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the experience of Banca d'Italia

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MEASURING THE FINANCIAL LITERACY OF THE ADULT POPULATION: THE EXPERIENCE OF BANCA D'ITALIA

Antonietta di Salvatore[♦], Francesco Franceschi[♦], Andrea Neri[♦]
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Abstract

At the beginning of 2017, Banca d'Italia conducted a survey to investigate financial literacy and inclusion among Italian adults. The survey is part of an OECD project to create an internationally comparable dataset on this important topic. The questionnaire was developed by the OECD International Network on Financial Education (INFE). The Italian sample consists of about 2,500 persons interviewed using two different methods: 40 per cent of them had a face-to-face interview while the others used a tablet to record their responses. Our findings show the existence of a substantial financial literacy gap between Italy and the other G20 countries, which is most evident among less educated respondents, among the elderly and among women. Compared with other countries, Italians are more aware of their limits or at least more cautious when assessing their level of financial knowledge. We also discuss some critical aspects of the OECD's methodology that should be addressed in order to improve the measurement of financial literacy and to increase cross-country comparability.

JEL Classification: A20, I20.

Keywords: financial literacy, financial inclusion, mode effect.

Contents

[♦] Bank of Italy, Directorate General for Economics, Statistics and Research.

1. Introduction[1]

Several studies show that an individual's ability to understand and use basic financial and economic concepts plays an important role in achieving an appropriate level of economic wellbeing (see, among others, Lusardi and Mitchell 2011 and 2014). Adequate skills enable individuals to take advantage of the opportunities offered by a developed financial system, while taking risks into account in a proper manner.

The evidence available suggests that the level of basic and financial competencies in Italy is low compared with the most advanced economies. Within the *Programme for the International Assessment of Adult Competencies* (PIAAC), the OECD ran a survey measuring literacy, numeracy and problem-solving skills of populations aged 16-65. Among the 24 countries surveyed, Italy was at the bottom of the distribution both in literacy and numeracy (OECD, 2013). Klapper, Lusardi and van Oudheusden (2015) use the Standard & Poor's Ratings Services Global Financial Literacy Survey to show that only 37 per cent of Italians correctly understand basic financial concepts, compared with 52 per cent on average in the EU. In line with the theoretical predictions of Lusardi, Michaud and Mitchell (2011; 2014), Fornero and Monticone (2011) exploit data from the Bank of Italy's Survey on Household Income and Wealth to show that the level of financial knowledge in Italy is hump-shaped over the life cycle, increasing with the level of education and higher among men and in northern (richer) regions.

Detailed information on adult financial literacy, comparable across countries, however, had been lacking until the recent development of the OECD *International Network on Financial Education* (INFE) harmonized methodology (OECD-INFE, 2015). The first results were presented in the OECD-INFE International Survey of Adult Financial Literacy Competencies (OECD, 2016), which included 30 countries. Subsequently, following a call by G20 Leaders at the 2016 Hangzhou Action Plan meeting, a report on financial literacy across the G20 countries was presented at the 2017 G20 summit meeting in Hamburg (OECD, 2017).

Based on the OECD-INFE harmonized questionnaire, at the beginning of 2017 Banca d'Italia ran a sample survey on approximately 2,500 adult individuals (*Italian Literacy and Financial Competence Survey*, IACOFI). The survey was carried out using two different methodologies: 1,500 individuals responded via a tablet device designed

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to be easily used by all subgroups of the population (even the less educated or the elderly), while the remaining 1,000 individuals were interviewed personally using CAPI methodology (Computer Assisted Personal Interviews).

The data collected have enriched the limited information available for Italy and contributed to Italy's implementation of the National Strategy for Financial Education in 2017. This paper presents the main results from the survey.

It is organized as follows: section 2 provides a short description of the OECD-INFE methodology; section 3 briefly shows the level of financial competencies of Italian adults; section 4 provides an analysis on the role of socio-demographics; section 5 is about self-assessment of financial literacy and overconfidence; section 6 suggests possible improvements in the cross-country comparability of the OECD-INFE methodology; and section 7 concludes.

2. The OECD-INFE framework

According to a comprehensive definition, financial literacy is a combination of the awareness, knowledge, skills, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing (OECD, 2011).

The *International Network for Financial Education* (INFE) has developed a questionnaire widely adopted around the world, measuring three areas of financial literacy: knowledge, behaviour and attitudes.

The knowledge component aims at assessing the understanding of basic concepts which are a pre-requisite for making sound financial decisions. Knowledge is based on the three topics that have become the standard in the literature on financial literacy (Lusardi and Mitchell, 2011): understanding simple and compound interest, inflation and the benefits of portfolio diversification.

The second component measures how common behaviours are within the population that often indicate a greater ability to manage financial resources properly. In particular, the behaviour index is based on questions assessing whether people manage family financial resources by formulating a budget, are able to pay their debts and utilities with no concerns, and acquire information before making investments.

The attitudes component tries to evaluate, aside from actual knowledge and behaviours, personal traits such as preferences, beliefs and non-cognitive skills, which

are likely to affect personal well-being. According to the INFE methodology, this component is meant to capture attitudes towards precautionary saving and towards the long run in general.

The overall level of financial literacy is given by the sum of these three components and it ranges between 1 and 21: a maximum of 7 points derives from the knowledge index, 9 from behaviour, and 5 from attitudes.

Finally, according to the OECD methodology, there are no penalties for wrong answers and therefore the answers 'don't' know' and 'refused' are treated the same as the wrong ones.
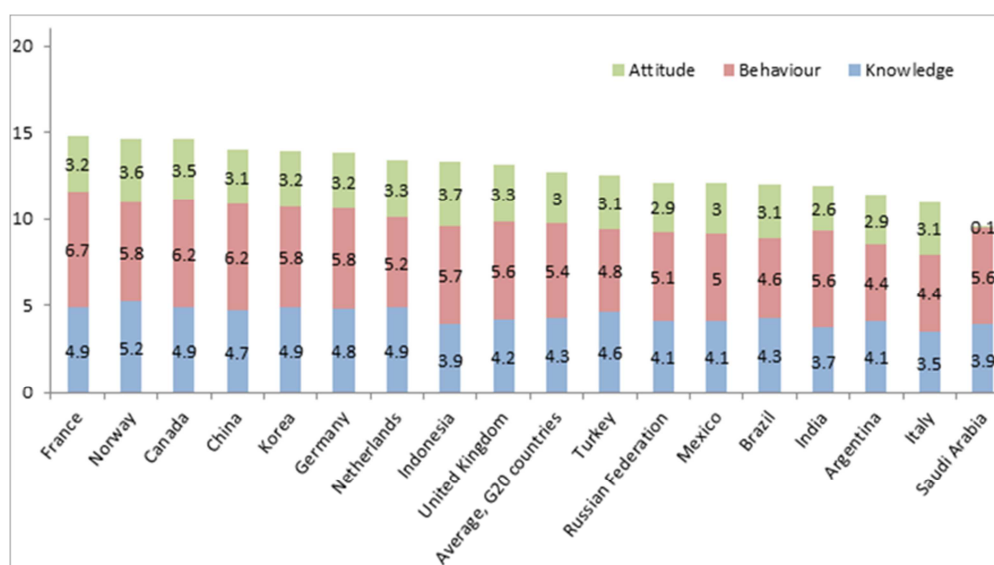
The OECD-INFE methodology is the result of a multidisciplinary contribution, reflects policy makers' experiences and attempts to measure the level of financial literacy in a comprehensive manner. Even though this methodology represents a useful tool for policy makers, some changes could improve cross-country comparability and reduce the inconsistencies with standard consumer theory, as discussed below.

3. Financial literacy of adults in Italy

Overall, the survey results show a very low level of financial literacy in Italy compared with the G20 average (Figure 1).

The financial knowledge score is 3.5 out of a maximum of 7 points on average, compared with a G20 average of 4.3. The percentage of respondents who achieved a minimum target score (5 or more, according to the OECD methodology) is slightly above 30 per cent, versus the G20 average of 48 per cent. Italians are broadly unaware of the benefits of portfolio diversification: only 37 per cent of respondents understand that risks can be reduced by buying a wide range of stocks and shares (Table A1). Furthermore, less than half of the respondents are able to calculate a simple interest rate, while only 23 per cent are able to both calculate a simple interest and recognize the additional benefit of compounding over five years.

Figure 1

Financial knowledge, attitudes and behaviour
(averages; weighted data)

Source: OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

The G20 average does not include the Netherlands and Norway which participate as guest countries under the German G20 presidency.

These results are likely to be affected by the different respondents' behaviours across countries. For instance, Italy seems to be characterized by a high non-response rate for financial knowledge questions: only one in three individuals answers all 7 questions, versus 66 per cent in Canada and more than half of the adult population in Germany and the Netherlands (Table A2). Moreover, the response behaviour of Italian respondents appears to be influenced by the survey mode: the percentage of 'I do not know / Refused' is lower for face-to-face interviews.

The Italian behaviour score is also below the G20 average: 4.4 versus 5.4 on a scale of 0 to 9. The proportion of respondents who achieved a minimum target score (at least 6 out of 9, according to the OECD methodology) is less than 30 per cent, compared with a G20 average of 52 per cent. The behavioural score is negatively impacted by the low propensity of Italians to pursue long-term financial goals: only 27 per cent of respondents agree with the statement 'I set long-term financial goals and strive to achieve them'. Budgeting is barely used: only 37 per cent of adults state that their family sets a budget to decide how much of their income will be spent to cover their living expenses and how much of it will be saved (Table A3). However, and this contributes positively to the behaviour score, Italian adults show a lower tendency to borrow: only 15 per cent of adults have been in a situation where family income was

insufficient to cover their living costs and they resorted to borrowing to make ends meet in the last 12 months.

Italy is quite aligned with the attitude score, with a value slightly higher than 3 out of 5, close to the G20 countries' average. In addition, the pattern in the responses to the three questions for the attitude score is rather similar: 40 per cent of the Italian respondents show a positive saving orientation (they do not agree that it is more satisfying to spend than to save for the long term), 21 per cent disagree with the statement that 'money is there to be spent' and 37 per cent disagree with the statement that 'they tend to live for the day'. The corresponding G20 average percentages are 43, 29 and 48 per cent, respectively (Table A4).

4. The role of socio-demographic characteristics

The level of financial knowledge is not uniform throughout the population (Table A5). Education is one of the most important factors in ensuring adequate levels of understanding of financial concepts. The average knowledge score drops from about 4 for graduates to about 3.2 for those with secondary education and to 2 for those with lower education levels. In Italy there are also gender gaps in financial literacy, though smaller than those recorded in other countries (OECD, 2017). Highly educated women, in particular, have lower financial knowledge scores than their male peers (Table A6). In addition, financial skills increase with age for younger individuals and then decrease for older ones, with a peak at about age 44. Finally, the knowledge score is lower for those who are not working, such as housewives, the retired, the unemployed or individuals seeking their first employment.

Therefore, it is likely that differences in socio-demographic composition play a role in explaining country performances. Compared with other countries, Italy is characterized by a higher share of individuals with low levels of education: about 47 per cent of the adult Italian population has a primary level of education, while the same group accounts for only 14 per cent of the population in Germany and does not exceed 10 per cent in Canada and the UK.

In order to assess how much of the gap with other countries is attributable to the different socio-demographic compositions, we compute the three financial literacy indicators for Italy under five alternative scenarios where sample weights have been rearranged so that the distribution of some socio-demographic variables is equal to the

corresponding ones of Germany, France, the Netherlands, Canada and the United Kingdom. The supplementary information on the socio-demographic distributions comes from the Household Finance and Consumption Survey (HFCS) for the first three countries, whereas for Canada and the United Kingdom we use micro data from the OECD survey on financial literacy.

In particular, we create 54 socio-demographic classes resulting from the combination of 9 age classes, 3 education classes and the two gender classes. The gap in the average financial literacy score between country X and Italy can be decomposed as follows:

$$p_X - p_{IT} = \sum_{c=1}^{54} (w_c^X - w_c^{IT}) * p_c^{IT} + \sum_{c=1}^{54} w_c^X * (p_c^X - p_c^{IT})$$

where p_c^{IT} and p_c^X denote the average scores in class c respectively for Italy and for country X, and w_c^{IT} and w_c^X are the sums of sample weights in class c respectively for Italy and for country X. The first summation accounts for the part of the gap which is due to the different socio-demographic compositions in the two countries, while the second summation reflects the gap in the average scores between the two countries in the single socio-demographic classes.

The first summation can be computed as the difference between the Italian score in the counterfactual scenario relative to country X and the actual Italian score. In order to compute the counterfactual score, the sample weight for respondent i belonging to class c is re-proportioned according to the following formula:

$$\widetilde{w}_{i,c} = w_{i,c}^{IT} * \frac{w_c^X}{w_c^{IT}}$$

which has no impact on the distribution of characteristics within the class but aligns the total proportion of class c in the population to the one in country X.

The results under different scenarios are shown in Table 1. The counterfactuals of the three indicators show higher values in all simulations, compared with the actual scores. This indicates that the socio-demographic composition in Italy actually has a negative effect on its average score. The share of the gap in financial knowledge scores that is due to the different demographic composition ranges from 11 per cent in the case of France and the Netherlands (over an initial gap of about 1.4 points) to 26 and 38 per

cent, respectively, for Canada and the United Kingdom (over an initial gap of about 1.4 and 0.7 points).

Table 1

Financial literacy scores in counterfactual scenarios

(averages; weighted data)

		Italy	Germany	The Netherlands	France	UK	Canada
Knowledge	Actual	3.52	4.80	4.90	4.90	4.20	4.90
	Counterfactual*	3.52	3.76	3.68	3.68	3.78	3.88
Behaviour	Actual	4.43	5.80	5.20	6.70	5.60	6.20
	Counterfactual*	4.43	4.64	4.56	4.56	4.61	4.62
Attitude	Actual	3.08	3.20	3.30	3.20	3.30	3.50
	Counterfactual*	3.08	3.15	3.15	3.14	3.15	3.15

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

* Counterfactual scenario for Italy with demographic structure of comparison country.

The results of the counterfactual exercise show that differences in the socio-demographic composition are important but not sufficient to account for all the gaps in the financial literacy scores between Italy and other countries, as differences in the average scores of the socio-demographic classes between countries play an important role as well. For example, in Canada average scores are higher than the corresponding Italian ones across almost all the classes. In the case of the UK, instead, the socio-demographic component has a higher impact on the gap (accounting for about 40 per cent of the initial gap) and the differences in average scores with respect to Italy are more pronounced in the classes with the highest education levels.

5. Respondents' self-assessment of financial knowledge

In the literature on consumer protection, as well as in the practice of policy making, there is growing interest in the cognitive and behavioural biases affecting consumers' decisions (Lefevre and Chapman, 2017).
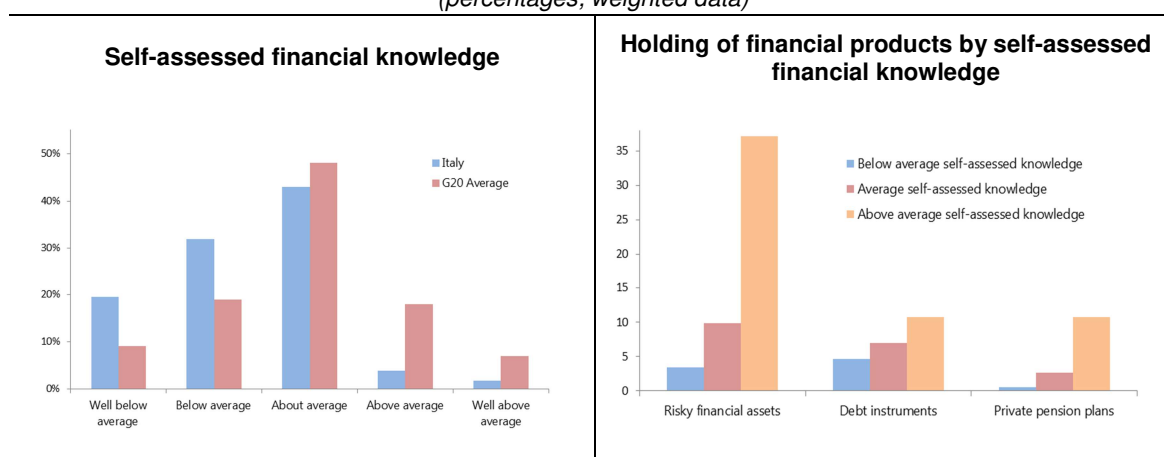
The level of self-confidence in financial matters may shape financial behaviour and how confidently people answer knowledge questions or avoid them by choosing the 'don't know' option.

In the survey there is a direct question to assess the respondent's level of self-confidence. The question reads as follows: '*How would you rate your level of financial*

knowledge on a scale of 1 to 5 compared with other adults in your country?' (1 = well below average, 5 = well above average). The question does not contribute to the final score.

The answers to this question reveal that respondents in Italy are aware of their knowledge gaps. More than half of them believe that their financial literacy is below average, compared to about 30 per cent in the G20 average (Figure 2). Only 5 per cent of Italians rate their own knowledge above average, compared to 25 per cent in G20 countries, while the remaining 43 per cent rate themselves as average.

Figure 2

Self-assessment of financial knowledge
(percentages; weighted data)

Note: Estimates refer to the adult population (18-79 years old).

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

Moreover, in comparison with the countries for which micro data are available, Italian adults underestimate their actual competencies more extensively. For example, almost a quarter of individuals think that they have skills below average while achieving a score that is actually higher than average. In the comparison countries, the share of underconfident individuals is about 8 per cent. A low self-assessment is associated with lower participation in financial markets: individuals who believe they have low financial competencies are less inclined to hold investment products, to use debt instruments, or to have private pension plans (Figure 2).
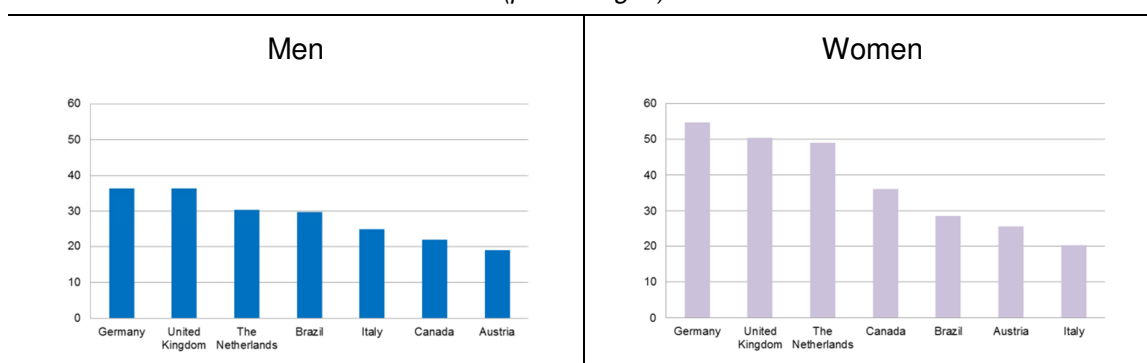
Overconfidence is one of the main recognized biases that may affect consumers' decisions. An investor is overconfident when he/she overestimates his/her own ability to successfully perform a particular task or to make an accurate judgment. The IACOFI survey allows us to study a specific form of overconfidence, that of individuals

believing that their financial knowledge is on average or above average when it is actually below.

According to this definition, in Italy about 22 per cent of the population is overconfident. Together with Austria, Italy displays the lowest incidence of overconfident individuals, whereas Germany and the UK show the highest levels (Figure 3). Overconfident individuals amount to about a third of the population on the average for the comparison countries (Table A7).

Figure 3

Share of overconfident individuals
(percentages)

Note: Estimates refer to the adult population (18-79 years old).

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

The probability of being overconfident in Italy, rather than correctly evaluating one's own financial knowledge, is higher among men, highly educated individuals, and self-employed workers (Table A8, column 1). These results are in marked contrast to evidence from the comparison countries, where overconfident individuals are more likely to be found among women and among the less educated (Table 9, column 2).

Overconfidence is associated with a higher probability of having borrowed money (Table A9). It is impossible however to precisely disentangle the mechanism linking overconfidence and borrowing behaviour. On the one hand it is possible that overconfident individuals are, other things being equal, more likely to borrow money as a result of an optimistic view of their future income. On the other hand individuals who have just signed up for a mortgage or another debt contract may feel more familiar with economic concepts and overestimate their actual financial knowledge.

Moreover, IACOFI data also show that overconfident individuals are more exposed to specific forms of risk, such as investing in something that turns out to be worthless,

accidentally providing personal financial information, and experiencing the unauthorized use of a personal payment card (Table A10).

6. Some remarks on the OECD-INFE methodology

The OECD-INFE methodology on financial competencies is an important framework for measuring the level of financial literacy of the adult population. It is based on the experience of the most active national authorities and government agencies, some of which are from Anglo-Saxon countries, where household financial fragility and over-indebtedness are main concerns. The framework has therefore been developed as a useful tool for identifying specific forms of financial illiteracy and unsound behaviours, such as those leading to over-indebtedness. However, a revision of the OECD methodology could improve its general validity and cross-country comparability, and strengthen its ability to measure financial literacy.

The first characteristic that needs to be highlighted is the different contribution of the three components to the overall score: behaviours, with a maximum score of 9 points, are those that weigh most on the final score, while the knowledge indicator, which is the most commonly used in the literature, only contributes with a maximum of 7 points out of 21. A rebalancing of these contributions in favour of a higher weight for the knowledge score would emphasize questions widely accepted in the literature which are the least judgmental of the three components. Furthermore, due to the positive correlation between knowledge and behaviour, the current approach may result in a sort of 'double counting' and inflate actual financial literacy gaps.

A second critical aspect is that the indicators of behaviour and motivation are based on heuristics and experience, that are not easily generalizable. In fact, defining what is good behaviour or a good motivation (attitudes) for all respondents ignores non-negligible differences due to different moments in the life-cycle, to the external and institutional conditions, and not least to individual preferences. For example, according to the OECD-INFE methodology, a high propensity to save is always considered as a good behaviour, regardless of the respondent's age or wage profile. This assumption may be at odds with the standard life-cycle theory.

Moreover, one of the elements contributing to the good behaviour score is the purchase of financial assets in the two years before the survey. However, financial assets purchases not only reflect the literacy level of individuals but also

macroeconomic conditions as well as institutional factors, such as the development of financial markets or the tax system. Therefore, financial market participation should not be considered as a measure of individuals' financial literacy. The total score should be based on behaviours that are strongly affected only by individuals' choices, such as whether or not a person double-checks his or her financial records or whether he/she asks various sources for advice before making an investment.
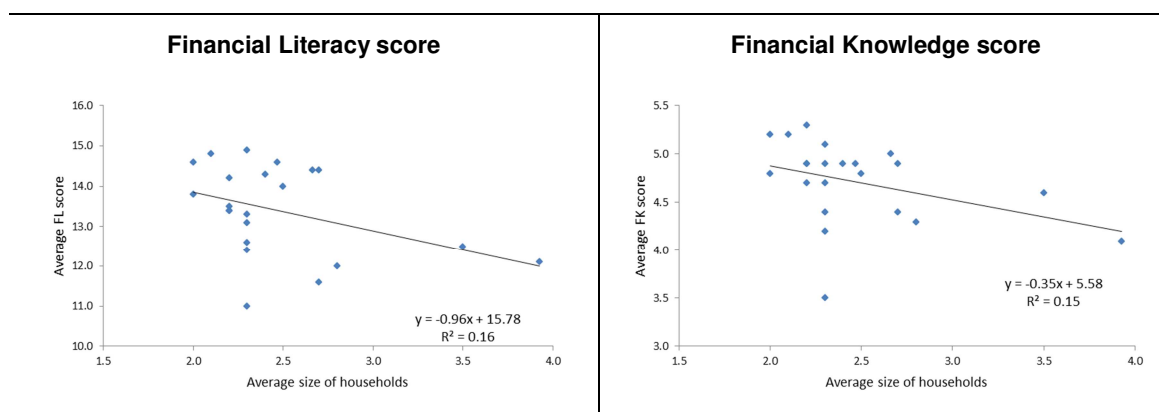
A third aspect relates to the unit of analysis. The OECD framework is designed for the adult population and, as a consequence, respondents are randomly selected within households. The random selection of the individual may not be the most appropriate approach when the financial decisions are taken at the household level and when the family makes some form of labour division, including also financial decision making (Hsu, 2016). For instance, the head of the household could be the one who is in charge of financial decisions. The choice of randomly selecting an individual within the household assumes that he/she is representative of the other members of the family. Yet, when tasks are specialized this assumption could easily be contradicted, implying that a survey on randomly selected individuals may not properly measure the overall level of financial literacy. The contribution of Basu and Foster (1998) provides a discussion of the relevance of intra-household externalities when measuring general literacy.

The Italian Survey on Household Income and Wealth (SHIW) has occasionally included some questions for measuring the level of financial competencies of the person who is most involved in managing a household's finances. The level of financial knowledge resulting from the SHIW survey is higher than the one observed in IACOFI survey: the share of respondents who are familiar with the economic concepts of inflation and risk diversification is respectively 13 and 15 percentage points higher in the 2016 edition of the SHIW survey (Banca d'Italia, 2018). This result holds even when restricting the analysis of the IACOFI survey to respondents who report participating in the household's day-to-day decision-making.

There is therefore a case for defining financial literacy at the household level as well. The random selection of a member of the household may penalize those countries with larger average family size. Indeed, Figure 4 seems to suggest the existence of a weak negative association between the average size of households and the average level of financial literacy, even dropping the two countries that are outliers in terms of average size.

Figure 4

Relationship between average size of households and Financial Literacy scores in OECD countries

OECD countries: Austria, Belgium, Canada, Croatia, Czech Republic, Estonia, Finland, France, Germany, Hungary, Italy, Korea, Latvia, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Turkey and the United Kingdom.

Source: our calculations based on the OECD family database (http://www.oecd.org/els/family/database.htm) and OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

The OECD framework includes a question on who participates in a household's decision-making about money, this information, however, enters the financial literacy score only in the grading of one question, namely the one regarding the adoption of a household budget. Another possibility is to adopt a different criterion for selecting the respondents. After an initial random selection, the selected person should be asked some screening questions in order to make sure that he or she makes some financial decisions in the household. If this is not the case then the selection process should skip to the next household member. Another possibility is to interview both the randomly selected person and the person who is most knowledgeable about the household finances.

Finally, the OECD methodology considers the '*don't know/refused*' (DK) responses as wrong answers ignoring the fact that '*knowing not to know*' can actually lead to more cautious behaviours such as being more prone to ask for advice or to seek as much information as possible before making a decision. Moreover, the propensity to give a DK answer is negatively associated with levels of self-confidence, even after controlling for the actual level of financial knowledge and other observables characteristics (Table A11). Since levels of self-confidence vary across countries, the methodology tends to reward individuals (and countries) with a higher propensity to answer questions.

Table A12 shows how the score of financial knowledge would change if the share of DK responses were the same across countries. In the simulation we use five countries

(Canada, Italy, Germany, the Netherlands and the United Kingdom) and Canada is set as the benchmark because of its low share of missing values. The counterfactuals for the other countries are estimated in two steps. First, for each country and for each question we model the probability of answering as a function of a set of observable characteristics (gender, age, level of education, employment status, self-confidence). We use the estimated probabilities to select a random sample of individuals from the DK cases, for which we impute the responses they would have provided if they had answered. This is done by estimating a logistic model for the probability of providing the correct answer (using the above-mentioned set of explanatory variables). Our results show that, if the response propensity were the same across countries, the scores of financial knowledge would be much closer to each other and the relative positions of some of them could change. Consequently, it could be useful to predict a different treatment of the DK cases from the truly wrong answer by, for instance, including a penalty in the score for the latter situation.

7. Concluding remarks

At the beginning of 2017 Banca d'Italia conducted a survey to investigate financial competencies and inclusion among Italian adults using the OECD-INFE questionnaire.

The overall level of financial literacy in Italy is one of the lowest among G20 countries. Italians struggle in particular with the knowledge of basic economic concepts and they are less likely to put good behaviours into practice, such as drawing up a household budget. They are, however, close to the G20 average in terms of attitudes toward the long run. Financial literacy is particularly low among the least educated, the elderly, and women (for the latter in particular as regards basic knowledge). Socio-demographic characteristics of the Italian population, such as the low level of education, only explain part of the gap with other G20 countries. However, Italian respondents seem to be aware of such weaknesses. The National Strategy for Financial Education may build its action for increasing financial literacy upon this general awareness.

Our findings suggest that the level of self-confidence is associated with financial market participation. Moreover, our analysis provides some behavioural insights: overconfident individuals are just over 20 per cent in Italy, less than in other developed countries. Overconfident individuals face a higher risk of suffering losses due to wrong

investments, accidentally providing personal financial information, or experiencing unauthorized use of their payment cards.

Lastly we provide a short discussion of the OECD methodology, suggesting a few improvements that could increase cross-country comparability, the quality of financial literacy measurement and strengthen the link with economic theory. In particular, the treatment of 'don't know/refused' answers should be reconsidered.

Appendix: Tables

Examples of financial knowledge questions

K1. *Assume you are going to receive a gift of €1,000. Now imagine that you have to wait for one year to get the money and that inflation stays at 1 per cent. In one year's time will you be able to buy:* (a) More than you could buy today; (b) The same amount; (c) Less than you could buy today; (d) Don't know; (e) Refused.

K2. *You lend €25 to a friend one evening and he gives you €25 back the next day. How much interest has he paid on this loan?*

K3. *Suppose you put €100 into a 'no fee' savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?*

K4. *and how much would be in the account at the end of five years, remembering there are no fees or tax deductions, you don't make any further payments and you don't withdraw any money? Would it be* (a) More than €110; (b) €110; (c) Less than €110 euro; (d) Don't know; (e) Refused

K5. *It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares. (True or false?)*

Table A1

Share of correct answers to Financial Knowledge questions
(percentages; weighted data)

Question	K1	K2	K3	K4*	K3 and K4*	K5
Argentina	69	87	22	37	8	59
Brazil	65	78	50	30	18	77
Canada	57	93	58	56	39	68
China	70	78	74	55	42	57
France	59	94	57	54	34	75
Germany	71	86	58	53	39	65
India	41	67	42	35	15	50
Indonesia	14	76	78	38	36	48
Italy	48	54	47	33	23	37
Japan	56	--	66	43	39	46
Korea	71	83	52	53	35	81
Mexico	74	92	12	32	3	64
Russian Federation	65	88	48	46	27	41
Saudi Arabia	27	69	46	34	33	60
South Africa	25	70	42	36	13	55
Turkey	55	84	54	32	19	74
United Kingdom	38	83	57	52	36	52
Average G20 countries**	**53**	**80**	**51**	**42**	**27**	**59**
Netherlands	*65*	*92*	*76*	*61*	*56*	*53*
Norway	*76*	*91*	*80*	*65*	*58*	*59*

Source: OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

* According to OECD methodology a correct answer to question K4 is only accepted if the respondent has given the correct answer to question K3 as well.

** The average does not include the Netherlands and Norway which participate as guest countries under the German G20 presidency.

Note: Estimates refer to the adult population (18-79 years old).

Table A2

'Don't Know'/'Refused' as answers to Financial Knowledge questions
(percentages of respondents)

Number of 'Don't Know'/'Refused'	0	1	2	3	4	5	6	7
Italy	31.7	21.7	13.8	11.3	8.0	7.2	6.2	0.2
Tablet device	*25.9*	*17.1*	*12.7*	*13.3*	*9.3*	*10.8*	*11.0*	*0.0*
CAPI	*38.5*	*25.4*	*13.9*	*9.0*	*6.7*	*3.7*	*2.3*	*0.5*
Canada	66.4	19.1	8.0	3.2	2.2	0.8	0.3	0.1
Germany	53.0	18.7	11.1	7.5	3.0	2.7	1.6	2.6
Netherlands	52.1	19.7	7.9	8.8	3.9	2.1	2.7	2.8
UK	45.1	21.8	14.5	7.8	4.6	2.6	2.0	1.8

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Examples of Financial Behaviour questions

B1. *I would like to know how much you agree or disagree that the following statement applies to you, personally. Please use a scale of 1 to 5, where 1 tells me that you completely agree that the statement describes you and 5 shows that you completely disagree: '*I set long term financial goals and strive to achieve them*'.*

B2. *Who is responsible for making day-to-day decisions about money in your household?* (a) You make these decisions by yourself; (b) You make these decisions with someone else; (c) Someone else makes these decisions; (d) Don't know; (e) Refused

B3. *Does your household have a budget? A household budget is used to decide what share of your household income will be used for spending, saving or paying bills.* (a) Yes; (b) No; (c) Don't know; (d) Refused

Share of adults showing positive Financial Behaviours

(percentages; weighted data)

Question	B1*	B2**	B3	B2 and B3
Argentina	49	67	55	39
Australia	--	94	74	70
Brazil	46	80	43	36
Canada	58	92	63	58
China	68	95	75	72
France	61	90	85	76
Germany	59	91	35	32
India	64	88	59	54
Indonesia	66	98	68	67
Italy	27	79	37	31
Japan	47	--	--	--
Korea	46	89	76	71
Mexico	59	80	44	37
Russian Federation	46	93	50	47
Saudi Arabia	68	96	60	59
South Africa	49	67	60	43
Turkey	44	86	78	68
United Kingdom	45	96	53	51
United States	57	90	56	52
Average G20 countries***	**53**	**87**	**60**	**54**
Netherlands	*39*	*94*	*40*	*39*
Norway	*44*	*97*	*33*	*32*

Source: OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

* Points are given if the respondent agrees with the statement (options 1 and 2)

** Respondents who make decisions by themselves or with other household members. (options (a) and (b))

*** The G20 average does not include the Netherlands and Norway which participate as guest countries under the German G20 presidency.

Note: Estimates refer to the adult population (18-79 years old).

Financial attitude questions

A1. *I would like to know how much you agree or disagree that the following statement applies to you, personally. Please use a scale of 1 to 5, where 1 tells me that you completely agree that the statement describes you and 5 shows that you completely disagree:* 'I tend to live for today and let tomorrow take care of itself'

A2. *I would like to know how much you agree or disagree that the following statement applies to you, personally. Please use a scale of 1 to 5, where 1 tells me that you completely agree that the statement describes you and 5 shows that you completely disagree:* 'I find it more satisfying to spend money than to save it for the long term'

A3. *I would like to know how much you agree or disagree that the following statement applies to you, personally. Please use a scale of 1 to 5, where 1 tells me that you completely agree that the statement describes you and 5 shows that you completely disagree:* 'Money is there to be spent'

Table A4

Share of adults that disagree with the statements (4 or 5 on the scale)

(percentages; weighted data)

Question	A1	A2	A3
Argentina	44	42	23
Australia	58	--	--
Brazil	42	55	27
Canada	64	47	38
China	53	48	21
France	68	48	23
Germany	55	45	22
India	28	27	22
Indonesia	40	70	75
Italy	37	40	21
Japan	55	36	--
Korea	51	44	26
Mexico	36	48	32
Russian Federation	45	29	22
Saudi Arabia	18	14	15
South Africa	54	44	35
Turkey	54	45	19
United Kingdom	53	44	34
Average G20 countries*	**48**	**43**	**29**
Netherlands	*55*	*46*	*19*
Norway	*78*	*53*	*28*

Source: OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries.

* The G20 average does not include the Netherlands and Norway which participate as guest countries under the German G20 presidency.

Note: Estimates refer to the adult population (18-79 years old).

Table A5

Financial Literacy scores in Italy

(averages; weighted data)

	Knowledge	Behaviour	Attitude
Gender			
Women	3.42	4.42	3.12
Men	3.63	4.43	3.04
Age			
Below 35	3.47	4.06	2.84
35-44	3.67	4.59	3.06
44-54	3.63	4.61	3.05
55-64	3.58	4.40	3.20
Over 64	3.32	4.54	3.32
Education			
University degree / some university studies	4.04	4.77	3.17
Secondary school (completed)	3.78	4.55	3.08
Some secondary school	3.18	4.21	3.01
Primary school (completed)	2.98	4.20	3.18
Some primary school	1.98	3.36	3.01
Labour force status			
Self-employed	3.74	4.72	3.02
In paid employment	3.69	4.70	3.08
Looking after the home	3.19	4.20	3.10
Unemployed/looking for first occupation	3.19	4.00	2.86
Retired	3.39	4.53	3.33
Student	3.85	3.44	2.76
Town population size			
Less than 20,000	3.50	4.41	3.13
Between 20,000 and 40,000	3.24	4.46	2.86
More than 40,000	3.66	4.43	3.11
Geographical area			
North	3.58	4.53	3.15
Centre	3.63	4.49	3.11
South	3.38	4.25	2.98
Total	**3.52**	**4.43**	**3.08**

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI).

Financial Literacy scores by socio-demographic class

(averages; weighted data)

Sex	Men						Women					
Education	Less than high school diploma			At least high school diploma			Less than high school diploma			At least high school diploma		
Age	< 41	41-60	> 60	< 41	41-60	> 60	< 41	41-60	> 60	< 41	41-60	> 60
Knowledge	2.8	3.3	3.4	3.9	4.2	4.2	3.2	3.1	3.0	3.7	3.9	3.5
Behaviour	3.8	4.0	4.4	4.4	4.9	5.2	4.0	4.3	4.4	4.5	4.7	4.5
Attitudes	2.6	3.0	3.3	3.0	3.1	3.4	2.8	3.0	3.3	3.1	3.2	3.3

Share of population by socio-demographic classes

(percentages)

	< 41	41-60	> 60	< 41	41-60	> 60	< 41	41-60	> 60	< 41	41-60	> 60
Italy	6.1	7.7	9.5	11.7	9.6	3.5	5.0	8.9	10.2	12.6	12.0	3.3
Germany	2.7	1.2	0.8	14.8	18.3	12.4	3.3	2.1	3.7	14.1	16.4	10.2
France	2.8	4.2	4.9	16.0	13.9	7.0	2.0	5.1	7.0	17.1	13.7	6.3
Netherlands	2.9	5.1	5.6	14.0	13.0	7.1	3.1	4.8	8.9	17.1	12.6	5.7
United Kingdom	0.9	0.5	1.4	19.0	14.6	11.8	1.0	1.4	1.0	18.8	16.3	13.5
Canada	1.7	1.3	1.1	16.5	16.6	11.3	1.7	2.0	1.2	17.0	18.3	11.3

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Table A7

Distribution of adults by self-assessed and actual knowledge class

(percentages; weighted data)

	Italy		Comparison countries	
	Actual knowledge**			
Self-assessment*	Below average	Above average	Below average	Above average
Below average	27.5	23.2	13.2	8,1
Average	20.2	23.4	21,9	24,6
Above average	2.2	3.6	10,9	21.3

* The 'below average' class includes the survey options 'very low' and 'quite low' financial knowledge, and the 'above average' class includes the survey options 'very high' and 'quite high' financial knowledge.

** The 'below average' class includes all actual scores lower or equal than national average.

Note: Estimates refer to the adult population (18-79 years old).

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Table A8

Probability of being overconfident

	(1) Italy	(2) Comparison countries
Male	0.433** (0.169)	-0.402*** (0.0622)
Age 18-29	(omitted)	(omitted)
30-39	-0.280 (0.348)	-0.0606 (0.104)
40-59	-0.156 (0.322)	-0.229** (0.0928)
60-69	-0.518 (0.414)	-0.155 (0.131)
70 and above	-0.973** (0.462)	0.115 (0.162)
Secondary and tertiary education	0.329** (0.168)	-0.111* (0.0613)
Retired	(omitted)	(omitted)
Employee	0.239 (0.337)	0.0829 (0.125)
Self-employed	0.664* (0.363)	-0.00460 (0.134)
Unemployed	-0.0937 (0.411)	-0.177 (0.191)
Inactive	0.277 (0.367)	0.0584 (0.142)
Students	-0.639 (0.523)	-0.0894 (0.229)
Other	1.040 (0.719)	0.159 (0.225)
Constant	-0.534 (0.459)	0.251* (0.147)
Observations	1,092	5,134

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Table A9

Probability of being a borrower

	(1) Italy	(2) Comparison countries
Overconfident	0.406* (0.233)	0.147* (0.0781)
Male	0.275 (0.237)	0.235*** (0.0742)
Secondary and tertiary education	-0.0518 (0.250)	0.544*** (0.0738)
Age: 18-29	(Omitted)	(Omitted)
30-39	0.974* (0.543)	0.388*** (0.120)
40-59	0.601 (0.519)	0.302*** (0.110)
60-69	0.0867 (0.711)	0.0448 (0.162)
70 and over	-0.278 (0.844)	-0.174 (0.221)
Retired	(omitted)	(omitted)
Employee	0.746 (0.588)	0.234 (0.161)
Self-employed	0.334 (0.591)	0.395** (0.172)
Unemployed	-1.436* (0.812)	-0.510* (0.266)
Inactive	-0.0375 (0.648)	-0.253 (0.198)
Students	-1.233 (1.265)	-0.860*** (0.321)
Other	1.665** (0.848)	0.389 (0.259)
Constant	-3.692*** (0.798)	-2.606*** (0.192)
Observations	2,120	7,723

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Table A10

Italy: probability of behaving in a risky way

	Worthless investments	Phishing	Unauthorized payments
Overconfident	1.026***	1.366***	1.151***
	(0.163)	(0.181)	(0.190)
Men	0.115	-0.0989	0.0498
	(0.173)	(0.194)	(0.205)
Age: 18-29	(omitted)	(omitted)	(omitted)
30-39	0.228	-0.226	-0.436
	(0.384)	(0.401)	(0.430)
40-59	0.347	0.0599	0.229
	(0.354)	(0.362)	(0.379)
60-69	-0.0383	-0.111	-0.961*
	(0.434)	(0.476)	(0.566)
70 and over	0.118	0.448	0.0902
	(0.543)	(0.615)	(0.624)
South	-0.359**	-0.184	-0.260
	(0.172)	(0.199)	(0.196)
Secondary and tertiary education	-0.0850	-0.207	-0.150
	(0.161)	(0.191)	(0.200)
Student	(omitted)	(omitted)	(omitted)
Self-employed	0.362	0.338	0.470
	(0.500)	(0.532)	(0.565)
Employee	0.0553	0.368	0.335
	(0.477)	(0.493)	(0.534)
Looking after the home	0.245	-0.0741	0.553
	(0.522)	(0.568)	(0.600)
Unemployed	-0.336	-0.0207	0.0693
	(0.489)	(0.494)	(0.523)
Retired person	0.175	-0.530	0.0580
	(0.599)	(0.691)	(0.722)
Other	-0.0578	--	--
	(0.953)		
Constant	-2.407***	-2.654***	-2.817***
	(0.381)	(0.416)	(0.440)
Observations	2,210	2,190	2,190

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI).

Determinants of the number of 'Don't know'/'Refused' to Financial Knowledge questions

(regression model)

	Parameter Estimate	P-value
Self-assessment of financial knowledge		
Below average	(omitted)	
Average	-0.30	<.0001
Above average	-0.28	<.0001
Don't know/ Refused	0.82	<.0001
Financial Knowledge score	-0.64	<.0001
Gender		
Women	0.00	0.938
Men	(omitted)	
Age		
Below 30	-0.21	0.005
30-39	0.00	0.996
40-49	-0.02	0.748
50-59	-0.05	0.451
60-69	0.00	0.929
70 and over	(omitted)	
Education		
Primary school or no education	-0.03	0.595
Secondary school	-0.10	0.002
University	(omitted)	
Labour force status		
Self-employed	-0.19	0.003
In paid employment	-0.13	0.006
Retired	-0.04	0.549
Unemployed	-0.06	0.385
Inactive	0.13	0.427
Student	0.08	0.318
Other	(omitted)	
Intercept	4.44	<.0001
Observations	6,247	

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

Table A12

Increase in the share of correct answers to Financial Knowledge questions after the imputation of 'Don't Know/Refused' answers

(percentage points; weighted data)

Question	K1	K2	K3	K4	K5	Financial Knowledge score	Financial Knowledge score after imputation
						(mean)	(mean)
Canada	--	--	--	--	--	**4.9**	**--**
Germany	2	6	2	4	7	**4.8**	**5.1**
Italy	7	37	7	5	16	**3.5**	**4.5**
Netherlands	3	2	--[(*)]	--[(*)]	21	**4.9**	**5.4**
United Kingdom	4	8	5	1	14	**4.2**	**4.7**

(*) Questions 3 and 4 have not been imputed for the Netherlands, since the share of Don't Know/Refused was lower than the corresponding one for Canada

Source: our calculations based on the Italian Literacy and Financial Competence Survey (IACOFI) and other countries' surveys based on the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion (2015).

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