective, in a minimum proportion determined by the client or potential client;
- c) a financial instrument that considers principal adverse impacts on sustainability factors.

If a client's sustainability preferences are not compatible with the financial products offered, the new EU Regulation requires companies providing investment advice to refrain from recommending unsuitable services. They must then explain to their clients why they are not able to offer them financial products in line with their expectations on sustainability and keep track of these reasons. If the client decides to adapt his sustainability preferences to better adjust them to the financial products offered, the investment company must keep track of the client's decision and the relative reasons. In all cases, the report provided to the customer following investment advice must include a summary of the advice provided and an explanation of how the recommendation provided is suitable for the customer to the extent that it meets their: investment targets; time horizon; knowledge and experience; risk tolerance; ability to bear losses; preferences in terms of sustainability.

On 23 September 2022, ESMA published the Guidelines on certain aspects of the MiFID II suitability requirements aimed at updating the suitability assessment to take into account the sustainability preferences regulated in the aforementioned Regulation. The most important innovations included in the ESMA guidelines concern: i) the collection of information from customers about their preferences in relation to the different types of sustainable investment products; ii) the assessment of sustainability preferences and the consideration of these preferences as an integral part of assessing customer suitability; iii) specific organisational requirements in terms of adequate training of the personnel in charge of the relationship with the customer on sustainability issues as well as the monitoring of the customer's sustainability preferences (if any) and any updates of these preferences. In addition, in order to help investors to understand the concept of 'sustainability preferences' and the choices to be made in this context, the ESMA document states that investment firms should explain to the customer clearly and avoiding a technical language: what sustainability preferences are; the distinction between different environmental, social and governance factors; the difference between sustainable financial products and products without sustainability characteristics<sup>8</sup>.

The innovations referred to in Delegated Regulation (EU) 2021/1253 and in the ESMA document, aimed at ensuring that the offer of investment products with sustainable characteristics is as close as possible to the preferences of potential investors, are embedded in the regulatory framework outlined by EU Regulation 2019/2088 on information on sustainability in the financial services sector (SFDR). This Regulation, entered into force on 10 March 2021 with the aim of strengthening information transparency and investor trust in financial intermediaries in relation to the effective pursuit of sustainable investment targets, introduces the obligation for financial market participants and financial advisors to communicate sustainability commitments at entity level and with reference to the financial products defined by the Regulation itself (Article 2, section 1, no. 12)<sup>9</sup>.

### 3 Approach to sustainable investments: review of the literature

Surveys of retail investors' approach to sustainable finance show that (perceived and actual) knowledge on sustainability, sustainable investments and related vocabulary is low overall (AMF, 2021b; CONSOB, 2021; Gutsche et al., 2021).

8 Available at the link: <https://www.esma.europa.eu/press-news/esma-news/esma-publishes-final-guidelines-mifid-ii-suitability-requirements-0>.

9 In particular, EU Regulation 2019/2088 (SFDR) identifies three main types of financial products offered: i) not sustainable financial products that do not integrate any type of sustainability risks (Article 6); ii) sustainable financial products pursuant to Article 8 that promote, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices; iii) sustainable products pursuant to Article 9 that have a sustainable investment goal and that, for example, have an index designated as a reference benchmark.



The delay in so-called sustainable finance literacy (Filippini et al., 2021) can negatively affect interest (IFEC, 2021<sup>10</sup>), hinder the spread of positive approaches to green finance (Bethlendi et al., 2022) and constitute an important barrier to accessing the financial market (Filippini et al., 2021; Invesco, 2021a, 2021b and Finra, 2022<sup>11</sup>).

Therefore, it is worth understanding which factors may affect knowledge and interest in sustainable investments, starting with individual characteristics.

In addition to the evidence on the positive relationship with financial culture (Gutsche and Zwergel, 2020; Anderson and Robinson, 2021; Gutsche, Nakai and Arimura 2021; Aristei and Gallo, 2021), a considerable number of contributions show that knowledge and interest in sustainable finance are positively associated with socio-demographic variables such as gender, young age, educational level (Diouf et al., 2016; Dorfleitner and Nguyen, 2016; Rossi et al., 2019; 2Investing Initiative, 2020), financial condition as measured by wealth and income (Døskeland and Pedersen, 2016).

Among the ethical values and psychological traits, altruism and so-called social preferences play a positive role, i.e. the propensity to engage in a common cause without expecting a return (Heinkel et al., 2001; Gollier and Pouget, 2014; Falk et al., 2016; Riedl and Smeets, 2017 and Bassen et al., 2019), the importance assigned to moral standards, attention to environmental and social factors (Gutsche, Wetzel and Ziegler, 2020; Riedl and Smeets, 2017; Bauer et al., 2021; Wins and Zwergel, 2016; Raut, et al., 2020) as well as the emotional involvement associated with ESG issues (Heeb, et al., 2022). Individuals with strong environmental and/or social preferences or who attach high importance to ethics and value aspects seem to be willing to invest in sustainable financial products even if this means foregoing the returns achievable through traditional investments (Bollen, 2007; Renneboog et al., 2011; Hartzmark and Sussman; 2019, 2Investing Initiative, 2020). Psychological traits such as risk tolerance and trust in the financial system and in financial instruments issuers can also nurture greater sensitivity to sustainability (Aristei and Gallo, 2021; Gutsche and Zwergel, 2020).

Interest in sustainable finance can be discouraged by several factors: the fear of greenwashing, which results in a mere marketing exercise (CONSOB, 2020; 2Investing Initiative, 2020<sup>12</sup> and AMF, 2021a); the preference for short-term, especially if sustainability is considered to produce results only in the long term (Schoenmaker, 2017; Schoenmaker and Schramade, 2019); the perception of a trade-off between financial

10 IFEC (2021) shows that 80% of individuals not interested in sustainable finance (47% of respondents) indicate as the main deterrent the lack of familiarity with sustainable financial products (80%).

11 In the Finra survey (2022), the main deterrent to possessing ESG products is the lack of familiarity and knowledge. In addition, 46% of respondents said they had never thought of choosing sustainable investments, 31% said they did not know how to select such investments, 28% said they did not know how to recognise whether an investment is sustainable while only 15% mentioned the lower yields.

12 The results of the two surveys, the qualitative interviews and the focus group conducted by 2Investing Initiative (2021) on retail investors suggest that greenwashing (for example the fear of misleading claims and untruthful statements on environmental impact) represents one of the biggest obstacles to investing in sustainable products for retail customers.

profiles and sustainability profiles, especially if the former are considered to be a priority compared to the latter<sup>13</sup>. On the other hand, the perception of outperforming traditional investments can be a strong incentive to hold sustainable products (Nilsson, 2008; Bauer and Smeets, 2015; Anderson and Robinson, 2021; Gutsche, Nakai and Arimura, 2021)<sup>14</sup>.

The approach to sustainable finance can also be influenced by the content and methods of representation of information about ESG aspects and performance of the investment (Barreda-Tarrazona et al., 2011; Diouf et al., 2016; Gutsche and Zwergel, 2020; AMF, 2021a, AMF 2021b). Some studies show, for example, that the representation of environmental performance (climate performance information) can affect risk perception and the emotional component associated with investment choices (Bassen et al., 2019); others capture a greater relevance of the framing effect, i.e. of the impact that the way information is represented can have on the perception of the information itself, compared to the certification of non-financial information carried out by external and/or public subjects and the metrics and indicators that measure the financial performance of ESG products (Cohen et al., 2011)<sup>15</sup>. In addition, too much and too complex information, can penalise sustainable investment choices, due to an overload effect (information overload) that discourages the propensity to invest in general (Pilaj, 2017).

An important role in raising trust, knowledge and interest seems to be played by the financial advisor (Diouf et al. 2016; Schroders, 2019; AMF, 2019 and 2022; Consob 2020; Nordea 2021), especially when the advisor is proactive in proposing sustainable investment products and provides easy-to-understand information (Heinemann, et al., 2018; AMF, 2022). However, the effectiveness of the advisor's activity can be weakened by beliefs and behavioural biases of the advisors themselves. This suggests the need to define ad hoc training actions also for this category of operators (2Investing Initiative, 2022).

13 Schroders (2019) provides evidence relating to a sample of over 25,000 investors selected on a global scale. According to the survey results, 57% of respondents always consider ESG factors in their investment choices. In the scale of priorities, however, generating a positive impact in terms of sustainability comes after financial objectives, such as avoiding losses, achieving a set return, paying reasonable commissions.

14 Regarding this profile, Statman (2008) proposes a segmentation of investors that sees at the two opposite ends, so-called utilitarian investors, who are only concerned about the financial aspects of the investment, and so-called expressive investors, who are only concerned about the value aspects and expect to generate a non-financial impact with their decisions, respectively.

15 In particular, the study by Cohen et al., 2011 shows that retail investors prefer to obtain non-financial information (for example on corporate social responsibility) from external and/or public entities and not directly from companies. Nevertheless, they use both information sources (external and/or public entities and companies) in the case of ESG product performance metrics and indicators.

## 4 Interest in sustainable investments: an exercise to characterise Italian investors

### 4.1 The sample and the construction of key variables

This paragraph focuses on the knowledge and the heterogeneous approaches of Italian financial decision-makers to sustainable investments emerging from the survey on 'The investment choices of Italian households' (also SIFI from now on) conducted by the CONSOB Observatory. The survey, carried out annually, collects information on a sample of about 3,000 individuals, representative of the population of financial decision-makers, defined as the main income earner in the family (or the oldest man, when no one works, or the oldest woman) aged 18 to 74. Since 2019 the survey includes a longitudinal component (panel) which allows to track the evolution over time of the financial approaches and behaviours of participants in several consecutive surveys.

The analysis focuses on the sub-sample of investors, i.e., decision-makers who hold at least one financial asset, and refers to the years 2019 (with a sample of 1,077 individuals) and 2021 (with a sample of 1,157 individuals)<sup>16</sup>.

In the surveys, sustainable investments (hereinafter, SIs) have been defined as financial instruments issued by subjects that take environmental and social profiles into account in their activities<sup>17</sup>. With reference to SIs, the variables detected are: interest, knowledge, interaction with the advisor and the ownership of financial instruments.

Interest in SIs has been identified with a multiple-choice question, where the answers are modulated according to the expected financial performance of the sustainable investment. In particular, compared to other investment options, respondents were asked to indicate interest in SIs also in view of the possibility of 'earning a little less' (*interest independent of the expected return*) or only in view of the prospect of equal or greater gain (*interest conditional on the expected return*): the aggregation of these answers identified the subjects who (albeit with some distinction) are interested in SIs as opposed to those who said they were not interested in SIs at all<sup>18</sup>.

The respondents also indicated the perceived knowledge of SIs: hereinafter, the subjects who declare to have at least a basic knowledge are defined as 'informed' (27% of investors in 2019 and 37% in 2021).

16 The financial assets taken into consideration are: bank and postal savings, Italian bank bonds, Italian non-financial bonds, Italian listed equities, unlisted equities, Italian government bonds, foreign securities, mutual funds, capital accumulation plans (CAP), individual savings plans, ETFs, portfolio management, insurance-based products, hedge funds, private equity funds, closed real estate funds, derivatives. In the 2019 survey, investors accounted for 32% of the total respondents; the figure rose to 34% in 2021.

17 The surveys involve retail investors that have heterogeneous characteristics in terms of financial knowledge and investment experience. Therefore, the definition of sustainable investment used in the surveys is not in line the wording of the SFDR, to ensure the clarity of the questions and prevent biased or missing answers.

18 For more details, see Table a.1 in Appendix 1. The analyses in this study were also repeated by considering the definition of interest conditional on financial performance, without significant changes in the results (available on request to the authors).

The propensity for SIs was analysed by considering numerous variables and different indicators, described in detail in Table a.1 and Table a.2 in the Appendix.

In particular, the following were considered: i) socio-demographic variables, such as gender, age, marital status, geographical area of residence, employment status, financial wealth (divided into classes), monthly family income (divided into classes); ii) actual and perceived financial knowledge; iii) digital knowledge and skills; iv) personal traits; v) financial control variables; vi) investment experience and investment habits.

Financial knowledge was measured against the following concepts: risk-return ratio; inflation; compound interest rate; investment diversification; mortgage agreement<sup>19</sup>. The perceived financial knowledge was collected *ex-ante*, i.e., before reading the questionnaire, asking respondents how familiar they were with the basic concepts just mentioned (*ex-ante* self-assessment)<sup>20</sup>. Actual financial knowledge was measured based on the correct answers to questions with a polytomous answer, aggregated into several alternative indicators: simple average; weighted average for the level of difficulty of the questions<sup>21</sup>; first main component or factor indicator (normalised between zero and one). This last indicator was also calculated by excluding respondents who *ex-post* were unable to evaluate the number of correct answers provided, in order to eliminate potentially random correct answers. Finally, an overconfidence/underconfidence indicator was calculated by considering the alignment between actual financial knowledge and *ex-post* assessed knowledge, defining an overconfident (underconfident) individual if the number of *ex-post* correct answers is greater (lower) than the actual number of correct answers.

Digital knowledge was detected with respect to general notions regarding hacker attacks, data saving, use of a password, e-mail messages, computer viruses, use of Wi-fi, online payments. Digital skills have been defined with reference to habits and practices adopted by respondents in using the internet (for example, use of antivirus software and passwords, downloading files/programs personal data management). Similarly to the indicators calculated with reference to financial knowledge, the correct answers to the questions aimed at detecting digital knowledge and skills were aggregated by calculating the simple average, the weighted average and the first main component or factor indicator (normalised between zero and one).

With reference to personal traits, risk aversion, loss aversion, financial anxiety, self-efficacy, and trust in financial intermediaries were all detected in both 2019 and 2021. However, other variables, such as social preferences, concern about climate change, optimism, procrastination, and aversion to losses, were only detected in 2019. This last information was valued in the analysis referring only to the longitudinal component (composed of the subjects interviewed both in 2019 and 2021), assuming that

19 The approach of the questionnaire follows Lusardi and Mitchell (2014). In the 2019 survey there are two questions that verify advanced financial knowledge, respectively regarding the relationship between interest rates and bond prices and government bonds spread. To make the comparisons between waves homogeneous, the indicators were also calculated for 2019 on the 5 basic questions mentioned in the text.

20 In detail, the perceived knowledge is measured by the share of financial concepts that the investor feels to master.

21 The weight for each question is the inverse of the frequency of correct answers.

it can be considered stable in the short term, i.e., it has not undergone significant changes for the same individual between 2019 and 2021.

The so-called financial control records propensity for financial planning, respecting household budget and being in debt (with banks, financial institutions, friends and relatives). Moreover, the following information is exclusively found in the 2021 survey: possible reduction in savings in the previous 12 months (*decreasing savings*); possible temporary or permanent reduction in income (*vulnerability*); difficulty in managing household expenses (*fragility*); coping with unexpected expenses of €1,000 (*exposure to unforeseen expenses*).

About investment choices, the ownership of different financial instruments and the investment methods were surveyed by distinguishing between autonomous choices, choices assisted by professional financial advice, delegation to a professional manager and decisions made taking into account the advice of friends, relatives and colleagues (so-called informal advice). Investors who rely on financial advice or delegate to a manager/bank staff are hereinafter referred to as *advised investors*. Other variables relate to holding a diversified portfolio and holding specific financial instruments (including shares and bonds). Finally, in 2021, the year in which the respondents invested for the first time was also identified.

Lastly, it should be noted that much of the information gathered by the CONSOB Observatory could be aligned with main categories of variables recorded in the suitability assessment categories required by MiFID regulation (socio-demographic, knowledge, experience, risk profile, financial situation), as detailed in Table 1 below.

**Table 1 – Factors potentially related to interest in finance based on MiFID questionnaire categories**

categories	variables
socio-demographic	gender, age, marital status, area of residence, education, profession
knowledge	familiarity with sustainable investments, basic financial knowledge, <i>ex-ante</i> self-assessment of financial knowledge, mismatch between actual and perceived financial knowledge (over/underconfidence)
experience	number of years of participation in the financial markets, holding of financial instruments and for how long, portfolio diversification, use of liquidity
financial situation	income, financial assets, ownership of the residential property, approach to savings and financial planning, debt
risk profile	risk tolerance and loss aversion

## 4.2 Descriptive statistics

According to data from the CONSOB Observatory, interest in sustainable finance has grown over time. In particular, the share of sustainable finance investors increased from 60% in 2019 to around 74% in 2021. The figure is mainly attributable to the increase in the percentage of individuals who declare to be inclined to invest in ESG products, provided their profitability be at least in line with traditional investment (from 38% to 57%). The share of respondents who claim to have at least a basic knowledge of SIs also increased from 27% in 2019 to 37% in 2021. On the other hand,



the holding of SIs has remained very limited, stated by approximately 6% of investors both in 2019 and 2021. The figure grew slightly among assisted investors (7% in 2019 and 11% in 2021) and, above all, among informed investors (respectively, 13% and 15%; Table 2).

**Table 2 – Interest in sustainable investments**

variables	investors		informed investors		advised investors	
	2019	2021	2019	2021	2019	2021
interest in SIs	60%	74%	79%	87%	67%	74%
of which:						
<i>interest linked to expected return</i>	22%	17%	37%	21%	24%	16%
<i>interest not linked to expected return</i>	38%	57%	42%	66%	43%	58%
lack of interest in SIs	40%	26%	21%	13%	33%	26%
basic knowledge of SIs	27%	37%	100%	100%	29%	25%
holding of SIs	6%	6%	13%	15%	7%	11%
<i>no. of observations</i>	<i>1,077</i>	<i>1,157</i>	<i>280</i>	<i>376</i>	<i>337</i>	<i>342</i>

Notes: 'informed' investors are investors that report having at least basic knowledge of SIs; 'advised' investors make their investment choices relying on a financial advisor or delegating to an asset manager/bank staff. Statistics were obtained by applying the survey sample weights provided by GfK Italia.

Between 2019 and 2021, the financial knowledge indicators of retail investors improved slightly, including the factor indicator adjusted for potentially random answers (Table a.2 in the Appendix). By contrast, the share of investors who can be defined as overconfident (31% in 2019 compared to 30% in 2021) or underconfident (respectively 20% and 21%) remained stable overall.

Digital knowledge seems to be part of the information assets of just over half of investors (52%), while digital skills are more widespread (68% in 2021).

Regarding personal traits, the risk aversion of investors was expressed at three levels (high, intermediate and low), based on the declared preferences with respect to the risk/return profile of a hypothetical asset portfolio. The percentage of investors who show high risk aversion fell by about 5 percentage points in the period considered (from 26% in 2019) against an increase of 8 percentage points in the share of respondents who claim to prefer a portfolio in which risk and return are 'balanced' (*intermediate risk aversion*; 69% in 2019). The figure for financial anxiety and self-efficacy remained fairly stable between the two surveys. Lastly, during the three-year period considered, trust in the financial advisor increased (from 36% in 2019 to 45% in 2021; Table a.2).

As regards financial control, during the period considered, the propensity to plan, which was already limited, became less frequent: in 2021, in fact, only 9% of investors declared to have a financial plan (-2 percentage points compared to the 2019 survey). The share of investors who are able to constantly respect the family budget (from 27% to 25%) decreased slightly, while the share of individuals who declared to

be in debt to both banks and financial institutions (from 35% in 2019) and friends and relatives (from 9% in 2019 Table a.2) increased by 5 percentage points.

The investment experience is measured by the number of years of participation in the financial markets: in the longitudinal component of the sample, in particular, 64% of 2021 investors have been participating in the financial markets for at least three years, 19% (from since 2020, while 11% since 2021). With regard to the investment habits, there was a decrease in those who choose independently 39% to 25%), while the use of professional advice became more frequent (from 25% to 28%), this figure being in line with the aforementioned increase in the share of respondents who claim to trust the advisor (from 36% in 2019 to 45% in 2021).

### 4.3 Data analysis and findings

This paragraph details the main results of the analysis relating to the characterisation of those retail investors who declare an interest in SIs. The analysis refers both to individuals who show an interest regardless of earnings prospects and to those who, conversely, express an interest conditional on the expected return<sup>22</sup>. This aggregation was carried out after verifying that the evidence of the analyses replicated separately for the two sub-groups of investors did not show significant differences. In particular, after analysing the association between interest in SIs and socio-demographic characteristics, the relationship with the following variables will be examined: indicators of perceived knowledge of SIs and financial and digital knowledge; personal traits; financial control habits; investment experience. The longitudinal component of the sample will be used to analyse the variables not detected in both surveys i.e. preferences towards sustainability, some personal traits and the experience gained over time in investments.

#### *Socio-demographic aspects*

In this field, the variables that show a statistically significant link with the interest towards SIs are age, professional status, level of education and financial status. Interest is less frequent among senior investors (a positive, albeit weak, association emerges for the 25-45 age group), among retired and among investors not participating in the labour market, while it is positively associated with education, with certain occupational conditions (such as the employees). A positive association also emerges with respect to income and financial wealth (Table 3).

22 As already mentioned, this is the complement to 1 compared to those who declare that they are not in any case interested in SIs.

**Table 3 – Interest in sustainable investments and socio-demographic characteristics**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
male	79%	82%	.	.	78%	80%	.	.
aged 25 to 45	32%	27%	+	*	28%	30%	.	.
aged 45 to 65	52%	50%	.	.	58%	49%	+	***
aged over 65	16%	23%	-	***	14%	20%	-	***
university degree	35%	16%	+	***	30%	18%	+	***
South and Islands	32%	36%	.	.	33%	43%	-	***
area of residence North	51%	49%	.	.	51%	40%	+	***
employee	61%	47%	+	***	62%	51%	+	***
self-employee	16%	14%	.	.	14%	13%	.	.
retired	19%	30%	-	***	19%	27%	-	***
other (unemployed, housewife and student)	4%	9%	-	***	6%	9%	-	**
<b>financial situation</b>								
owner of the residential property	78%	79%	.	.	82%	82%	.	.
<b>monthly family income</b>								
< 1.200 euro	9%	18%	-	***	11%	21%	-	***
1.200 – 3.000 euro	65%	62%	.	.	69%	65%	.	.
3.000 – 5.000 euro	22%	16%	+	***	18%	12%	+	***
>5.000 euro	4%	4%	.	.	3%	1%	+	**
<b>financial wealth</b>								
<10.000 euro	21%	29%	-	***	20%	25%	-	**
10.000 – 50.000 euro	29%	36%	-	**	32%	43%	-	***
50.000 – 250.000 euro	26%	23%	.	.	28%	26%	.	.
>250.000 euro	23%	12%	+	***	20%	5%	+	***
<i>no. of observations</i>	<i>638</i>	<i>439</i>	<i>1,077</i>	<i>1,077</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1,157</i>

Notes: \*indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.

### *Profiles related to financial and digital knowledge of SIs*

The interest in investment options with sustainability characteristics shows a significant association with the perceived knowledge of SIs. The share of investors who declare that they have at least a basic knowledge is in fact significantly higher in the sub-sample of investors interested in SIs compared to that of investors not interested in SIs (35% versus 13% in 2019 and 39% versus 17% in 2021, respectively) and the correlation is positive in both years of the survey (Table 4).

Turning to basic financial knowledge, the association with the interest in SIs is positive for both actual knowledge (the result is robust with respect to all the indicators used, i.e., simple average, weighted average and factor indicator, and for *ex ante* and *ex post* perceived knowledge). The latter, however, shows a lower correlation compared to the one corresponding to actual knowledge (Table 4). These results are in line with the literature evidence detailed in section 3.

**Table 4 – Interest in sustainable investments, knowledge of sustainable investments and financial knowledge**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
at least basic knowledge of SIs	35%	13%	+	0.23***	39%	17%	+	0.25***
actual financial knowledge > sample median <sup>1</sup>								
factor indicator <sup>2</sup>	72%	53%	+	0.24***	66%	44%	+	0.27***
adjusted factor indicator for random answers	72%	52%	+	0.26***	70%	43%	+	0.30***
simple average <sup>2</sup>	63%	41%	+	0.25***	56%	33%	+	0.28***
weighted average <sup>2</sup>	73%	51%	+	0.25***	65%	42%	+	0.28***
<i>ex-ante</i> <sup>3</sup> perceived financial knowledge > sample median <sup>3,4</sup>	81%	69%	+	0.15***	53%	39%	+	0.19***
mismatch between <i>ex-post</i> self-assessment and actual financial knowledge								
overconfidence actual knowledge < <i>ex-post</i> <sup>4</sup> self-assessment	36%	28%	+	.	30%	31%	.	.
underconfidence actual knowledge > <i>ex-post</i> <sup>4</sup> self-assessment	22%	15%	+	0.10**	25%	13%	+	0.14***
matching actual knowledge = <i>ex-post</i> <sup>4</sup> self-assessment	22%	17%	+	0.07*	33%	17%	+	0.16***
<i>no. of observations</i>	<i>638</i>	<i>439</i>	<i>1,077</i>	<i>1,077</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1157</i>

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.<sup>1</sup>In the application on the differences between the averages, dummy variables equal to 1 were considered if the indicators on financial knowledge are above the sample median. For the correlation estimation, however, the indicators on financial knowledge were taken into account as described in Table a.1 in Appendix 1. <sup>2</sup>The indicators on financial knowledge were calculated with reference to five basic financial concepts in both 2019 and 2021 (see Table a.1 in Appendix 1 for more details). <sup>3</sup> Ex-ante means before reading the questionnaire. <sup>4</sup> Ex-post means after reading the questionnaire.

Similarly to financial knowledge, digital competences, recorded together with digital competences only in 2021, seems to be a factor characterising the respondents interested in SIs. The dissemination of knowledge above the sample median, in fact, tends to be significantly higher in the group of respondents who have a preference for sustainable finance compared to the remaining part of the sample for all relevant indicators. The correlation coefficient also fluctuates around 0.2 and remains significant regardless of the indicator adopted. The relationship with digital skills, on the other hand, seems to be less significant (Table 5).

**Table 5 – Interest in sustainable investments, digital knowledge and skills (2021 data)**

variables	interest in SIs	lack of interest in SIs	t-test	correlation
<b>digital knowledge &gt; sample median<sup>1</sup></b>				
factor indicator	53%	47%	+	0.24***
simple average	40%	26%	+	0.25***
weighted average	69%	48%	+	0.22***
<b>digital competence &gt; sample median<sup>1</sup></b>				
factor indicator	53%	47%	+	.
simple average	43%	41%	.	.
weighted average	52%	49%	.	.
<i>no. of observations</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1,157</i>

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. Dummy variables equal to 1 were considered in the calculation of the percentage shares if the indicators are above the sample median for 2021. The correlations between SIs ownership and the variables represented in the Table were estimated considering the original indicators (see Table a.1 in Appendix 1 for more details).

### *Profiles related to personal traits*

Investors interested in sustainable finance are less frequently characterised by high risk aversion, as shown by the data for both 2019 and 2021 (Table 6). The same applies to financial anxiety, which occurs more frequently in the sub-sample of individuals not interested in SIs. Conversely, the percentage of those who claim to be effective in achieving their financial goals (self-efficacy) does not show significant differences between the two sub-samples considered<sup>23</sup>.

Finally, over time, the share of retail investors interested in SIs who trust the advisor has increased (from 41% in 2019 to 47% in 2021), widening the gap, which is always statistically significant, with the figure recorded for the sub-sample of non-interested investors (33% and 32%, respectively).

23 With reference to the financial self-efficacy variable, the analysis was also replicated with respect to the single items that make up the indicator. The results, available on request to the authors, are in line with those illustrated in the text.



**Table 6 – Interest in sustainable investments and personal traits**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interested in SIs	lack of interest in SIs	t-test	correlation
<b>risk aversion</b>								
high	18%	37%	–***	–0.23***	19%	33%	–***	–0.09**
medium	77%	60%	+***	0.17***	78%	65%	+***	.
low	5%	3%	+**	0.10**	3%	2%	.	0.05*
financial anxiety <sup>1</sup>	43%	50%	–*	–0.11***	32%	34%	.	–0.10*
self-efficacy <sup>2</sup>	64%	67%	.	.	53%	56%	.	.
trust in financial advisor	41%	33%	+***	.	47%	32%	+***	0.13***
<i>no. of observations</i>	<i>638</i>	<i>439</i>	<i>1,077</i>	<i>1,077</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1,157</i>

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. A dummy variable equal to 1 is considered in the calculation of the t-test statistics if the corresponding indicators of financial anxiety and self-efficacy are above the sample median.

### *Profiles related to financial control*

Investors interested in SIs are more frequently characterised by virtuous behaviour in terms of financial control compared to investors who do not show any interest, stating more frequently that they carry out financial planning and that they are able to save. Furthermore, they more often declare that they are in debt to both banks and financial institutions and friends and relatives; however, this reflects a more solid financial situation (in terms of wealth and income) that, as already mentioned above, is in turn associated with a more widespread interest in SIs (Table 7).

**Table 7 – Interest in sustainable investments and financial control**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
financial planning at least once	54%	33%	+***	0.21***	65%	43%	+***	0.12**
financial planning in the past 12 months	13%	7%	+***	0.08**	10%	7%	+*	.
Propension for saving	57%	42%	+***	0.12***	49%	50%	.	.
budget always respected	28%	28%	.	.	22%	23%	.	.
indebtedness to banks	38%	29%	+***	0.10**	40%	34%	+**	0.16***
indebtedness to relatives and friends	12%	5%	+***	0.13***	15%	7%	+***	.
<i>no. of observations</i>	<i>638</i>	<i>439</i>	<i>1,077</i>	<i>1,077</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1,157</i>

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.

### Profiles related to experience and investment habits

Investment experience, as already mentioned, is measured on the basis of the type of financial instruments held in the portfolio (i.e. diversification, risk-taking and complexity of the held products) and on the basis of investment habits.

Interest in sustainable finance is positively correlated with holding a diversified portfolio and, in particular, with holding certain specific instruments, such as shares and bonds issued by non-financial companies and banks; conversely, the link with holding liquidity is negative (Table 8).

**Table 8 – Interest in sustainable investments, experience and investment habits**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
diversified portfolio	47%	31%	+***	0.14***	42%	29%	+***	.
liquidity	49%	53%	-*	.	39%	52%	-***	-0.09*
<b>financial instruments</b>								
Italian listed stock	20%	13%	+***	0.11***	16%	9%	+***	0.09**
Italian corporate bond	14%	12%	.	.	15%	4%	+***	.
Italian bank bond	15%	12%	+**	.	11%	7%	+**	.
funds	32%	19%	+***	0.12***	30%	17%	+***	0.11**
<b>investment habits</b>								
self-managed	38%	39%	.	.	26%	23%	.	.
informal advice	42%	47%	.	.	52%	54%	.	.
professional advice	29%	21%	+***	0.08**	29%	25%	.	.
<i>no. of observations</i>	<i>638</i>	<i>439</i>	<i>1,077</i>	<i>1,077</i>	<i>818</i>	<i>339</i>	<i>1,157</i>	<i>1,157</i>

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.

Turning to investment habits, the relationship with interest in SIs was only significant in 2019 and limited to the propensity to turn to a professional (financial advisor or manager).

### Evidence referring to the longitudinal component of the sample

Some individual characteristics that are an expression of preferences, opinions and psychological propensities were detected only in one of the two surveys considered (i.e., only in 2019 or only in 2021). To explore the possible association between these characteristics and the interest in sustainable investments, the analysis was therefore restricted to the longitudinal component of the sample, i.e., the sub-group of investors interviewed both in 2019 and 2021, if the characteristics themselves remain

stable in the short-medium term and that they can therefore be attributed to both surveys<sup>24</sup>.

As part of the survey regarding preferences for sustainability, in 2019 respondents were invited to state their priorities with respect to environmental, social and governance factors. Among the retail investors who show an interest in SIs, attention to environmental protection is more frequent, while governance is generally negligible (Table 9).

**Table 9 – Interest in sustainable investments, preferences in ESG factors and priority in investment choices**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
<b>preferences in ESG factors</b>								
gender equality and work-life balance	23%	18%	+	0.12**	23%	17%	+	0.10*
support for the disadvantaged	34%	22%	+	0.15***	28%	22%	+	0.13***
contribution to the community in which the company operates	40%	19%	+	0.24***	35%	20%	+	0.13**
ethical character of business activities	35%	18%	+	0.18***	28%	17%	+	0.11*
environmental concerns	55%	32%	+	0.19***	48%	26%	+	0.25***
transparency	15%	13%	.	.	12%	17%	-	.
good governance practices	9%	7%	.	.	7%	7%	.	.
<b>priorities in investment choices</b>								
financial aspects	32%	29%	.	.	32%	28%	.	.
financial aspects subject to sustainability	30%	18%	+	0.14***	32%	7%	+	0.20***
sustainability subject to financial aspects	21%	13%	+	0.12**	27%	13%	+	.
sustainability	5%	6%	.	.	6%	8%	.	.
don't know	13%	33%	-	.	4%	45%	-	-0.3***
<i>no. of observations</i>	<i>355</i>	<i>231</i>	<i>586</i>	<i>586</i>	<i>475</i>	<i>199</i>	<i>674</i>	<i>674</i>

Notes: estimates were made on the longitudinal component of the sample consisting of investors who participated in the 2019 and 2021 surveys; \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.

In 2021, opinions were also collected on the relative importance of financial aspects with respect to the sustainability profiles of an investment, with the aim of distinguishing between those who assign absolute priority to one or the other, those who pursue financial goals provided this is not to the detriment of sustainability and those for whom the opposite applies. Given the distribution of answers, only 9% of which mention sustainability as a top priority, it is not surprising that the interest in SIs is positively correlated with the acknowledgement of the value of sustainability,

24 The longitudinal component includes the respondents interviewed in both 2019 and 2021. The different number of the two samples of the 2019 and 2021 waves (586 and 674, respectively) is because some respondents classified as non-investors in 2019, eventually declared to hold one or more financial instruments in 2021.

whether this is defined as an objective linked to financial aspects or as a constraint to financial goals (Table 9).

In 2019, the so-called social preferences (i.e., the propension to engage in a common cause without expecting a return), concerns over climate change, as well as some personal traits such as the tendency to procrastination and optimism, were also detected. Investors interested in SIs claim to have social preferences more frequently than others, while the concerns over climate change as well as procrastination and optimism tend to be equally widespread between the two sub-groups (Table 10)<sup>25</sup>.

**Table 10 – Interest in sustainable investments and personal traits**

variables	2019				2021			
	interest in SIs	lack of interest in SIs	t-test	correlation	interest in SIs	lack of interest in SIs	t-test	correlation
social preferences	62%	46%	+++	0.16***	57%	38%	+++	0.19***
concerns over climate change	79%	76%	.	.	74%	70%	.	.
procrastination	46%	42%	.	.	50%	52%	.	.
optimism	59%	54%	+	.	55%	50%	.	.
<i>no. of observations</i>	<i>355</i>	<i>231</i>	<i>586</i>	<i>586</i>	<i>475</i>	<i>199</i>	<i>674</i>	<i>674</i>

Notes: estimates were made on the longitudinal component of the sample consisting of investors who participated in the 2019 and 2021 surveys; \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. As for the variables social preferences', 'climate change concerns', 'optimism' and 'procrastination', see Table a.1 in Appendix 1.

Finally, in 2021 the investment experience was also measured by recording the number of years of participation in the financial markets. Interest in SIs is positively correlated with experience, as evidenced by the fact that 67% of the investors involved have been investing for at least three years (the figure stands at 49% among those not interested) and that the correlation is positive and significant only in case the number of years of participation in the markets is at least three (Table 11).

25 For the personal traits such as 'procrastination' and 'optimism', the analysis was also replicated with respect to the individual items that make up the relative indicator. The results, available on request to the authors, are in line with those illustrated in the text and statistically less robust.

**Table 11 – Interest in SIs and financial markets participation (2021 data)**

variables	interest in SIs	lack of interest in SIs	t-test	correlation
I have been investing for at least 3 years in financial markets	67%	49%	+***	0.17***
I have been investing for 2 years in financial markets	16%	23%	-**	-0.13**
I have been investing for less than 12 months in financial markets	17%	28%	-**	.
I have been investing for at least 3 years in Italian listed and/or unlisted stocks	11%	6%	+**	0.08**
I have been investing for at least 3 years in Italian bank and/or corporate bonds	5%	3%	.	.
I have been investing for at least 3 years in mutual funds	3%	1%	+***	.
<i>no. of observations</i>	<i>475</i>	<i>199</i>	<i>674</i>	<i>674</i>

Note: estimates were made on the longitudinal component of the sample consisting of investors who participated in the 2019 2020 and 2021 surveys. \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between interest in SIs and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.



## References

- 2° Investing Initiative (2020), A Large Majority of Retail Clients Want to Invest Sustainably, <https://2degrees-investing.org/resource/retail-clients-sustainable-investment/>
- 2° Investing Initiative (2022), Please Don't Let Them Be Misunderstood! How financial advisors consider clients' sustainability motivations before the upcoming MiFID II Delegated Act, <https://2degreesinvesting.org/resource/please-dont-let-them-be-misunderstood/>
- Adria, F., N. Linciano, F. Quaranta and P. Soccorso (2022), Profilazione della clientela ai fini della valutazione di adeguatezza Follow up dello studio del 2012 su un campione di intermediari italiani, CONSOB Discussion Papers, <https://www.consob.it/documents/46180/46181/dp11.pdf/d4a6b555-c59c-4ec7-b572-da69b4e21425>
- AMF (2019), Sustainable finance, responsible investment. Perceptions of French people, <https://www.amf-france.org/en/news-publications/publications/reports-research-and-analysis/french-people-and-responsible-investment>
- AMF (2021a), The French and responsible investment product, [https://www.amf-france.org/sites/default/files/private/2021-09/the-french-and-responsible-investment-products-july-2021\\_1.pdf](https://www.amf-france.org/sites/default/files/private/2021-09/the-french-and-responsible-investment-products-july-2021_1.pdf)
- AMF (2021b), Legibility study of Sustainable and Responsible Investment Documentation, <https://www.amf-france.org/en/news-publications/publications/reports-research-and-analysis/legibility-study-sustainable-and-responsible-investment-documentation-july-2021>
- AMF (2022), Enhancing the quality of sustainable investment advice
- Anderson, A. and D. T. Robinson (2021), Financial literacy in the age of green investment, *Review of Finance*, 2021, 1–34
- Aristei, D. and M. Gallo (2021), Financial Knowledge, Confidence, and Sustainable Financial Behavior, *Sustainability*, 2021, vol. 13, issue 19, 1–21
- Barreda-Tarrazona, I., J. C. Matallín-Sáez and M.R. Balaguer-Franch (2011), Measuring Investors' Socially Responsible Preferences in Mutual Funds, *Journal of Business Ethics* volume 103, pages 305–330 (2011)

- Bassen, A., K. Gödker, F. Lüdeke-Freund and J. Oll (2019), Climate information in retail investors' decision making: evidence from a choice experiment, *Organization & Environment* 32(1):62-82
- Bauer, R. and P. Smeets (2015), Social identification and investment decisions, *Journal of Economic Behavior and Organization* 117, 121-134
- Bauer, R., T. Ruof and P. Smeets (2021), Get Real! Individuals Prefer More Sustainable Investments, *The Review of Financial Studies*, Volume 34, Issue 8, August 2021, Pages 3976-4043, <https://doi.org/10.1093/rfs/hhab037>
- Bethlendi, A., L. Nagy and A. Póra (2022), Green finance: the neglected consumer demand, *Journal of sustainable finance & investment* <https://doi.org/10.1080/20430795.2022.2090311>
- Bollen, N.P.B. (2007), Mutual fund attributes and investor behavior, *Journal of Financial and Quantitative Analysis*, 42, 683-708
- CONSOB (2019, 2020, 2021), Report on financial investments of Italian households, <https://www.consob.it/web/consob-and-its-activities/report-on-investments-households>
- CONSOB (2020), Rapporto 2020 sulla relazione consulente-cliente. Analisi mirroring su sostenibilità e investimenti, [https://www.consob.it/web/area-pubblica/abs-mirr/-/asset\\_publisher/YiD6XtGuavik/content/report-mirroring-2020/11973](https://www.consob.it/web/area-pubblica/abs-mirr/-/asset_publisher/YiD6XtGuavik/content/report-mirroring-2020/11973)
- Cohen, J., L. Holder-Webb, L. Nath and D. Wood (2011), Perceptions of the Decision-Usefulness of Economic Performance, Governance, and Corporate Social Responsibility Disclosures, *Behavioral Research in Accounting*, 23 (1), 109-129
- Diouf, D., T. Hebb and E. H. Touré (2016), Exploring factors that influence social retail investors' decisions: Evidence from Desjardins fund, *Journal of Business Ethics*, Vol. 134 No. 1, pp. 45-67
- Døskeland, T. and L.J.T. Pedersen (2016), Investing with Brain or Heart? A Field Experiment on Responsible Investment, *Management Science* 62 (6): 1632-1644
- Dorfleitner, G. and M. Nguyen (2016), Which proportion of SR investments is enough? A survey-based approach, *Business Research* 9(1):1-25
- Filippini, M., M. Leippold and T. Wekhof (2021), Sustainable Finance Literacy and the Determinants of Sustainable Investing, *Swiss Finance Institute Research Paper* No. 22-02, <https://ssrn.com/abstract=3997285> or <http://dx.doi.org/10.2139/ssrn.3997285>
- Finra (2022), Investors say they can change the world, if they only knew how: Six things to know about ESG and retail investors, <https://www.finrafoundation.org/sites/finrafoundation/files/Consumer-Insights-Money-and-Investing.pdf>

- Friede, G. (2019), Why don't we see more action? A metasyntesis of the investor impediments to integrate environmental, social, and governance factors, *Business Strategy and the Environment*, Vol. 28 No. 6, pp. 1260–1282
- Falk, A., A. Becker, T. Dohmen, D. Huffman and U. Sunde (2016), The Preference Survey Module: A Validated Instrument for Measuring Risk, Time, and Social Preferences, IZA DP No. 9674
- Globescan Radar (2021), Retail Investors' Views of ESG, [https://3ng5l43rkkzc34ep72kj9as1-wpengine.netdna-ssl.com/wpcontent/uploads/2021/12/GlobeScan-Radar-2021-Retail\\_Investors\\_Views\\_of\\_ESG-Full-Report.pdf](https://3ng5l43rkkzc34ep72kj9as1-wpengine.netdna-ssl.com/wpcontent/uploads/2021/12/GlobeScan-Radar-2021-Retail_Investors_Views_of_ESG-Full-Report.pdf)
- Gollier, C. and S. Pouget (2014), The 'washing machine': Investment strategies and corporate behavior with socially responsible investors, TSE Working paper no. 14-457
- Gutsche, G. and B. Zwergel (2020), Investment Barriers and Labeling Schemes for Socially Responsible Investments, *Schmalenbach Business Review* volume 72, pages 111–157
- Gutsche, G., M. Nakai and T.H. Arimura (2021), Revisiting the determinants of individual sustainable investment—The case of Japan, *Journal of Behavioral and Experimental Finance*, Elsevier, vol. 30(C)
- Gutsche, G., H. Wetzel and A. Ziegler (2020), How relevant are economic preferences and personality traits for individual sustainable investment behavior? A framed field experiment, Annual Conference 2020 (Virtual Conference): Gender Economics 224542, Verein für Socialpolitik / German Economic Association
- Hartzmark, S. M. and A. B. Sussman (2019), Do investors value sustainability? A natural experiment examining ranking and fund flows, *The Journal of Finance* 74(6):2789–2837
- Heeb, F., J. F. Kölbel, F. Paetzold, and S. Zeisberger (2022), Do Investors Care about Impact? *The Review of Financial Studies*, ISSN 0893-9454
- Heinemann, K., B. Zwergel, S. Gold, S. Seuring and C. Klein (2018), Exploring the Supply-Demand-Discrepancy of Sustainable Financial Products in Germany from a Financial Advisor's Point of View, *Sustainability* 10(4):944, March 2018
- Heinkel, R., A. Kraus and J. Zechner (2001), The effect of green investment on corporate behavior, *Journal of Financial and Quantitative Analysis* 36, 431–449
- Invesco (2021a), Building trust in sustainable investing, <https://www.invesco.com/content/dam/invesco/emea/en/pdf/Sustainable-investing-for-retail-whitepaper.pdf>
- Invesco (2021b), What investors wants Our research on client perceptions of ESG investing and what we can do to improve their engagement, <https://www.invesco.com/content/dam/invesco/uk/en/pdf/Client-consumer-study.pdf>

IFEC (Investor and Financial Education Council) (2021), Retail Investor Study 2021, September 2021

Linciano, N., E. Cafiero, A. Ciavarella, G. Di Stefano, E. Levantini, G. Mollo, S. Nocella, R. Santamaria and M. Taverna (2021), La finanza per lo sviluppo sostenibile. Tendenze, questioni in corso e prospettive alla luce dell'evoluzione del quadro regolamentare dell'Unione europea, Quaderno di finanza sostenibile n. 1, giugno, [https://www.consob.it/web/area-pubblica/abs-fs/-/asset\\_publisher/611S9nAlrHvR/content/fs1/11973](https://www.consob.it/web/area-pubblica/abs-fs/-/asset_publisher/611S9nAlrHvR/content/fs1/11973)

Lusardi, A. and O.S. Mitchell (2014), The Economic Importance of Financial Literacy: Theory and Evidence, *Journal of Economic Literature* 2014, 52(1), 5–44, <http://dx.doi.org/10.1257/jel.52.1.5> <https://gflec.org/wp-content/uploads/2014/12/economic-importance-financial-literacy-theory-evidence.pdf>

Nilsson, J. (2008), Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior, *Journal of Business Ethics* 83, 307–325

Nordea (2021), Less than 250 days to go Are advisors ready for the MiFID and ESG challenge? <https://www.nordea.lu/en/professional/flippingbook/2021-esg-survey/>

Pilaj, H. (2017), The Choice Architecture of Sustainable and Responsible Investment: Nudging Investors toward Ethical Decision-Making, *Journal of Business Ethics*, 140 (4), pp. 743–753.

Raut, R. K., R. Kumar and N. Das (2020), Individual investors' intention towards SRI in India: an implementation of the theory of reasoned action, *Social Responsibility Journal*, Emerald Group Publishing Limited, vol. 17(7), pages 877–896, July.

Riedl, A. and P. Smeets (2017), Why do investors hold socially responsible mutual funds? *The Journal of Finance*, Vol. 72 No. 6, pp. 2505–2550

Renneboog, L., J.T. Horst and C. Zhang (2011), Is ethical money financially smart? Nonfinancial attributes and money flows of socially responsible investment funds, *Journal of Financial Intermediation* 20, 562–588

Rossi, M., D. Sansone, A. Van Soest and C. Torricelli (2019), Household preferences for socially responsible investments, *Journal of Banking & Finance*, Elsevier, vol. 105(C), pages 107–120

Schoenmaker, D. (2017), Investing for the common good: a sustainable finance framework, Bruegel essay and lecture series, <https://www.bruegel.org/comment/investing-common-good-sustainable-finance-framework>

Schoenmaker, D. and W. Schramade (2019), *Principles of Sustainable Finance*, Oxford University Press

- Schroders (2019), Global Investor Study GIS, Are people compelled to invest sustainably? [https://prod.schroders.com/en/sysglobalassets/\\_global-shared-blocks/gis2019/au/sch055\\_049\\_global\\_investor\\_survey\\_sustainability\\_fa1\\_lr.pdf](https://prod.schroders.com/en/sysglobalassets/_global-shared-blocks/gis2019/au/sch055_049_global_investor_survey_sustainability_fa1_lr.pdf)
- Statman, M. (2008), Socially Responsible Investors and Their Advisors, *The Journal of Investment Consulting*, 9 (1), 15–26
- Wins, A. and B, Zwergel (2016), Comparing those who do, might and will not invest in sustainable funds: a survey among German retail fund investors, *Business Research* 9:51–99



Table a.1 – Variables definition

variables	definition	2019	2021
<b>APPROACH TO SUSTAINABILITY</b>			
interest in SIs	dummy equal to 1 if the respondent selects one of the answer options 1 - 3 to the following question: <i>Which of the following statements best reflects your opinion? A sustainable investment...</i> 1. <i>interests me/could interest me, even if I were to earn a little less compared to other investment options</i> 2. <i>interests me/would interest me, but only with equal risk and earning prospects compared to other investment options</i> 3. <i>I would/could be interested only if I were to earn more money</i> 4. <i>would not interest me under any circumstances</i> 5. <i>don't know</i>	yes	yes
perceived knowledge of SIs	dummy equal to one 1 if the respondent selects answer option 3 or 4 to the following question: <i>Are you familiar, even by hearsay, with sustainable investments?</i> 1. <i>I never heard of it</i> 2. <i>I have heard of it</i> 3. <i>I have a basic knowledge</i> 4. <i>I am very informed</i>	yes	yes
perceived financial knowledge	share of financial concepts (risk-return relationship, inflation, compound interest rates, investment diversification, main features of a mortgage contract, relationship between interest rates and bond prices) for which respondents report ex-ante familiarity (i.e., before answering the questionnaire) <i>For each of the following financial concepts:</i> 1. <i>risk-return relationship</i> 2. <i>inflation</i> 3. <i>compound interest rate</i> 4. <i>risk diversification</i> 5. <i>mortgage</i> 6. <i>relationship between interest rates and bond prices</i> 7. <i>government bonds spread</i> <i>state whether...</i> 1 <i>never heard of it</i> 2 <i>heard but not understood</i> 3 <i>heard of it and understood</i>	yes	yes (only the first five concepts)
sources of information on SIs	dummies equal to 1 if the respondent selects the answer option corresponding to the following question (addressed only to those who declare to have at least basic knowledge about SIs): <i>How did you gather information about sustainable investments?</i> 1. <i>I researched independently, reading newspapers/magazines</i> 2. <i>I researched independently, listening to radio/TV</i> 3. <i>researched independently, reading on the Internet</i> 4. <i>the advisor/my bank told me about it</i> 5. <i>relatives/friends/colleagues told me about it</i> 6. <i>otherwise</i>	yes	yes

- continued -

## APPROACH TO SUSTAINABILITY

variables	definition	2019	2021
holding of SIs	dummy equals 1 if the respondent selects response option 1 to the following question: Do you own sustainable investments? 1. yes 2. no 3. don't know	yes	yes
preferences for ESG factors	dummies equal to 1 if the respondent selects the answer options corresponding to the following question: Sustainable investment directs resources into economic activities with positive environmental and/or social effects. Which of the following effects is most important to you? 1. gender equality and work-life balance 2. support for the disadvantaged (poor, sick, migrants) and gender equality 3. contribution to the community in which the company operates 4. ethical character of business activity (ethically worthy products and services) 5. environmental protection 6. transparency 7. good corporate governance (e.g., remuneration of managers; board diversity) 8. don't know	yes	no
priority in investment choices	dummies equal to 1 if the respondent selects the answer options corresponding to the following question: In your investment choices, you do/would prioritize: 1. financial aspects 2. financial aspects subject to sustainability 3. sustainability subject to financial aspects 4. sustainability 5. don't know	no	yes
financial advisor proactivity toward sustainable investments	dummies equal to 1 if the respondent selects one of the answer options corresponding to the following question (addressed only to the subsample of investors who have at least heard of SI and are supported by financial advisor): Has your advisor/bank ever suggested to you ethical or socially responsible investments? 1. yes, on his or its own initiative 2. yes, at my request 3. no 4. don't know	yes	no

– continued –

Continued Table a.1 – Variables definition

variables	definition	2019	2021
<b>SOCIO-DEMOGRAPHIC VARIABLES</b>			
male	dummy equal to 1 if the respondent is a male	yes	yes
area of residence	dummy equal to 1 if the respondent lives in the North, Centre or South of Italy	yes	yes
age	dummies equal to 1 if the respondent selects one of the response options corresponding to the following question (addressed only to the subsample of dummies equal to 1 if the respondent maker is alternatively aged ... - between 25 and 45 years old - between 45 and 65 years old - older than 65 years	yes	yes
education	dummies equal to 1 if the respondent has at least a bachelor's degree	yes	yes
professional status	dummies equal to 1 if the respondent is - employee - self-employed - retired - other (unemployed, housewife and student)	yes	yes
financial wealth (in euros)	dummies equal to 1 at different classes of financial wealth - < 10,000 - 10,000-50,000 - 50,000-250,000 - > 250,000	yes	yes
monthly family income (in euros)	dummies equal to 1 at different classes of monthly family income - < 1,200 - 1,200-3,000 - 3,000-5,000 - > 5,000	yes	yes

- continued -

Continued Table a.1 – Variables definition

variables	definition	2019	2021
<b>FINANCIAL KNOWLEDGE</b>			
<b>actual financial knowledge</b>	<p>indicators (factor, simple average, weighted average) based on correct answers to questions on basic financial knowledge related to the following concepts:</p> <ol style="list-style-type: none"> <li>1. relationship between risk and return of a financial instrument (e.g., stock, bond, mutual fund)</li> <li>2. inflation</li> <li>3. calculation of the final value (upside under compound interest) of the invested capital</li> <li>4. diversification of investments</li> <li>5. main features of a mortgage contract</li> <li>6. relationship between interest rates and bond prices</li> <li>7. spread of government bonds</li> </ol>	yes	yes (only the first five concept)
<b>perceived financial knowledge</b>	<p>proportion of financial concepts (relationship between risk and return, inflation, compound interest rates, diversification of investments, main characteristics of a mortgage contract, relationship between interest rates and bond prices) with which respondents declare ex-ante (i.e., before answering the questionnaire) that they are familiar. The indicator is based on the answers to the following question:</p> <p>For each of the following financial concepts</p> <ol style="list-style-type: none"> <li>1. relationship between risk and return of a financial instrument (e.g., stock, bond, mutual fund)</li> <li>2. inflation</li> <li>3. calculation of the final value (upside under compound interest) of the invested capital</li> <li>4. diversification of investments</li> <li>5. main features of a mortgage contract</li> <li>6. relationship between interest rates and bond prices</li> <li>7. spread of government bonds</li> </ol> <p>please indicate if:—</p> <ol style="list-style-type: none"> <li>1 does not know/has never heard of it</li> <li>2 knows/has heard of it, but does not fully understand it</li> <li>3 knows/heard of it and understood it</li> </ol>	yes	yes (only the first five concept)
<b>matching between actual and perceived financial knowledge</b>	<p>overconfidence/underconfidence/matching: dummies equal to 1 if the number of correct answers to the objective financial knowledge questionnaire as assessed ex-post, i.e., after answering the questions, is greater than/less than/equal to the actual number of correct answers.</p>	yes	yes
<b>digital knowledge</b>	<p>indicators (factor, simple average, weighted average) based on correct answers to the following questions:</p> <p>For each of the following statements please indicate whether they are true, false or you cannot answer:</p> <ol style="list-style-type: none"> <li>1. hacker attacks can also be conducted via telephone contacts</li> <li>2. saving data on external media or services reduces the risk of information loss due to damage or theft of computer terminals</li> <li>3. a password of adequate length and complexity can be updated less frequently</li> <li>4. mail messages from known senders are always reliable</li> <li>5. computer viruses can only be transmitted by e-mail</li> <li>6. the use of public Wi-Fi is always secure</li> <li>7. payment by credit cards on the internet is always to be avoided</li> </ol>	no	yes

– continued –

Continued Table a.1 – Variables definition

FINANCIAL KNOWLEDGE		2019	2021
variable	definition	no	yes
digital competences	<p>indicators (factor, simple average, weighted average) based on the correct answers to the following question:</p> <p>For each of the following statements please indicate whether it is close to what you think/do (yes/no)</p> <ol style="list-style-type: none"> <li>1. I use antivirus programs</li> <li>2. I frequently change my password to access online services</li> <li>3. I use different passwords to access different online services</li> <li>4. I download files/programs from the internet only if I am sure of their origin</li> <li>5. I read privacy policy statements before providing personal data</li> <li>6. I restrict access to my data or refuse geolocation</li> <li>7. I check that the website to which I have provided personal data is secure</li> </ol>		
PERSONAL TRAITS			
risk aversion	<p>dummies equal to 1 if the respondent selects the following response options to the question respectively 1 (high risk aversion), 2 or 3 (intermediate risk aversion), 4 (low risk aversion):</p> <p><i>In managing financial investments, you consider yourself more oriented towards ....</i></p> <ol style="list-style-type: none"> <li>1. high earnings despite the high risk involved</li> <li>2. a good return, but at the same time a fair degree of security for the invested capital</li> <li>3. a moderate gain, but at the same time a good degree of security of the invested capital</li> <li>4. low gain, with no risk of capital loss</li> </ol>	yes	yes
financial anxiety	<p>first principal component based on the answers to the following question (indicator normalised between zero and one):</p> <p>For each of the following statements please indicate how much you agree on a scale of 1 to 5 (where 1 = do not agree at all and 5 = very much agree)</p> <ol style="list-style-type: none"> <li>1. I find it very boring to monitor my bank account and credit card movements</li> <li>2. I prefer not to think about the state of my personal finances</li> <li>3. thinking about the state of my personal finances makes me feel guilty</li> <li>4. there is little need to be careful about saving; you can lose everything even without being responsible for it</li> <li>5. I often don't know where to find the money to meet my commitments</li> <li>6. I would prefer someone I trust to manage my finances</li> <li>7. thinking about my financial situation causes me anxiety</li> <li>8. when I talk about my financial situation I feel my heart beating fast, I feel stressed and anxious</li> <li>9. I make no effort to understand my financial situation</li> </ol>	yes	yes
self-efficacy	<p>first principal component based on the answers to the following question (indicator normalised between zero and one):</p> <p>For each of the following statements, please indicate how true you think it is on a scale of 1 to 4 (where 1 = absolutely true and 4 = absolutely false)</p> <ol style="list-style-type: none"> <li>1. it is difficult to meet my spending goals when unexpected expenses arise</li> <li>2. meeting my financial goals is a challenge</li> <li>3. when unexpected expenses arise, I usually resort to borrowing.</li> <li>4. when I have financial problems, I have difficulty finding a solution</li> <li>5. I don't have much confidence in my ability to manage my finances</li> <li>6. I'm afraid of running out of money when I retire</li> </ol>	yes	yes

- continued -

Continued Table a.1 – Variables definition

PERSONAL TRAITS		2019	2021
variables	definition	yes	yes
trust in financial advisors	dummies equal to 1 if the respondent answers that he/she has a lot of trust in financial advisors in general or in his/her advisor	yes	yes
social preferences	dummies equal to 1 if the respondent answers the following question with a score higher than 5: <i>How willing are you to commit yourself to a good cause without expecting anything in return? To answer, please give a grade from 1 to 10, where 1 means 'not at all' and 10 'very much'</i>	yes	No
concerns over climate change	dummy equals 1 if the respondent answers the following question with a score above 5: <i>How concerned are you about the consequences of climate change (e.g.: global warming)? To answer give a grade from 1 to 10, where 1 indicates 'not at all' and 10 indicates 'very much'</i>	yes	No
procrastination	first: main component based on the answers to the following question (indicator normalised between zero and one) <i>For each of the following statements please indicate how much you agree on a scale of 1 to 5 (where 1 = do not agree at all and 5 = very much agree)</i> 1. I do not complete tasks assigned to me until close to the deadline 2. I generally answer the phone immediately 3. I try to make decisions as early as possible 4. I tend to start late on tasks that have been assigned to me 5. I generally have to hurry to complete a job on time 6. I prefer to leave on time to arrive at an appointment on time 7. I start a task immediately after it has been assigned to me 8. I often finish an assigned task earlier than necessary 9. I always rush to the last minute to buy Christmas presents 10. I cannot relax in the evening if I have not completed all the things I have planned for the day	yes	No
optimism	first: main component based on the answers to the following question (indicator normalised between zero and one): <i>For each of the following statements please indicate how much you agree on a scale of 1 to 5 (where 1 = do not agree at all and 5 = very much agree)</i> 1. in times of uncertainty, I usually expect everything to go right 2. if something can go wrong for me, it will go wrong 3. I am always optimistic when I think about my future 4. I like my friends a lot 5. it is important for me to keep busy 6. I almost never expect things to go according to my plans 7. I don't get angry easily 8. I rarely expect good things to happen to me 9. overall, I expect more good things to happen to me than bad things 10. I rarely expect good things to happen to me	yes	No

- continued -

Continued Table a.1 – Variables definition

variables	definition	2019	2021
<b>INVESTMENTS EXPERIENCE</b>			
no. of years of participation in financial markets			
at least 3 years	dummy equal to 1 if the financial decision maker invested in 2019, 2020 and 2021 (panel dataset)	no	yes
2 years	dummy equal to 1 if the financial decision maker invested in 2020 and 2021, but not in 2019 (panel dataset)	no	yes
up to 12 months	dummy equal to 1 if the financial decision maker invested only in 2021 (panel dataset)	no	yes
<b>investment habits</b>			
self-managed	dummy equal to 1 if the investor invests independently	yes	yes
informal advice	dummy equals 1 if the investor discusses with friends/relatives/colleagues before making financial decisions	yes	yes
professional advice	dummy equals 1 if the investor discusses with the advisor before making financial decisions	yes	yes
diversified portfolio	dummy equal to 1 if the financial decision maker owns more than one financial instrument among stocks, bonds, mutual funds, Italian government bonds, foreign bonds, asset management products, insurance-based products	yes	yes
liquidity	dummy equal to 1 if the financial decision maker invests in bank or postal savings	yes	yes
<b>portfolio composition</b>			
Italian listed stocks	dummy equal to 1 if the investor owns Italian listed shares	yes	yes
Italian corporate bonds	dummy equal to 1 if the investor owns Italian corporate bonds	yes	yes
Italian bank bonds	dummy equal to 1 if the investor owns Italian bank bonds	yes	yes
mutual funds	dummy equal to 1 if the investor owns mutual funds	yes	yes
<b>investment experience in specific financial instruments</b>			
invested for at least 3 years in listed and/or unlisted Italian stocks	dummy equal to 1 if the financial decision maker invested in listed equities in 2019, 2020 and 2021 (panel dataset)	no	yes
invested for at least 3 years in Italian bank and/or corporate bonds	dummy equal to 1 if the financial decision maker invested in bank bonds in 2019, 2020 and 2021 (panel dataset)	no	yes
invested for at least 3 years in mutual funds	dummy equal to 1 if the financial decision maker invested in mutual funds in 2019, 2020 and 2021 (panel dataset)	no	yes



Table a.2 – Descriptive statistics

variables	2019				2021			
	min	max	var	average	min	max	var	average
<b>socio-demographic variables</b>								
male	0	1	0.16	0.75	0	1	0.16	0.74
South and Islands	0	1	0.22	0.20	0	1	0.23	0.21
North	0	1	0.25	0.58	0	1	0.25	0.57
aged 25 to 45	0	1	0.21	0.36	0	1	0.20	0.34
aged 45 to 65	0	1	0.25	0.47	0	1	0.25	0.47
aged over 65	0	1	0.15	0.17	0	1	0.14	0.19
at least bachelor degree	0	1	0.27	0.27	0	1	0.20	0.27
employee	0	1	0.24	0.55	0	1	0.24	0.57
self-employed	0	1	0.13	0.17	0	1	0.14	0.13
retired	0	1	0.18	0.23	0	1	0.17	0.25
other (student, housewife, unemployed, etc.)	0	1	0.05	0.05	0	1	0.06	0.05
<b>financial wealth</b>								
< 10.000 euros	0	1	0.18	0.13	0	1	0.21	0.08
10.000 to 50.000 euros	0	1	0.22	0.23	0	1	0.23	0.27
50.000 to 250.000 euros	0	1	0.19	0.52	0	1	0.20	0.55
> 250.000 euros	0	1	0.15	0.12	0	1	0.15	0.10
<b>monthly family income</b>								
< 1.200 euros	0	1	0.11	0.12	0	1	0.12	0.12
1.200 to 3.000 euros	0	1	0.23	0.66	0	1	0.22	0.68
3.000 to 5.000 euros	0	1	0.13	0.19	0	1	0.16	0.18
> 5.000 euros	0	1	0.04	0.03	0	1	0.02	0.02
<b>approach to sustainability</b>								
interest in SIs	0	1	0.24	0.59	0	1	0.21	0.71
at least perceived basic knowledge of SI	0	1	0.19	0.27	0	1	0.22	0.37
holding SIs	0	1	0.06	0.06	0	1	0.06	0.06
<b>preferences for ESG factors</b>								
gender equality and work-life balance	0	1	0.17	0.23	NA	NA	NA	NA
support of the disadvantaged	0	1	0.21	0.29	NA	NA	NA	NA
contribution to the community	0	1	0.21	0.30	NA	NA	NA	NA
ethical content of business activity	0	1	0.20	0.27	NA	NA	NA	NA
environmental concerns	0	1	0.24	0.42	NA	NA	NA	NA
transparency	0	1	0.12	0.13	NA	NA	NA	NA
good governance practices	0	1	0.07	0.07	NA	NA	NA	NA
<b>priorities in investment choices</b>								
financial aspects	NA	NA	NA	NA	0	1	0.21	0.28
financial aspects subject to sustainability	NA	NA	NA	NA	0	1	0.18	0.25
sustainability subject to financial aspects	NA	NA	NA	NA	0	1	0.18	0.25
sustainability	NA	NA	NA	NA	0	1	0.07	0.09
don't know	NA	NA	NA	NA	0	1	0.14	0.14

- continued -

- continued - Table a.2 – Descriptive statistics

variables	2019				2021			
	min	max	var	Average	min	max	var	average
<b>financial knowledge</b>								
simple average	0	1	0.08	0.53	0	1	0.13	0.60
weighted average	0	1	0.06	0.38	0	1	0.13	0.59
factor indicator	0	1	0.09	0.56	0	1	0.13	0.60
adjusted factor indicator	0	1	0.14	0.44	0	1	0.17	0.52
perceived financial knowledge	0	1	0.15	0.50	0	1	0.14	0.50
overconfidence	0	1	0.22	0.31	0	1	0.30	0.30
underconfidence	0	1	0.15	0.20	0	1	0.17	0.21
<b>digital knowledge and competences</b>								
simple average (digital knowledge)	NA	NA	NA	NA	0	1	0.06	0.52
weighted average (digital knowledge)	NA	NA	NA	NA	0	1	0.05	0.40
factor indicator (digital knowledge)	NA	NA	NA	NA	0	1	0.08	0.59
simple average (digital competences)	NA	NA	NA	NA	0	1	0.09	0.68
weighted average (digital competences)	NA	NA	NA	NA	0	1	0.09	0.66
factor indicator (digital competences)	NA	NA	NA	NA	0	1	0.09	0.69
<b>personal finance management</b>								
propension for saving	0	1	0.25	0.51	0	1	0.25	0.52
budget always respected	0	1	0.20	0.27	0	1	0.18	0.25
indebtedness to banks and financial institutions	0	1	0.23	0.35	0	1	0.24	0.40
indebtedness friends and relatives	0	1	0.08	0.09	0	1	0.11	0.14
financial planning in the past 12 months	0	1	0.10	0.11	0	1	0.08	0.09
<b>investment habits</b>								
self-managed	0	1	0.24	0.39	0	1	0.19	0.25
informal advice	0	1	0.24	0.43	0	1	0.25	0.50
professional advice	0	1	0.19	0.25	0	1	0.20	0.28
<b>personal traits</b>								
high risk aversion	0	1	0.19	0.26	0	1	0.18	0.21
intermediate risk aversion	0	1	0.21	0.69	0	1	0.19	0.77
low risk aversion	0	1	0.04	0.05	0	1	0.02	0.02
self-efficacy	0	1	0.03	0.60	0	1	0.03	0.60
financial anxiety	0	1	0.03	0.30	0	1	0.03	0.30
trust in the advisor	0	1	0.23	0.36	0	1	0.24	0.45
social preferences	0	1	0.25	0.54	NA	NA	NA	NA
concerns over climate change	0	1	0.18	0.74	NA	NA	NA	NA
procrastination	0	1	0.03	0.41	NA	NA	NA	NA
optimism	0	1	0.02	0.55	NA	NA	NA	NA
<i>no. of observations</i>	<i>1,077</i>				<i>1,157</i>			

Note: averages are computed on the basis of sample weights provided by GFK Italia. NA stands for unavailable data.



## Appendix 2

### Holding sustainable investments: first evidence on the characteristics of investors

This Appendix contains some preliminary analyses of the characteristics of the investors who declared to hold sustainable investments at the time of the SIFI 2019 and 2021 surveys; despite the small number of respondents who declare to own SIs (just under 70 individuals), the two surveys provide useful insights at methodological level (Table a.3 – Table a.8).

Generally speaking, as expected, the characterisation of investors holding SIs is confirmed to be in line with that of respondents interested in sustainability, with a different frequency distribution. In particular, among investors owning SIs, the share of the following features is higher: basic financial knowledge; alignment between actual and perceived financial knowledge (neither overconfident nor underconfident); digital knowledge and skills; investment experience over the last three years; holding less liquidity.

However, differently from SIs interest, in the case of SIs holding, the role of financial advisor is more relevant, given that in 2021 the share of advised investors holding SIs is equal to twice that of respondents who do not own SIs; moreover, trust in intermediaries is more widespread in the former group.

Retail investors who own SIs are usually in a better financial position both in terms of income and financial wealth and compared to other relevant profiles in the context of financial control, such as being indebted or experiencing situations of vulnerability, fragility and exposure to unforeseen expenses. In line with this evidence, financial decision-makers who hold SIs more often reveal a propensity for saving and financial planning.

Finally, individuals who possess SIs are less frequently loss-averse and risk-averse and are also less exposed to financial anxiety. The analysis of the personal traits for the only longitudinal component (i.e., the sub-group of investors interviewed in both surveys) suggests that individual characteristics linked to social preferences or concerns over climate change may be increasingly relevant in the future in guiding savers towards considering sustainability in their financial choices, since between 2019 and 2021 social preferences and environmental concerns became more frequent among SI holders. The same applies to personal traits such as optimism, whose association with possessing SIs becomes significant and positive in 2021 (Table a.8 in the Appendix).

Since the statistical validity of the results just presented is weakened by the small size of the sub-sample of SIs investors, a robustness test was performed through an analysis based on matched samples, i.e. by selecting in the sub-sample of investors who do not hold SIs, a comparison group of respondents with characteristics that are homogeneous to those of individuals who hold SIs<sup>1</sup>. The features considered are wealth and financial knowledge. The results reported in Table a.9 in the Appendix show that, *ceteris paribus* financial wealth and financial knowledge, the evidence just illustrated remains confirmed, except for financial advice which is equally widespread between the two sub-samples.

<sup>1</sup> A Euclidean distance metric was adopted to identify those investors who do not hold SIs and are the closest to investors who hold SIs in terms of wealth and financial knowledge. When considering that the Euclidean distance function can have several minimum points, the matched sample was constructed so as to avoid cases of repeated sampling, i.e., by ensuring sufficient variability of the observations in the two groups.

**Table a.3 – SIs knowledge and financial knowledge of the sustainable investments holders**

variables	2019				2021			
	holds SIs	does not hold SIs	t-test	correlations	holds SIs	does not hold SIs	t-test	correlations
perceived SIs knowledge at least at a basic level	57%	24%	+***	0,17***	78%	29%	+***	0,27***
actual financial basic knowledge > sample median <sup>1,2</sup>								
factor indicator <sup>2</sup>	67%	65%	.	.	79%	58%	+***	0,14***
adjusted factor indicator for random answers	64%	64%	.	0,08**	84%	61%	+***	0,14***
simple average <sup>2</sup>	75%	63%	+**	.	74%	47%	+***	0,14***
weighted average <sup>2</sup>	59%	54%	.	.	84%	56%	+***	0,14***
ex-ante <sup>3</sup> perceived financial knowledge > sample median <sup>1,2,3</sup>	77%	76%	.	.	81%	47%	+***	0,18***
mismatch between ex-post self-assessment <sup>4</sup> and actual financial knowledge								
overconfidence actual knowledge < ex-post <sup>4</sup> self-assessment	45%	32%	+**	0,08*	26%	31%	.	.
underconfidence actual knowledge > perceived knowledge	23%	19%	.	.	22%	21%	.	.
matching actual knowledge = perceived knowledge	20%	22%	.	.	47%	27%	+***	0,09*
no. of observations	69	1.008	1.077	1.077	73	1.084	1.084	1.157

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between SIs ownership and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. <sup>1</sup>In the application on the differences between the averages, dummy variables equal to 1 were considered if the indicators on financial knowledge are above the sample median. For the correlation estimation, however, the indicators on financial knowledge were taken into account as described in Table a.1 in Appendix 1. <sup>2</sup>The indicators on financial knowledge were calculated with reference to five basic financial concepts in both 2019 and 2021 (see Table a.1 in Appendix 1 for more details). <sup>3</sup>Ex-ante means before reading the questionnaire. <sup>4</sup>Ex-post means after reading the questionnaire.

**Table a.4 – Personal traits of sustainable investments holders**

variables	2019				2021			
	holds SIs	does not hold SIs	t-test	correlations	holds SIs	does not hold SIs	t-test	correlations
risk aversion								
high	7%	27%	-***	-0,07*	10%	24%	-***	-0,1***
intermediate	13%	4%	+**	0,16**	7%	2%	+*	.
low	80%	69%	+**	.	83%	73%	+**	.
financial anxiety <sup>1</sup>	43%	46%	.	-0,10***	16%	34%	-***	-0,08*
self-efficacy <sup>1</sup>	59%	66%	.	.	63%	53%	.	.
trust in the advisor	58%	36%	+***	0,07*	68%	41%	+***	.
no. of observations	69	1.008	1.077	1.077	73	1.084	1.157	1.157

Notes: \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%, "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between SIs ownership and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. <sup>1</sup>Dummy variables equal to 1 are considered in the calculation of the t-test statistics if the corresponding indicators of financial anxiety and self-efficacy are above the sample median.

**Table a.7 – Participation in financial markets of the sustainable investments holders**  
(data as of end 2021)

variables	holds SIs	does not hold SIs	t-test	correlations
I have been investing for at least 3 years in financial markets	94%	58%	+++	0,20***
I have been investing for 2 years in financial markets	4%	20%	---	-0,13***
I have been investing for less than 12 months in financial markets	2%	22%	---	-0,10***
I have been investing for at least 3 years in Italian listed and/or unlisted stocks	29%	8%	+++	0,11*
I have been investing for at least 3 years in Italian bank and/or corporate bonds	19%	4%	+++	0,12*
I have been investing for at least 3 years in mutual funds	10%	2%	++	.
<i>no. of observations</i>	<i>52</i>	<i>622</i>	<i>674</i>	<i>674</i>

Notes: estimates were made on the longitudinal component of the sample consisting of investors who participated in the 2019 2020 and 2021 surveys. \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%; "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between SIs ownership and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.

**Table a.8 – Behavioural characteristics of investors holding sustainable investments**

variables	2019		t-test	correlations	2021		t-test	correlations
	interested in SIs	not interested in SIs			interested in SIs	not interested in SIs		
social preferences	66%	54%	+	0,10*	75%	50%	+++	0,12*
concerns over climate change	70%	79%	.	.	85%	72%	++	0,12***
procrastination	64%	43%	++	.	35%	52%	-**	-0,12*
optimism	52%	57%	.	.	71%	52%	+++	0,16**
<i>no. of observations</i>	<i>44</i>	<i>542</i>	<i>586</i>	<i>586</i>	<i>52</i>	<i>622</i>	<i>674</i>	<i>674</i>

Notes: estimates were made on the longitudinal component of the sample consisting of investors who participated in the 2019 and 2021 surveys. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between SIs ownership and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia. As for the variables 'social preferences', 'climate change concerns', 'optimism' and 'procrastination', see Table a.1 in Appendix 1.

**Table a.9 – Main findings from matched samples analysis**

variables	2019				2021			
	holds SIs	does not hold SIs	t-test	correlations	holds SIs	does not hold SIs	t-test	correlations
perceived SIs knowledge at least at a basic level	57%	20%	+***	0,37***	78%	34%	+***	0,44***
diversified portfolio	58%	56%	.	.	78%	72%	.	.
liquidity	44%	53%	.	-0,2*	38%	36%	.	0,08
<b>financial instruments</b>								
Italian listed stock	29%	23%	.	.	37%	36%	.	.
Italian corporate bond	33%	17%	+**	0,18**	21%	22%	.	.
Italian bank bond	22%	25%	.	.	26%	25%	.	.
funds	41%	35%	.	.	66%	58%	.	.
<b>investment habits</b>								
self-managed	36%	38%	.	-0.02	27%	30%	.	.
informal advice	42%	46%	.	-0.04	36%	41%	.	.
professional advice	32%	30%	.	0.02	52%	42%	.	.
<b>risk profile</b>								
<b>risk aversion</b>								
high	7%	25%	-***	.	10%	15%	.	.
intermediate	13%	3%	+**	0.2*	7%	1%	+**	.
low	80%	72%	.	.	83%	83%	.	.
<i>no. of observations</i>	<i>69</i>	<i>69</i>	<i>138</i>	<i>138</i>	<i>73</i>	<i>73</i>	<i>146</i>	<i>146</i>

Note: Statistics displayed in the Table refer to the sample obtained by applying the matched samples technique \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1%; "." indicates no significance. The t-test is applied to determine whether there is a statistically significant difference between means and was carried out without applying sample weights. Correlations between SIs ownership and the variables shown in the Table were estimated by applying the sample weights provided by GfK Italia.