Having Trouble Making Ends Meet? Financial Literacy Makes the Difference

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Abstract

Financial stability is an important contributor to economic and psychological well-being. However, even before the economic upheaval of the Covid-19 pandemic, many households around the world had trouble making ends meet. The aim of this paper is twofold. First of all, we investigate financial literacy's effect on householders' ability to easily make ends meet. Then we focus on any financial literacy differential effects on female householders. We use subsamples from the Bank of Italy Survey on Household Income and Wealth (SHIW) and find that the data support the positive impact of higher financial literacy. Householders who correctly answer the Big Three questions-the standard assessment of financial literacy-are 8 percentage points more likely to make ends meet easily. When we apply a more comprehensive financial literacy indicator (21-score) based on the Organisation for Economic Co-operation and Development (OECD) methodology, the effect is even stronger (13.5 percentage points). Household financial stability is lower in southern regions of Italy and among women householders, but no findings support differential effects on women. Our estimates are robust to different models such as OLS, Probit and Ordered Probit and financial literacy specifications. Overall, our results underscore the economic importance of financial literacy in ensuring social and economic well-being.

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1 Introduction

Even before the outbreak of the Covid-19 crisis, financial mismanagement practices and the lingering effects of past exogenous financial shocks threatened the financial stability of households throughout the world (Hasler et al. 2020b; Clark et al. 2021; Klapper and Lusardi 2019). Monthly income serves as a limit on a household's pursuit of its needs and its aspirations. Therefore, to achieve higher economic well-being, households must engage in robust wealth management. There is an urgent need to understand financial literacy's impact on the ability to make ends meet and enjoy economic well-being. To the best of our knowledge, this is the first paper to investigate the relationship between financial literacy and financial stability-as measured by the ease in making ends meet-in Italy.

Three main considerations factor into a householders' ability to make ends meet. First, while monthly income serves as a limit in satisfying the needs and aspirations among the 8 million households in Italy, a lack of basic financial knowledge (D'Alessio et al. 2020) and the failure among a large segment of those households to address unexpected expenses (Lusardi 2019) are also contributors. Second, the ongoing technological evolution of payment instruments and the trend toward a cashless society both accelerate the risk of households losing control of their money and depleting their budget resources prematurely (Hasler et al. 2020a). Finally, empirical evidence shows that the best financial practices are learned in the family and translate into better economic behavior in adulthood (Bucciol et al. 2022; Fornero et al. 2019). This means household wealth management offers the first financial socialization opportunity for children. Householders who have not been exposed to this modeling as children carry a disadvantage.

These considerations carry implications for policy focused on household stability. They also are factors in economic disparity, including in developed countries, since greater financial constraints lead to lower participation in economic and social life. The lowest participation is found among vulnerable groups, notably the young, women, and senior citizens. Only 47% of women and 55% of men around the world have access to an account at a formal financial institution and they have lower access to formal credit (Worldbank 2013).

Mainstream literature finds that better financial practices are more likely among financially literate people. While there is strong debate in the literature on how to measure financial literacy (Kaiser and Menkhoff 2017; D'Alessio et al. 2020; Lusardi and Mitchell 2014) the results converge: The higher the knowledge, the better the financial performance. To investigate the relationship between financial literacy and household financial stability in Italy, we use the Bank of Italy Survey on Household Income and Wealth (SHIW). Of particular interest are the 2006, 2008, 2010, and 2016 surveys in which financial literacy questions are included.[1] Due to the structure of the SHIW data, this paper adopts two different measures of financial literacy. First of

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[1] Even though the Bank of Italy's historical data collection began in the 1960s, financial knowledge questions were included only in these four years. In particular, six questions in 2006, nine in 2008, three in 2010, and three in 2016. Moreover, SHIW data directly ask these questions only of those who are responsible for the household wealth management. Considering the heterogeneous questions over time, through standardized indicators we can observe the ideal targets who daily manage their family's budget.

all, considering only the 2016 survey, we conduct the analysis using the Big Three questions, which assess the basic knowledge needed to be considered financially literate, following the approach of Lusardi and Mitchell (2011). The questions cover three simple, but essential, topics: inflation, compound interest and risk diversification (Lusardi and Mitchell 2011)[2]. While the Big Three questions assess whether individuals are financially literate or not, they provide limited evidence on the depth of that knowledge. Furthermore, the use of the Big Three questions limits our analysis to only one year's survey, exposing our cross-section inference to the omitted variable bias. For this reason, we apply a second measure of financial literacy that looks at a more detailed knowledge indicator, standardized across different waves, following D'Alessio et al. (2020). In fact, D'Alessio et al. (2020), using the Bank of Italy Survey "Indagine sull'Alfabetizzazione e le Competenze Finanziarie degli Italiani" (IACOFI) data from 2017 and 2020, suggests that more extensive way to measure financial literacy. An analysis of behavior and attitudes other than knowledge results in a 21-score indicator following OECD (2016, 2017, 2020) methodology.[3]

Hasler et al. (2022) analyzing data from the Teachers Insurance and Annuity Association of America (TIAA)—GFLEC 2021 Personal Finance (P-Fin Index),[4] find 31% of Americans struggling to manage their finances and feeling constrained by their debt both before and during the pandemic. In looking at long-term effects, the TIAA 2021 P-Fin Index finds that debt-constrained people plan and save less for retirement. However, financial literacy makes the difference, as reflected in lower levels of debt constraint and higher probability to plan and save for retirement. The ability to make ends meet not only carries an economic impact, but it also affects mental health. De Bruijn and Antonides (2020) find that income and making ends meet are the main determinants of financial worry and rumination (FWR). Their study suggests that improving people's ability to make ends meet may contribute to lower FWR-scores.

Even before the pandemic, previous crises underscored the critical importance of financial literacy as a contributor to the soundness and stability of the system as a whole, both at the micro and macro levels.[5] Lo Prete (2018, 2013) shows how financial

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[2] The full text of the Big Three questions are available here: "(1) Suppose you had 100 dollars in a savings account, and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? Answers: (a) More than 102 dollars; (b) Exactly 102 dollars; (c) Less than 102 dollars; (d) Do not know; (e) Refuse to answer. (2)Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? Answers: (a) More than today; (b) Exactly the same; (c) Less than today; (d) Do not know; (e) Refuse to answer. (3) Please tell me whether this statement is true or false. "Buying a single company's stock usually provides a safer return than a stock mutual fund." Answers: (a) True; (b) False; (c) Do not know; (d) Refuse to answer.

[3] This indicator is composed of (i) knowledge, including the understanding of inflation, the difference between simple and compounded interest rates, and risk diversification, on a scale from 0 to 7 where 5 is sufficient; (ii) behavior, which measure the ability in wealth management such as savings, planning, setting financial objectives, planning and payments, on a scale from 0 to 9; (iii) attitude, investigating future and present orientation in precautionary saving, on a scale from 1 to 5.

[4] The P-Fin Index measures financial literacy across eight common financial activities: earning, consuming, saving, investing, borrowing, insuring, understanding risk and gathering information.

[5] Bernanke (2011) A statement by U.S. Federal Reserve Chair Ben Bernanke on financial literacy, provided for the record of an April 12, 2011, hearing by the U.S. Senate Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia, Committee

knowledge reduces inequality across countries and over time. Lusardi et al. (2017) show that 30–40% of US wealth-inequality can potentially be attributed to differences in financial knowledge which, in turn, amplify disparities in wealth accumulation. In Italy, data at the regional level highlight another discriminant in northern/southern households' economic development. From a policy perspective, these results suggest that financial education programs need to target Italian inhabitants in regions with lower household financial stability. Among the most vulnerable subgroups, which are more likely to experience financial-related anxiety and fragility, tailored financial knowledge holds promise for improving household financial stability.

The remainder of the paper is organized as follows. Section 2 reviews the related literature. Sections 3 and 4 describe our subsample of SHIW data and the method used to address our hypotheses, respectively. Section 5 summarizes the main findings, and Sect. 6 provides our conclusions.

2 Literature Overview

Although the best way to measure financial literacy levels is strongly debated in the literature (Kaiser and Menkhoff 2017; D'Alessio et al. 2020; Lusardi and Mitchell 2014), mainstream literature finds huge predictive power in the Big Three questions of Lusardi and Mitchell (2014). This basic knowledge addressed by the questions is the turning point between good financial practices and bad ones. A higher level of financial knowledge is associated with better wealth management, lower fee payments, higher stock market participation, higher level of saving, lower debt and more retirement planning (van Rooij et al. 2011, 2012; Lusardi and Mitchell 2014; Bucciol et al. 2022; Kaiser et al. 2021; Fornero et al. 2019; Almenberg et al. 2020). Individuals who do not understand the basic, but essential, economic concepts of inflation, compound interest and investment diversification fail to deal appropriately with personal wealth management. This failing illustrates financial literacy's role as a crucial skill in the 21st century (Lusardi 2015; OECD 2014). In Italy, the low level of financial literacy is well documented (D'Alessio et al. 2020; Klapper and Lusardi 2019). Using the OECD methodology, D'Alessio et al. (2020) cluster the Italian population aged between 18 and 79 into four financial types: the excluded (24%), the incompetent (30%), the competent (26%) and the expert (17%). In line with previous evidence, they find that 26.3 million Italian people-mostly residents of southern regions-lack basic financial knowledge. They spend more than they receive and have low income and low educational levels. Among them, the young, women and older people face even greater challenges, such as longevity risks and related wealth loss. A lower ability to make ends meet involves a higher probability of being or becoming financially fragile in the future.

These findings carry especially troubling implications for women. For example, 7.8 million Italians declare that they can manage the daily household budget. This alarming overconfidence may negatively affect households' financial stability. Moreover, with

Footnote 5 continued

on Homeland Security and Governmental Affairs, https://www.federalreserve.gov/newsevents/testimony/bernanke20110420a.htm last visited on February 27, 2022

female financial literacy levels lower than those of male householders, women may have less access to banking or lower participation in the stock market (Bucher-Koenen et al. 2021; Di Salvatore et al. 2018; van Rooij et al. 2012). Past literature turned a light on men's disproportionate role as financial decision-makers within households (Hsu 2016; Fonseca et al. 2012), which may deepen the gender gap. Recent literature found gender differences also existed among singles and teenagers (Lusardi and Mitchell 2014; Bucher-Koenen et al. 2021; Driva et al. 2016). Italy is the only OECD country in which the financial literacy gap appears to be strongly statistically significant still at an early stage of life (OECD 2006, 2014).

Furthermore, women demonstrate poorer debt and pension literacy than men, as well as a lower level of financial inclusion and a higher degree of financial fragility (Bucher-Koenen et al. 2021; Gathergood 2012).

Financial overconfidence in tandem with an inadequate level of knowledge may fuel excessive risk-taking, with negative financial outcomes (Bruhn et al. 2016; Brugiavini et al. 2018). However, some recent research suggests that one-third of the financial gender gap is explained by women's lack of confidence (Bucher-Koenen et al. 2021). Other studies reveal that cultural male stereotypes could potentially contribute to lower financial literacy among females (Bottazzi and Lusardi 2021; Giuliano 2017) and confirm women's already-lower self-assessments of their own financial literacy (Di Salvatore et al. 2018; Sconti 2022; D'Alessio et al. 2020). Despite the overall cross-cutting impact of the Covid-19 pandemic, the worst consequences have fallen on already vulnerable groups (young, women and older people) (Lusardi and Mitchell 2014). Yet even before the pandemic, females were the most financially fragile group of respondents in research on financial literacy, lacking confidence in their ability to meet an unexpected expense of 2000 dollars (Bolognesi et al. 2020). Moreover, the new easy payment instruments in the era of a cashless economy increase the probability of overdrawn accounts (Hasler et al. 2020a).

The link between personal finances and anxiety shows that household financial fragility can have a cascading effect on mental health. A recent report from the Teachers Insurance and Annuity Association of America (TIAA Institute) based on the TIAA-GFLEC Personal Finance Index (P-Fin Index) shows that the majority (68%) of the Millennials in the United States (68%) admit to feeling anxious when thinking about their personal finances (Bolognesi et al. 2020). Noteworthy, 37% are financially fragile, meaning that they are not confident about their ability to overcome relatively small unexpected expenses within 30 days. Financial fragility and household financial instability are two sides of the same coin, both boosting negative psychological distress.

Empirical evidence also shows that informal financial education at home, received during childhood, translates into better economic behavior in adulthood (Bucciol et al. 2022; Fornero et al. 2019). The effectiveness of the first socialization opportunity is reduced in households where financial literacy is low.

Finally, the most recent work from Bucci et al. (2022) identifies two distinct ways through which finance can benefit economic growth: a "financial return channel" and a "human capital channel." This new work extends Uzawa (1965) and Lucas (1988)'s pathbreaking two-sector human capital-based endogenous growth model through the addition of a financial sector that transfers savings intertemporally. In looking at the

inclusion of investment in financial literacy, they found that financial literacy has a positive impact on long-term economic growth if the financial sector return positively relates to the investment, or with its aggregate level. Bucci et al. (2022) conclude that investment in financial literacy is the main driver of economic growth because it increases the return generated by financial sector.

Interest in targeting and addressing both formal and informal financial education programs is growing, especially in light of evidence that the programs' effects on economic behavior will be measurable and economically important in the future (Kaiser et al. 2021; Kaiser and Menkhoff 2017, 2020; Brugiavini et al. 2018; Frisancho 2020; Bruhn et al. 2016; Sconti 2022; Bucciol et al. 2021; Lusardi et al. 2020).

3 Data and Summary Statistics

We use data from the Bank of Italy's Survey on Household Income and Wealth (SHIW).[6]

Unfortunately, financial literacy questions in the survey differ from year to year and, to date, only the SHIW 2016 survey measures financial literacy in accordance with the mainstream literature, through the Big Three questions (see Footnote 2). To obtain the most rigorous index of financial literacy, we first restrict our study to the subsample of householders interviewed in the 2016 wave. We then extend the analysis to several other surveys with a standardized indicator.

Based on the Big Three questions, Fig. 1 shows the householders' average financial literacy across Italian regions. The lower the householders' financial literacy, the lighter the blue color. Looking at the map, it is clear that financial illiteracy is more widespread among lower economically developed regions, such as in the South of Italy. An analog picture of the ability of Italians to make ends meet is reported in the Appendix. Comparing the map in Fig. 1, with that one in Fig. 3, may lead to the conclusion that financially literate people reach higher financial well-being, making ends meet easily. Northern regions with a higher percentage of people who have a basic level of financial literacy are also able to make ends meet easily. In addition to the financial strength of a household, stronger monthly budgeting skills may also help reduce anxiety connected to wealth management. Based on the above evidence, this paper aims to shed light on the pressing need to both avert families' financial distress and increase their households' financial stability. In a time of crisis, the prevention of family financial stress could serve as a safeguard within the whole economic cycle, a scenario that should be of interest to policymakers. Growth in financial literacy would be a logical linchpin of this win-win strategy. To support this idea, we show the strong correlation, both graphically and empirically, when future interventions target those that need it the most.

Figure 2 shows how financially literacy reshapes the distribution of the ability to make ends meet. On the left side, a bar graph shows the share of each option chosen by financially illiterate people under the "making-ends-meet ability" question.

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[6] Data are available at https://www.bancaditalia.it/statistiche/tematiche/indagini-famiglie-imprese/bilanci-famiglie/distribuzione-microdati/index.html.

Comparing the left graph with the right one, which represents the distribution among
people who are financially literate, in Fig. 2, it is evident that a higher percentage of
people who declare that they make ends meet easily come from among the financially
literate. The last two bars in each graph, identifying a greater ability to make ends
meet, show a steeper increase among the financially literate sample as compared to
the financially illiterate one (from 23.5 to 35.9% and from 7.4 to 17.5%). Among the
financially literate, there is also a marked decrease in the first three bars in each graph,
which represent those who face major difficulties in making ends meet (from 17.9 to
8.2%, 18.1 to 10%, 33.4 to 28.4%).

In our sample, financially literate householders account for only 34%. Their ability
to make ends meet (more or less) easily is equal to 49%. Figure 2 reveals that among
financially literate householders, no gender gap emerges. This carries important impli-
cations for future research and policy. Whoever is more financially literate-regardless
of gender-may contribute in a positive way to the management of a household's budget.

Figure 5 confirms this result. Using a 21-score indicator, 54.9% of the householders
with the lowest financially literacy are female. However, with a basic level of financial
literacy both female and male householders are balanced. Among the highest finan-
cially literate householders, a slight gender gap emerges but with females leading.
This contrasts with previous literature.

Figure 6 confirms past findings that show a positive relationship between higher
education and financial literacy. In fact, 48.9% of householders with higher education
are considered financially literate; 30.3% of them are financially illiterate. Using the
standardized indicator, Fig. 7 shows that those who have at least a high school diploma
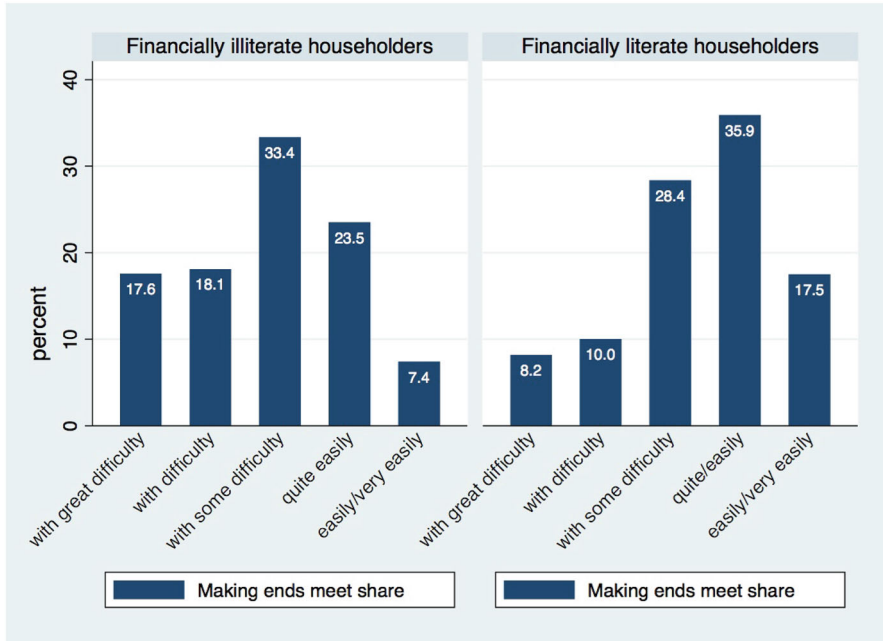
Fig. 2 Making ends meet ability by financial literacy (categorical variable)

are less likely to show a low level of financial literacy than those who do not have a diploma (17.4% compared to 82.6%).

Financial literacy differs among age groups due to different financial exposure during the life cycle. The most financially educated group is adults aged 35–65 (see Fig. 8). This remains true when also looking at the different levels of financial literacy in Fig. 9. The young and senior citizens are the least financially knowledgeable. In fact, 39.2% of senior citizens show a low level of financial literacy; only 19.3% of those included in this age group show high financial literacy.

Our sample finds financial literacy equally distributed across householders with higher or lower income as reported in Figs. 10 and 11. However, sensitive data, such as income, could be misleading. People in surveys tend to report a lower income than they actually have, so caution is necessary when dealing with statistics on income collected through surveys.

In the breakdown of other demographics, financial literacy is higher among married householders. In more detail, Fig. 12 shows that 48.1% of married householders are not financially literate, compared to 51.9% of unmarried householders. Among

Table 1 Summary Statistics—2016 Wave

Variables (Wave 2016)	(1) Obs	(2) Mean	(3) Std. Dev.	(4) Min	(5) Max
Make_Ends_Meet	1035	3.397	1.101	1	5
Make_Ends_Meet_dummy	1035	0.494	0.500	0	1
FINLIT_2016	1035	0.345	0.475	0	1
Female	1035	0.457	0.498	0	1
Savings_ln	1035	8.777	1.195	0.693	12.899
Adult (35–49)	1035	0.134	0.341	0	1
Over50	1035	0.853	0.354	0	1
Married	1035	0.643	0.479	0	1
Diploma/Degree	1035	0.428	0.495	0	1

Table 1 reports summary statistics of the two dependent variables and of all the controls. $**p < 0.001$, $**p < 0.01$, $*p < 0.05$

householders with low financial literacy, Fig. 13 suggests that 46.9% are married while 53.1% are unmarried. Likewise, these results are the opposite-with married householders leading the larger segment-when considering middle or high levels of financial literacy.

Having in mind the relationship between our variables of interest, now we can go deeper into the description of our subsample. Table 1 reports summary statistics on the variables used in the first analysis. We decided to restrict the sample to the head of household. Our aim was not to focus on the person who earns more but, rather, the person who makes the financial decisions for the family. We ended up with a total sample that carried an average householder age of 64 years and was gender-balanced (46% female). It is important to focus on this vulnerable target of the population, close to retirement age, since the effect of financial knowledge among adults shows its highest impact in preventing financial distress. Senior citizens are facing the most technological challenge in this field and they need ongoing learning to cope with lower pensions and higher expenses potentially due to increasing medical issues or family needs. Moreover, they play a strategic role in Italy's financial stability. About 42% of the householders in this subsample had at least a diploma or a degree and an average savings of EUR 8777.

For the average household in our sample, financial stability-meaning the ability to make ends meet-is not so easily reached. The average value chosen is 3, which corresponds to the ability to respond to at least some difficulties in making ends meet. Using a dichotomous classification, just about 49% of householders in the sample declare that they make ends meet easily/very easily.

Table 2 Summary Statistics—2006, 2008, 2010 and 2016 Waves

Variables (Waves 2006, 2008, 2010, 2016)	(1) Obs	(2) Mean	(3) Std. Dev.	(4) Min	(5) Max
Make_Ends_Meet	3.350	3.397	1.106	1	5
Make_Ends_Meet_dummy	3,350	0.497	0.500	0	1
FINLIT_sd	3.350	0.551	0.290	0	1
Female	3.350	0.373	0.483	0	1
Savings_ln	3.350	8.780	1.195	0.693	12.899
Adult (35–49)	3.350	0.208	0.406	0	1
Over 50	3.350	0.765	0.423	0	1
Married	3.350	0.705	0.455	0	1
Diploma/Degree	3.350	0.428	0.495	0	1

Table 1 reports summary statistics of the two dependent variables and of all the controls. $***p < 0.001$, $**p < 0.01$, $*p < 0.05$

3.1 Hypotheses

Evidence on financial literacy's influence on good financial practices and behavior is well documented in the literature. In our sample, some vulnerable groups lacked financial literacy more than others. The worst performance included residents of Italy's southern regions, females, the young and senior citizens (Lusardi 2019; Di Salvatore et al. 2018; D'Alessio et al. 2020). This leads to our first hypothesis:

Hypothesis 1 *Financial literacy increases householders' probability of making ends meet.*

Financial inclusion and financial fragility are the main critical issues in gender equality (Lusardi and Mitchell 2014). Recent evidence show evidence of women's higher financial fragility (Hasler and Lusardi 2019; Lusardi and Mitchell 2011; Kaiser et al. 2021; Klapper and Lusardi 2019). However, there is no literature investigating the gender gap among female and male householders. This leads to our second hypothesis:

Hypothesis 2 *Financial literacy improves female householders' probability of making ends meet.*

4 Empirical Strategy

To investigate our hypotheses, we analyze data from the SHIW's 2016 wave, the only one that includes the Big Three question, thus offering comparison with worldwide surveys. To make more extensive conclusions, we also analyze a wider sample composed of the 2006, 2008, 2010 and 2016 waves.

To test our first hypothesis, we consider two different specifications of the same dependent variable: a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares being able to make ends meet quite easily, easily, or very easily, 0 otherwise.

We then consider the full categorical variable *Make_ends_meet*, which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, and values from 4 to 6 if respondents find it quite easy, easy, or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one.

$$y_{ir} = \alpha + \beta_1 FINLIT_{ir} + \beta_2 Female_{ir} + \beta_3 X_{ir} + \delta_r + \epsilon_{ir} \tag{4.1}$$

where y_{ir} indicates a household's financial stability in the sense of the ability to make ends meet for individual i, in the region r. Depending on the model specification (*Ordered Probit*) it takes values from 1 (great difficulties in making ends meet) to 5 (making ends meet easily/very easily) or (*Probit*) 1 if it is easy/very easy reaching financial stability, 0 otherwise; for each head of household i, in the region r.

FINLIT indicates the level of financial literacy. In our analysis, following mainstream literature, it takes value 1 if respondents correctly answer all three questions, 0 otherwise (FINLIT_2016). β_1 indicates the effect of basic knowledge in economics and finance in budgeting ability. However, we then run the same analysis including a more extensive indicator following (D'Alessio et al. 2020)'s approach. This second approach involves a standardized financial indicator (FINLIT_sd), which allows us to discriminate among different levels of financial knowledge and to compare householders' ability to make ends meet across different SHIW waves.

Female is a dummy variable which takes the value 1 if the householder is female, and 0 otherwise.

X is the vector of individual controls (age, savings, degree, marital status). ϵ is the error term. A robustness check includes Ordered Probit estimations to find out the financial literacy switching point in affecting budgeting behavior.

The differential effect of financial literacy on women's financial capabilities is even more important in Italy, where a gender gap emerges at an early stage of life. Testing our second hypothesis allows us to determine how much financial ability to make ends meet is explained by financial literacy in the case of female householders. To test our second hypothesis, in an extension of the model, we add an interaction term between gender and financial knowledge to exploit gender differential effects in making ends meet.

$$y_{ir} = \alpha + \beta_1 FINLIT_{ir} + \beta_2 Female_{ir} + \beta_3 FINLIT * Female_{ir} + \beta_5 X_{ir}$$
$$+ \delta_r + \epsilon_{ir} \tag{4.2}$$

β_3 is the coefficient of interest since the interaction dummy between each financial literacy indicator and female gender reveals any differential effect to be financially literate and female on pursuing households' financial stability.

5 Results

This section reports our main findings in testing hypotheses 1 and 2. Table 3 reports robust evidence of the positive effect of having basic financial knowledge in making

ends meet easily (Hypothesis 1). Columns 1 and 3 report results from OLS estimations using the mainstream financial literacy indicator based on the Big Three questions (FINLIT_2016 in columns 1 and 3). Columns 2 and 4 report marginal effects from Probit estimations based on the same standardized indicator (FINLIT_sd in column 2 and 4).

The marginal effect of being financially literate on average increases the probability to make ends meet easily by 8 percentage points (p.p.). However, taking into account the gender wage gap, a vulnerable group-female respondents-are also less likely (by 10 p.p.) to easily make ends meet. Higher levels of education and being married increase the likelihood that households will achieve financial stability, by 20 p.p. and 13 p.p., respectively.

Repeating the analysis on a wider sample and with a different measure of financial literacy (columns 3 and 4), our results supporting Hypothesis 1 are robust. Among all of the four SHIW data waves in which financial literacy is included, the probability to make ends meet by having some knowledge on financial topics increases by 13 p.p. A gender gap emerges in households' financial stability. In fact, female householders' probability to make ends meet is 7 p.p. lower. Higher level of savings positively affects the probability of householders making ends meet (by 5 p.p.), as does being married (11 p.p.). However, the highest impact on financial stability of households comes from education. Having a high school diploma or a degree increases the probability to make ends meet by 21 p.p.

To investigate Hypothesis 2, we further exploit the analysis, adding an interaction term to evaluate the differential effect of financial literacy for female householders (see Table 4).

Previous results persist. The main coefficient of interest in Table 4 is that one originated from the interaction between gender and the financial literacy indicator. Even though higher financial literacy increases the probability to make ends meet, higher financial literacy is not the main explanation of the gap between female and male householders.

As a robustness check, we run an Ordered Probit estimation, which is useful to highlight financial literacy's switching point effects on budgeting. Table 5 shows that financial literacy coherently increases the likelihood to easily make ends meet and negatively affects the probability that householders will face great difficulties in making ends meet.

In particular, if financial knowledge increases by one unit percent, householders are 3 p.p. less likely to face great difficulty in making ends meet, and 5 p.p. more likely to make ends meet easily or very easily. In line with mainstream literature on financial literacy and the gender gap, we find female householders face more trouble in making ends meet. Female householders still show higher probability of financial instability (2 p.p.) Financial knowledge is strictly and positively correlated with education. Indeed householders with a diploma or a degree are 6 p.p. less likely to have trouble making ends meet. Overall, higher education registers the highest positive impact on household financial stability (11 p.p.). Although savings are essential for economic well-being, savings show the lowest impact on householders' ability to make ends meet (reducing by 2 p.p. the great difficulty in monthly budgeting and increasing by 4 p.p. the likelihood of making ends meet very easily). Finally, being

Table 3 OLS, Probit—Householders Ability in making ends meet

Variables	FINLIT_2016		FINLIT_sd	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.
FINLIT	0.224***	0.079***	0.314***	0.135***
	(0.067)	(0.030)	(0.067)	(0.030)
Female	−0.174***	−0.096***	−0.170***	-0.073***
	(0.064)	(0.029)	(0.060)	(0.028)
Savings_ln	0.160***	0.055***	0.150***	0.050***
	(0.027)	(0.012)	(0.028)	(0.012)
Adult (35–49)	−0.162	−0.083	0.026	-0.063
	(0.239)	(0.126)	(0.155)	(0.068)
Over 50	0.112	0.030	0.254	0.041
	(0.231)	(0.123)	(0.160)	(0.069)
Married	0.296***	0.132***	0.208***	0.106***
	(0.066)	(0.029)	(0.064)	(0.030)
Diploma/Degree	0.478***	0.203***	0.486***	0.212***
	(0.066)	(0.028)	(0.064)	(0.027)
Constant	1.426***		1.391***	
	(0.375)		(0.341)	
Region FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes
Observations	1035	1035	3350	3350
R^2-Pseudo_R^2	0.260	0.167	0.242	0.153

Table 3 reports the results from OLS estimations (columns 1 and 3) and the average marginal effects after Probit estimations (columns 2 and 4) on the ability to make ends meet (Hypothesis 1). We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1–3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet quite easily/ easily/ very easily 0 otherwise Robust standard errors at the individual level are reported in parentheses. All regressions include Regional Fixed Effects. FINLIT_sd's regressions include year fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

married increases the probability of better managing the monthly budget by 7 p.p. while reducing the probability of being in the worst category by 4 p.p. All these results are confirmed by repeating the analysis with a standardized indicator (FINLIT_sd). The magnitude of the financial literacy and education effects increases following D'Alessio et al. (2020) as reported in column 4. The impact is also seen when applying the standardized indicator on a wider sample: If financial knowledge increases by one unit percent, householders are 4 p.p. less likely to face great difficulty in making ends meet and 7 p.p. more likely to make ends meet easily or very easily. The gender gap in

Table 4 OLS, Probit—Householders' ability to make ends meet (Female interaction term)

Variables	$FINLIT\_2016$		$FINLIT\_sd$	
	OLS	Probit M.E.	OLS	Probit M.E.
FINLIT	0.219**	0.057	0.346***	0.116***
	(0.085)	(0.040)	(0.092)	(0.040)
Female	−0.179**	−0.113***	−0.129	−0.099**
	(0.079)	(0.035)	(0.095)	(0.044)
FINLIT_Female	0.013	0.053	−0.075	0.047
	(0.127)	(0.059)	(0.131)	(0.061)
Savings_ln	0.160***	0.056***	0.150***	0.050***
	(0.027)	(0.012)	(0.028)	(0.012)
Adult (35–49)	−0.161	−0.081	0.024	−0.062
	(0.239)	(0.127)	(0.155)	(0.068)
Over50	0.113	0.033	0.251	0.043
	(0.231)	(0.124)	(0.160)	(0.069)
Married	0.296***	0.132***	0.211***	0.105***
	(0.066)	(0.029)	(0.065)	(0.030)
Diploma/Degree	0.478***	0.203***	0.486***	0.212***
	(0.066)	(0.028)	(0.064)	(0.027)
Constant	1.428***		1.372***	
	(0.376)		(0.343)	
Region FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes
Observations	1035	1035	3350	3350
R^2-Pseudo_R^2	0.260	0.167	0.242	0.153

Table 4 reports the results from OLS estimations (columns 1 and 3) and the average marginal effects after Probit estimations (columns 2 and 4) on the ability to make ends meet. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet quite easily/ easily/ very easily, 0 otherwise. Both models include an interaction term between gender and financial literacy variables to investigate any differential effect for financially literate female householders (Hypothesis 2). Robust standard errors at the individual level are reported in parentheses. All regressions include regional fixed effects. FINLIT_sd's regressions include year fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

households' financial stability is confirmed. Female householders are 4 p.p. less likely to make ends meet easily.

Moreover, we add an interaction term between gender and the financial literacy indicator. Table 6 shows strong financial literacy effects on the ability to make ends meet are robust to different estimation methods. Our results also shed light on a robust lack of evidence of any differential effect for female householders' ability to make

Table 5 Ordered Probit—Householders' ability to make ends meet

Variables	FINLIT_2016		FINLIT_sd	
	(1) O.Probit M.E.(1) Hardly	(2) O.Probit M.E.(5) Easily	(3) O.Probit M.E.(1) Hardly	(4) O.Probit M.E.(5) Easily
FINLIT	−0.029***	0.053***	−0.041***	0.073***
	(0.009)	(0.015)	(0.009)	(0.016)
Female	0.022***	-0.040***	0.022***	-0.044***
	(0.008)	(0.015)	(0.008)	(0.014)
Savings_ln	−0.020***	0.037***	0.019***	0.035***
	(0.003)	(0.006)	(0.008)	(0.006)
Adult (35-49)	0.019	−0.024	−0.001	0.002
	(0.034)	(0.047)	(0.025)	(0.029)
Over50	−0.020	0.033	−0.034	0.053
	(0.032)	(0.046)	(0.025)	(0.031)
Married	−0.037***	0.068***	−0.027***	0.048***
	(0.009)	(0.015)	(0.008)	(0.015)
Diploma/Degree	−0.064***	0.115***	−0.064***	0.115***
	(0.009)	(0.015)	(0.009)	(0.016)
Region FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes
Observations	1035	1035	3350	3350
Pseudo_R^2	0.102	0.102	0.093	0.093

Notes: Table 5 reports average marginal effects for outcomes 1 (columns 1 and 3) and 5 (columns 2 and 4) from Order Probit estimations testing Hypothesis 1. The dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. Robust standard errors at the individual level are reported in parentheses. All regression include regional fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

ends meet due to financial literacy. There are several possible explanations for the lack of evidence to support our Hypothesis 2. One partial explanation could be differing access to the labor market by male and female householders.

Finally, we extended the analysis exploring Hypotheses 1 and 2 across three different areas of Italy: the North, the Center and the South of Italy. The main results show that financial literacy is equally effective in the ability to make ends meet in the North among female and male householders (9 p.p. and 16 p.p., respectively).

Tables 7, 8 and 9 show that the impact of financial literacy on the ability to make ends meet is higher in the Center of Italy.

In the South of Italy, only the standardized indicator "FINLIT_sd" shows a positive effect on the ability to make ends meet.

We extended the analysis to the interaction term between financial literacy and gender. The previous patterns in Table 4 and in Table 6 are confirmed (results are

Table 6 Ordered Probit - Householders' ability to make ends meet— Female interaction term

Variables	FINLIT_2016		FINLIT_sd	
	(1) O.Probit M.E.(1) Hardly	(2) O.Probit M.E.(5) Easily	(3) O.Probit M.E.(1) Hardly	(4) O.Probit M.E.(5) Easily
FINLIT	−0.029**	0.053***	−0.045***	0.081***
	(0.011)	(0.015)	(0.012)	(0.021)
Female	0.022**	−0.041**	0.017	−0.030
	(0.010)	(0.017)	(0.012)	(0.021)
FINLIT_Female	−0.001	0.001	0.010	−0.018
	(0.016)	(0.030)	(0.017)	(0.030)
Savings_ln	−0.020***	0.037***	−0.019***	0.035***
	(0.003)	(0.006)	(0.004)	(0.006)
Adult (35–49)	0.020	−0.024	−0.001	0.001
	(0.034)	(0.047)	(0.025)	(0.029)
Over50	−0.020	0.033	−0.034	0.053*
	(0.032)	(0.047)	(0.025)	(0.031)
Married	−0.037***	0.068***	−0.027***	0.048***
	(0.009)	(0.015)	(0.008)	(0.015)
Diploma/degree	−0.062***	0.113***	−0.064***	0.115***
	(0.009)	(0.016)	(0.009)	(0.016)
Region FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes
Observations	1035	1035	3350	3350
Pseudo_R^2	0.102	0.102	0.093	0.093

Table 6 reports average marginal effects for outcome 1 and outcome 5 from Order Probit estimations. The dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1–3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. Both models include an interaction term between gender and financial literacy variables to investigate any differential effect for financially literate female householders (Hypothesis 2). Robust standard errors at the individual level are reported in parentheses. All regression include regional fixed effects. FINLIT_sd's regressions include year fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

available upon request). No differential effect of financial literacy emerged on the ability to make ends meet for female householders. We can conclude that we have a robust lack of evidence in supporting Hypothesis 2.

Finally, we investigate the ability of male and female householders to make ends meet, in the North, in the Center and in the South of Italy, respectively, in Tables 10, 11 and in Table 12.

Table 10 reveals a different pattern for female householders when compared to men. In fact, among adults, women aged 35–49 show a lower probability of making ends meet. This is true after controlling for other observable characteristics, such as savings, education and financial literacy levels. However, the marginal effect of being

Table 7 OLS, Probit—Householders' ability to make ends meet - North of Italy

Variables	$FINLIT\_2016$		$FINLIT\_sd$	
	OLS	Probit M.E.	OLS	Probit M.E.
FINLIT	0.177**	0.081*	0.265***	0.148***
	(0.087)	(0.043)	(0.098)	(0.046)
Female	−0.119	−0.071*	−0.151*	−0.065
	(0.086)	(0.041)	(0.083)	(0.040)
Savings_ln	0.211***	0.078***	0.198***	0.070***
	(0.034)	(0.017)	(0.033)	(0.017)
Adult (35–49)	−0.340	−0.019	−0.149	−0.033
	(0.209)	(0.142)	(0.157)	(0.085)
Over50	−0.025	0.104	0.165	0.096
	(0.191)	(0.137)	(0.163)	(0.088)
Married	0.333***	0.158***	0.196**	0.103**
	(0.089)	(0.041)	(0.085)	(0.042)
Diploma/degree	0.519***	0.193***	0.536***	0.210***
	(0.086)	(0.040)	(0.086)	(0.039)
Constant	1.303***		1.309***	
	(0.341)		(0.341)	
Region FE	No	No	No	No
Year FE	No	No	Yes	Yes
Observations	534	534	1737	1.737
R^2-Pseudo_R^2	0.211	0.127	0.190	0.111

Table 7 reports the results from OLS estimations (columns 1 and 3) and the average marginal effects after Probit estimations (columns 2 and 4) on the ability to make ends meet in the North of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1–3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet quite easily / easily/ very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. FINLIT_sd's regressions include year fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

financially literate is the same for both female and male householders' ability to make ends meet in the North of Italy.

Table 11 shows that education and financial literacy play key roles in improving the probability to make ends meet in the Center of Italy. Being married, however, only increases the ability to make ends meet for women.

Table 12 shows that in the South of Italy, not only savings but education plays a key role in financial stability. Only a higher level of financial knowledge makes a more pronounced positive difference on the ability to make ends meet, and only among male householders (11 p.p.).

Table 8 OLS, Probit—Householders' ability to make ends meet - Center of Italy

Variables	FINLIT_2016		FINLIT_sd	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.
FINLIT	0.410***	0.177***	0.498***	0.204***
	(0.120)	(0.055)	(0.130)	(0.059)
Female	−0.109	−0.063	−0.082	−0.043
	(0.118)	(0.055)	(0.114)	(0.054)
Savings_ln	0.176***	0.055**	0.148***	0.044*
	(0.046)	(0.023)	(0.052)	(0.024)
Adult (35–49)	0.004	−0.027	−0.488**	−0.279*
	(0.259)	(0.199)	(0.239)	(0.167)
Over50	0.403*	0.217	−0.157	−0.084
	(0.232)	(0.193)	(0.233)	(0.164)
Married	0.262**	0.114**	0.226*	0.107*
	(0.118)	(0.055)	(0.120)	(0.056)
Diploma/Degree	0.417***	0.218***	0.421***	0.228***
	(0.127)	(0.054)	(0.115)	(0.052)
Constant	1.163**		1.905***	
	(0.495)		(0.531)	
Region FE	No	No	No	No
Year FE	No	No	Yes	Yes
Observations	284	284	873	873
R^2-Pseudo_R^2	0.200	0.140	0.153	0.152

Table 8 reports the results from OLS estimations (columns 1 and 3) and the average marginal effects after Probit estimations (columns 2 and 4) on the ability to make ends meet in the Center of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find it quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet quite easily/ easily/ very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. FINLIT_sd's regressions include year fixed effects. $***p < 0.001, **p < 0.01, *p < 0.05$

The main findings show that financial literacy equally impacts the ability to make ends meet in the North of Italy among female and male householders (9 p.p. and 16 p.p.). In the Center, both male and female householders who show a basic or higher knowledge of financial concepts are more likely to make ends meet (16 p.p. and 19 p.p., respectively, for the women, and 21 p.p. and 22 p.p. for the men). This area of Italy shows financial literacy's greatest potential impact on a household's ability to make ends meet. In the South of Italy, only deep financial knowledge makes a difference (11 p.p.). in whether male householders are able to make ends meet.

Table 9 OLS, Probit—Householders' ability to make ends meet—South of Italy

Variables	*FINLIT*_2016		*FINLIT_sd*	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.
FINLIT	0.171	0.021	0.309**	0.092*
	(0.158)	(0.059)	(0.144)	(0.055)
Female	−0.157	−0.105*	−0.170	−0.097*
	(0.140)	(0.055)	(0.127)	(0.054)
Savings_ln	0.136**	0.056**	0.151**	0.063***
	(0.061)	(0.023)	(0.061)	(0.023)
Adult (35–49)	0.235	−0.273	0.586**	0.020
	(1.121)	(0.342)	(0.280)	(0.084)
Over50	0.541	−0.189	0.829***	0.112
	(1.113)	(0.340)	(0.292)	(0.091)
Married	0.175	0.102	0.026	0.065
	(0.149)	(0.062)	(0.144)	(0.063)
Diploma/Degree	0.553***	0.196***	0.546***	0.193***
	(0.142)	(0.049)	(0.141)	(0.049)
Constant	0.945		0.519	
	(1.199)		(0.588)	
Region FE	No	No	No	No
Year FE	No	No	Yes	Yes
Observations	276	276	905	905
R^2-Pseudo_R^2	0.125	0.107	0.135	0.108

Table 9 reports the results from OLS estimations (columns 1 and 3) and the average marginal effects after Probit estimations (columns 2 and 4) on the ability to make ends meet in the South of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet quite easily/ easily/ very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. FINLIT_sd's regressions include year fixed effects. $***p < 0.001$, $**p < 0.01$, $*p < 0.05$

To sum up, we find that financial stability matters in overcoming financial misman-agement practices. We find that making ends meet easily positively correlates with higher financial literacy, higher education, being married and higher levels of savings. Going back to our research hypotheses, we find robust evidence to support *Hypothesis 1* but no evidence to support *Hypothesis 2*. Because of the size of the effect of better financial literacy on higher households' financial stability, financial education is as economically important as education in other domains. Being financially literate means being more able to make ends meet, which elevates not only a householder's ability to effectively manage the monthly budget but also offers an indirect benefit to

Table 10 OLS, Probit—Male and Female Householders' ability to make ends meet - North of Italy

Variables	FINLIT_2016_Female		FINLIT_sd_Female		FINLIT_2016_Male		FINLIT_sd_Male	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.	(5) OLS	(6) Probit M.E.	(7) OLS	(8) Probit M.E.
FINLIT	0.238***	0.097**	0.266***	0.157***	0.184**	0.088**	0.327***	0.157***
	(0.082)	(0.042)	(0.096)	(0.045)	(0.086)	(0.042)	(0.100)	(0.046)
Savings_In	0.200***	0.073***	0.211***	0.075***	0.204***	0.067***	0.185***	0.062***
	(0.036)	(0.018)	(0.032)	(0.016)	(0.036)	(0.017)	(0.034)	(0.016)
Adult (35-49)	−0.454***	−0.214***	−0.398***	−0.213***	0.047	0.009	−0.030	0.022
	(0.156)	(0.077)	(0.110)	(0.054)	(0.162)	(0.079)	(0.109)	(0.057)
Over50	−0.127	−0.071	−0.009	−0.017	0.238*	0.067	0.187*	0.080
	(0.145)	(0.069)	(0.110)	(0.053)	(0.137)	(0.070)	(0.106)	(0.056)
Married	0.412***	0.202***	0.317***	0.176***	0.073	0.014	−0.043	−0.060
	(0.095)	(0.041)	(0.085)	(0.038)	(0.108)	(0.053)	(0.093)	(0.047)
Diploma/degree	0.535***	0.222***	0.586***	0.239***	0.483***	0.208***	0.512***	0.223***
	(0.086)	(0.040)	(0.078)	(0.035)	(0.087)	(0.041)	(0.080)	(0.036)
Constant	1.376***		1.196***		1.324***		1.560***	
	(0.353)		(0.322)		(0.334)		(0.319)	
Region FE	No	No	No	No	No	No	No	No
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	528	528	1671	1671	512	512	1710	1710
R^2-Pseudo-R^2	0.207	0.131	0.193	0.124	0.163	0.086	0.154	0.089

Table 10 reports the results from OLS estimations (columns 1, 3, 5 and 7) and the average marginal effects after Probit estimations (columns 2, 4, 6 and 8) on the ability to make ends meet in the South of Italy for both male and female householders in the North of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable $Make\_ends\_meet$ which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy $Make\_ends\_meet\_dummy$ equal to 1 if the respondent declares to be able to make ends meet quite easily/ easily/ very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. FINLIT_sd's regressions include year fixed effects. $***p < 0.001$, $**p < 0.01$, $*p < 0.05$

Table 11 OLS, Probit—Male and Female Householders' ability to make ends meet—Center of Italy

Variables	FINLIT_2016_Female		FINLIT_sd_Female		FINLIT_2016_Male		FINLIT_sd_Male	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.	(5) OLS	(6) Probit M.E.	(7) OLS	(8) Probit M.E.
FINLIT	0.376***	0.160***	0.494***	0.191***	0.524***	0.214***	0.564***	0.216***
	(0.113)	(0.053)	(0.122)	(0.060)	(0.114)	(0.052)	(0.134)	(0.059)
Savings_ln	0.166***	0.061***	0.147***	0.058***	0.179***	0.047*	0.128***	0.032
	(0.044)	(0.022)	(0.043)	(0.021)	(0.050)	(0.024)	(0.048)	(0.022)
Adult (35–549)	−0.119	−0.044	−0.141	−0.157**	0.184	0.039	−0.187	−0.090
	(0.214)	(0.101)	(0.154)	(0.076)	(0.220)	(0.103)	(0.157)	(0.079)
Over50	0.290*	0.187**	0.178	0.034	0.478***	0.219***	0.164	0.109
	(0.173)	(0.088)	(0.156)	(0.075)	(0.181)	(0.083)	(0.157)	(0.075)
Married	0.329***	0.143**	0.221**	0.120**	0.039	−0.003	0.123	0.031
	(0.117)	(0.056)	(0.105)	(0.054)	(0.143)	(0.068)	(0.130)	(0.061)
Diploma/Degree	0.360***	0.185***	0.393***	0.197***	0.363***	0.205***	0.460***	0.242***
	(0.125)	(0.056)	(0.114)	(0.050)	(0.113)	(0.054)	(0.096)	(0.046)
Constant	1.308***		1.452***		1.201**		1.835***	
	(0.413)		(0.428)		(0.492)		(0.488)	
Region FE	No	No	No	No	No	No	No	No
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	310	310	916	916	286	286	920	920
R²–Pseudo_R²	0.173	0.114	0.126	0.085	0.178	0.109	0.126	0.084

Table 11 reports the results from OLS estimations (columns 1, 3, 5 and 7) and the average marginal effects after Probit estimations (columns 2, 4, 6 and 8) on the ability to make ends meet in the South of Italy for both male and female householders in the Center of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable $Make\_ends\_meet$ which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy $Make\_ends\_meet\_dummy$ equal to 1 if the respondent declares to be able to make ends meet quite easily / easily / very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. FINLIT_sd's regressions include year fixed effects. $***p < 0.001$, $**p < 0.01$, $*p < 0.05$

Table 12 OLS, Probit—Male and Female Householders ability in making ends meet—South of Italy

Variables	FINLIT_2016_Female		FINLIT_sd_Female		FINLIT_2016_Male		FINLIT_sd_Male	
	(1) OLS	(2) Probit M.E.	(3) OLS	(4) Probit M.E.	(5) OLS	(6) Probit M.E.	(7) OLS	(8) Probit M.E.
FINLIT	0.152	0.012	0.273**	0.074	0.301**	0.060	0.440***	0.109**
	(0.141)	(0.054)	(0.127)	(0.053)	(0.146)	(0.054)	(0.136)	(0.053)
Savings_In	0.183***	0.066***	0.175***	0.067***	0.181***	0.063***	0.156***	0.055***
	(0.061)	(0.022)	(0.054)	(0.020)	(0.054)	(0.021)	(0.050)	(0.020)
Adult (35–49)	−0.077	−0.102	−0.018	−0.068	0.240	0.082	0.211	0.002
	(0.208)	(0.084)	(0.158)	(0.062)	(0.249)	(0.087)	(0.174)	(0.065)
Over50	0.322	0.046	0.365**	0.085	0.496**	0.141*	0.494***	0.102
	(0.209)	(0.088)	(0.160)	(0.065)	(0.228)	(0.079)	(0.168)	(0.067)
Married	0.196	0.126**	0.064	0.094*	0.085	0.053	−0.098	0.050
	(0.144)	(0.061)	(0.137)	(0.055)	(0.182)	(0.071)	(0.152)	(0.065)
Diploma/Degree	0.647***	0.228***	0.643***	0.220***	0.413***	0.188***	0.452***	0.184***
	(0.128)	(0.048)	(0.119)	(0.044)	(0.130)	(0.049)	(0.118)	(0.046)
Constant	0.672		0.648		0.650		0.872**	
	(0.518)		(0.490)		(0.487)		(0.438)	
Region FE	No	No	No	No	No	No	No	No
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	316	316	1006	1006	311	311	1,018	1018
R²-Pseudo_R²	0.148	0.107	0.134	0.096	0.132	0.091	0.120	0.081

Table 12 reports the results from OLS estimations (columns 1, 3, 5 and 7) and the average marginal effects after Probit estimations (columns 2, 4, 6 and 8) on the ability to make ends meet in the South of Italy for both male and female householders in the South of Italy. We consider two different specifications of the same dependent variable. In the OLS estimations, the dependent variable is a categorical variable *Make_ends_meet* which takes the following values: 1 to 3 if respondents admit having great/some/difficulties in making ends meet, values from 4 to 6 if respondents find quite easy, easy or very easy making ends meet. Since very few observations fall in the 6th option, we aggregate it with the 5th one. In the Probit estimations, the dependent variable is a dummy *Make_ends_meet_dummy* equal to 1 if the respondent declares to be able to make ends meet easily/ easily/ very easily, 0 otherwise. Robust standard errors at the individual level are reported in parentheses. All regressions include year fixed effects. $***p < 0.001$, $**p < 0.01$, $*p < 0.05$

psychological well-being. The greater the ability to manage monthly budgeting, the lower the stress and anxiety anchored around personal finance.

6 Conclusion

This paper affirms financial literacy's critical role in savvy wealth management. It does so using SHIW subsample data and the Bank of Italy Survey on financial literacy, applying OECD methodology. Financial literacy enables sound wealth management, saving more for financial contingencies, better retirement planning, access to credit at lower costs and the ability to borrow at lower interest rates.

We contribute to the literature by testing two main hypotheses. First, we investigate any potential effect of financial literacy on making ends meet easily. Then, we focus on any differential effect of financial literacy on female householders' ability to easily make ends meet. Our findings only support our first hypothesis. In more detail, data show that higher levels of financial literacy significantly and positively affect householders' financial stability. This is true considering different financial literacy indicators. Our results find that householders able to correctly answer Big Three questions to assess financial literacy are 8 p.p. more likely to reach financial well-being, as measured by their ability to easily make ends meet. Using a more comprehensive financial literacy measure, we find financially literate householders 13.5 p.p. more likely to make ends meet easily.

This is a crucial finding in terms of the economic well-being of householders in Italy. It also is an important finding when it comes to psychological well-being. A strictly indirect positive effect of higher financial stability is a reduction in anxiety about wealth management and financial fragility.

Meanwhile, although female householders are 9.6 p.p. less likely to reach financial stability, our findings do not support our Hypothesis 2. Our results are robust to different financial literacy indicators.

In exploiting data at the regional level, we document huge geographic disparities among householders' financial stability. In particular, householders in the South of Italy, including the islands, typically show a lower level of financial literacy and great difficulties in making ends meet, relative to the rest of Italy. The strongest ability to make ends meet-and highest levels of financial literacy-correspond with the North of Italy, for both female and male householders. In the Center, both male and female householders with basic or higher knowledge of financial concepts are more likely to make ends meet. In this area of Italy, financial literacy education offers the highest potential impact for increasing households' ability to make ends meet. The South of Italy would require much deeper financial knowledge to make a difference in the ability to make ends meet even just among male householders.

In our opinion, these results highlight the importance of financial literacy as a safeguard against financial stress and distress, especially in times of crisis. Although our analysis finds that increasing financial literacy will enable people to make ends meet more easily, we cannot exclude the possibility that other drivers, too, can advance this goal. We believe there is a need to improve family budgeting and we are mindful

that financial literacy is also connected to greater psychological well-being because it lessens the anxiety that accompanies financial fragility.

Our findings offer opportunities for future research. We also envisage public policy implications. In particular, there could be interest in establishing financial education programs in specific regions of Italy to increase household financial stability, improve psychological well-being and narrow the regional wealth gap.

Declarations

Conflict of interest None.

A. Appendix: Additional results

See Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14.

Fig. 3 Average ability to Make ends meet across Italian regions. Figure 3 shows the Italian Householders' average ability to make ends meet easily across Italian regions. Households' financial stability is lower among the South of Italy regions. Several surveys reveal that the same regions are also those in which financial literacy levels are the lowest in Italy
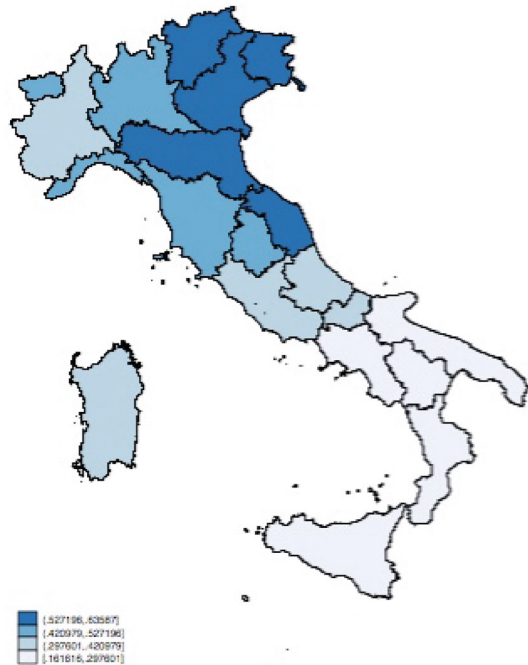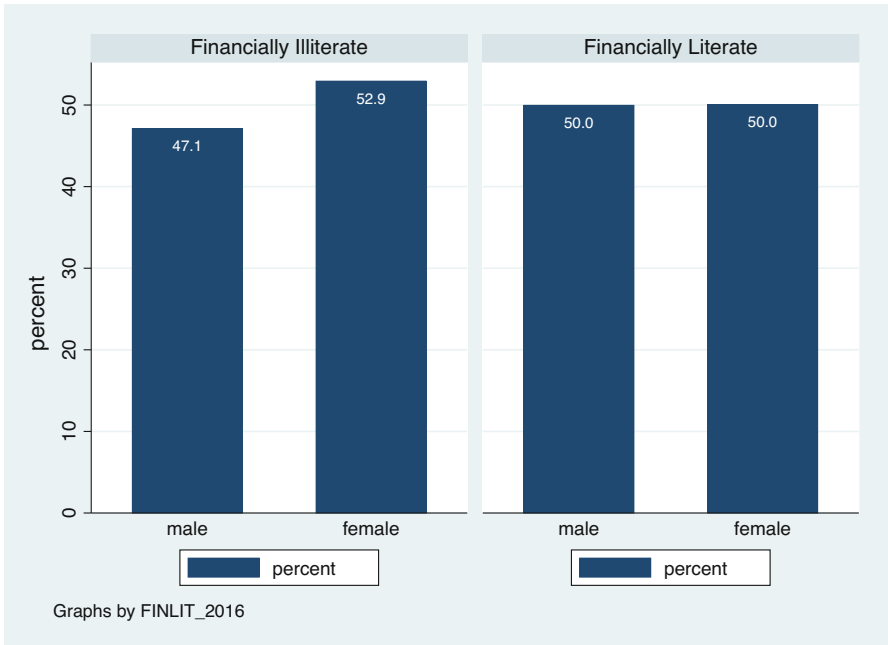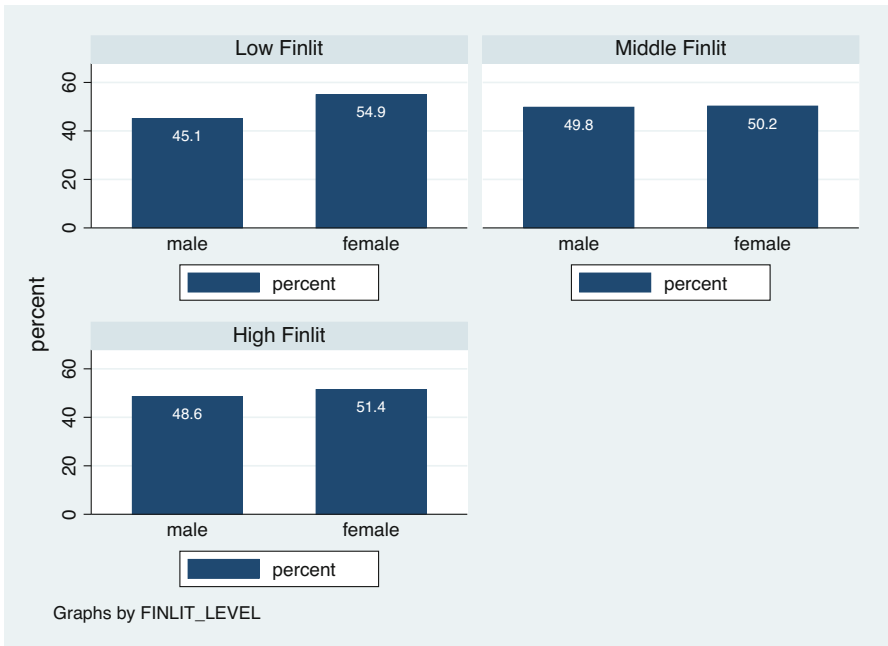
Fig. 4 Financial Literacy across gender (FINLIT_2016)

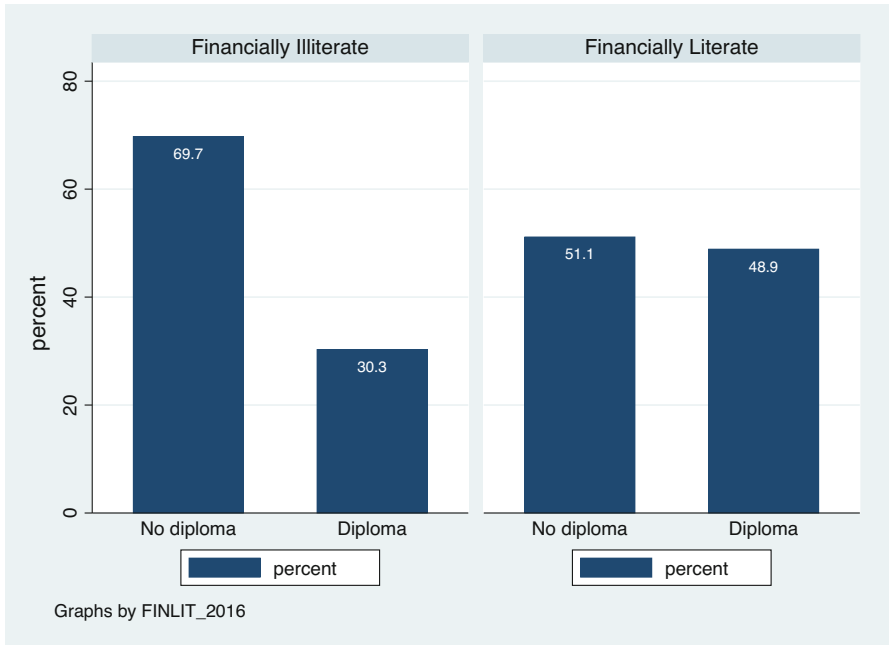**Fig. 5** Financial Literacy across gender (FINLIT_sd)

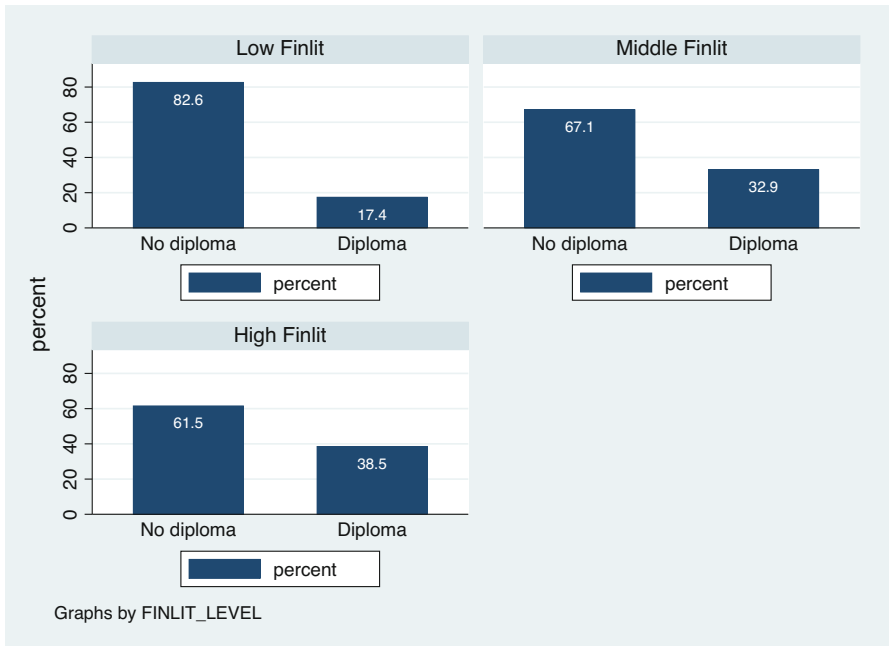**Fig. 6** Financial Literacy across education (FINLIT_2016)

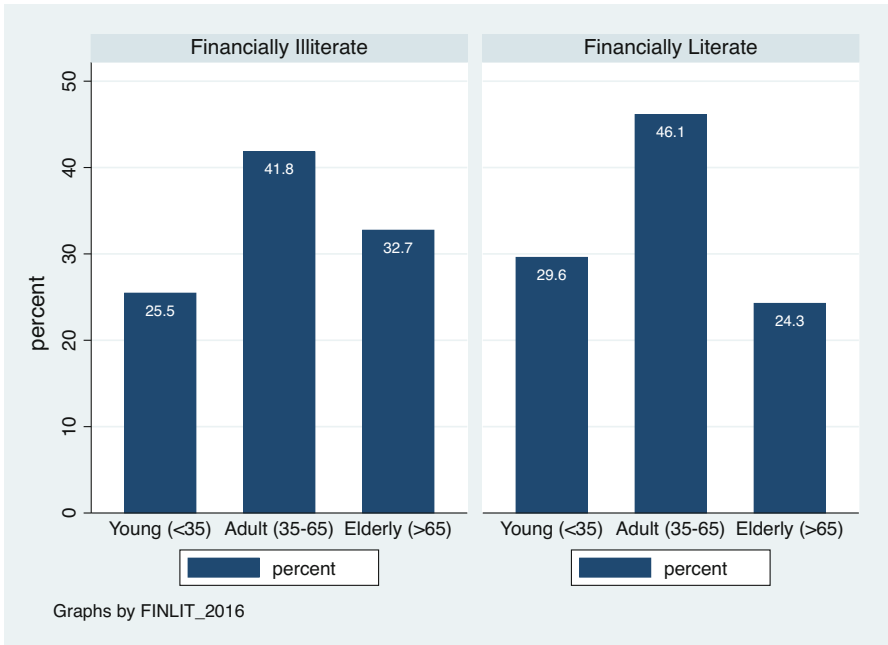**Fig. 7** Financial Literacy across education (FINLIT_sd)

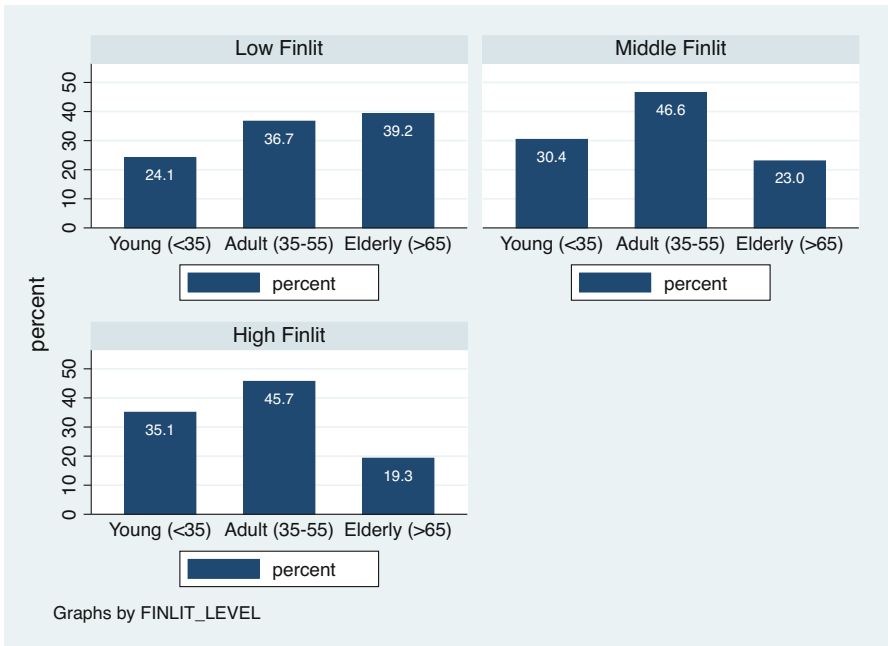**Fig. 8** Financial Literacy across age groups (FINLIT_2016)

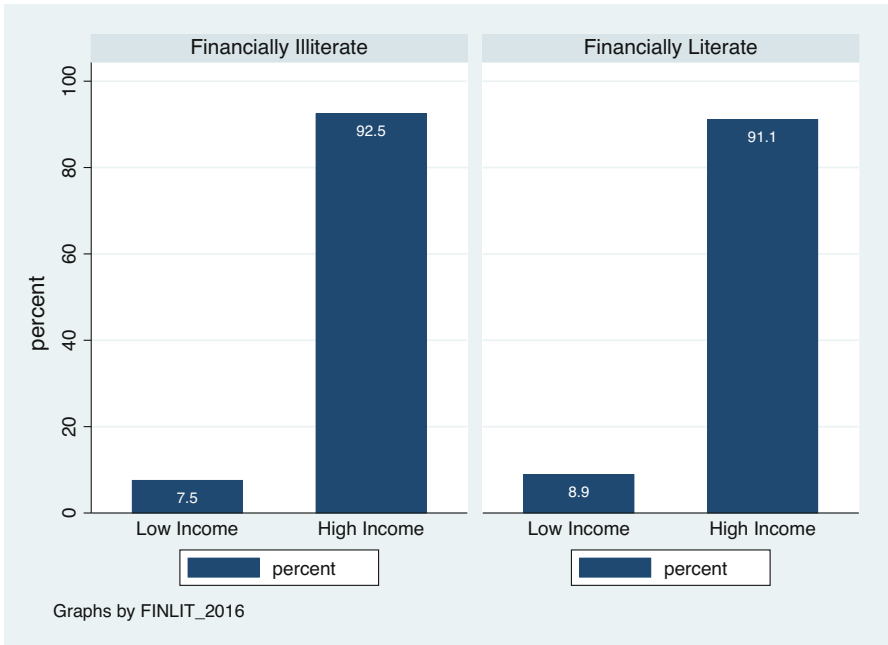**Fig. 9** Financial Literacy across age groups (FINLIT_sd)

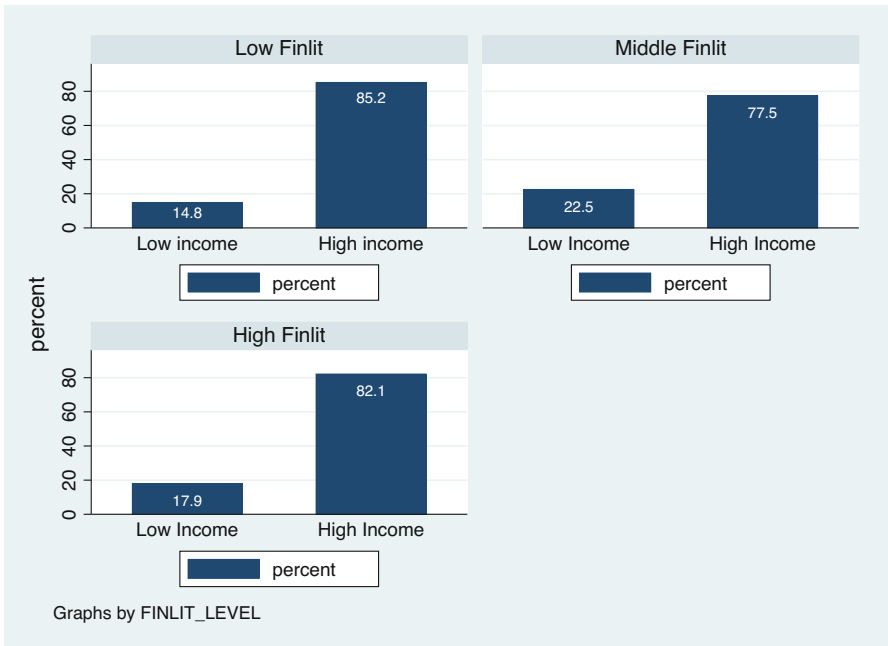**Fig. 10** Financial Literacy across income (FINLIT_2016)

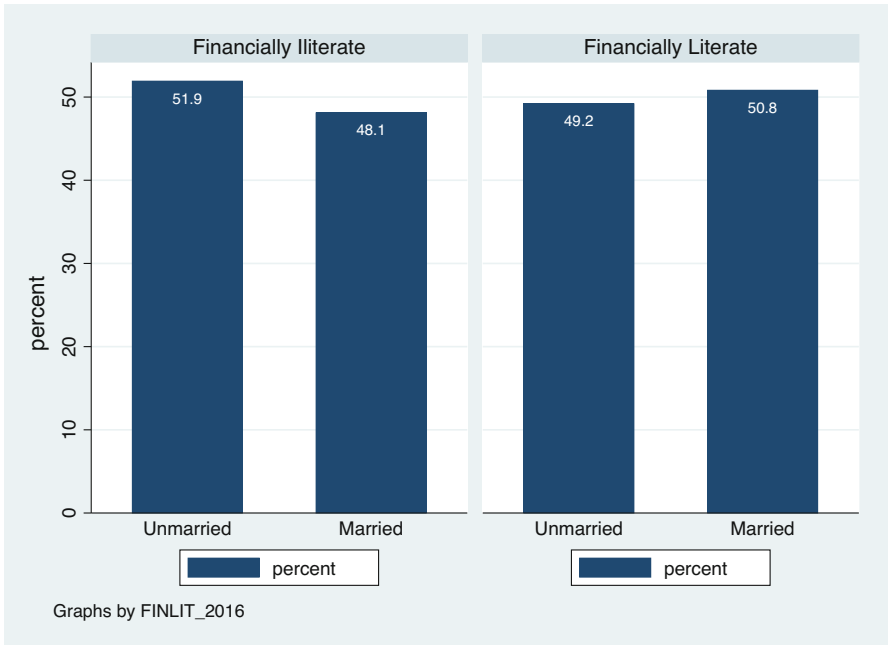**Fig. 11** Financial Literacy across income (FINLIT_sd)

Fig. 12 Financial Literacy across civic status (FINLIT_2016)
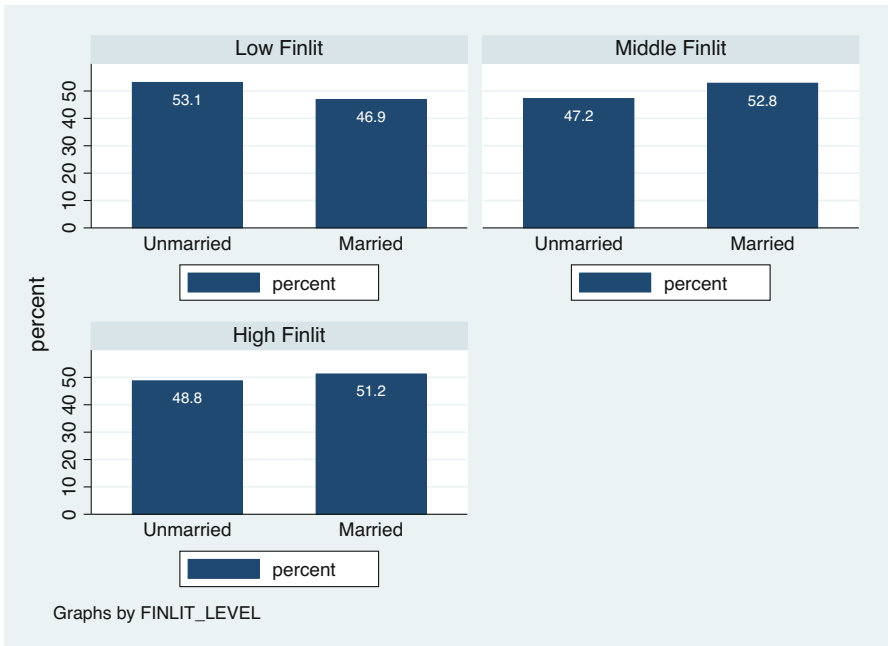

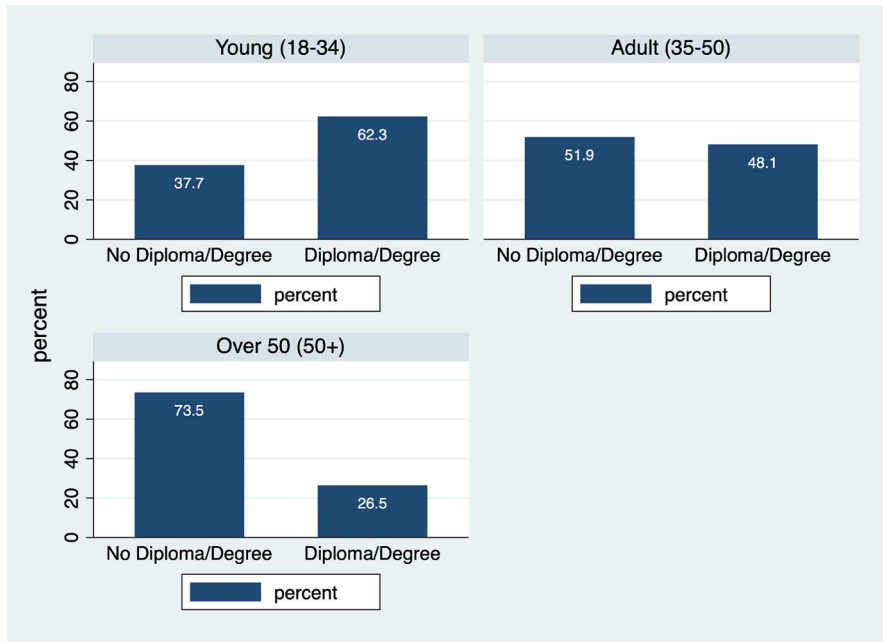**Fig. 13** Financial Literacy across civic status (FINLIT_sd)

Fig. 14 Education across age groups (FINLIT_sd)

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