Economia e Statistica
Cognetti de Martiis

Working Paper Series

FINANCIAL LITERACY AND RISK PROTECTION DURING THE COVID-19 PANDEMIC

GIUSEPPE BERTOLA and ANNA LO PRETE

UNIVERSITÀ
DEGLI STUDI
DI TORINO

Financial literacy and risk protection
during the Covid-19 pandemic

Giuseppe BERTOLA [*]

Anna LO PRETE [**]

December 2023

Abstract

Financial markets cannot protect from aggregate shocks but can help smooth their idiosyncratic implications across individuals. In reality, of course, markets are incomplete and may not be accessible or be used appropriately. Thus, aggregate shocks that impact individual incomes differently can be associated with idiosyncratic welfare effects through poor diversification or random mistakes. Empirical analysis of data from Italy during the first phase of the Covid-19 pandemic documents that, across households, the relationship between income and consumption shocks indeed depended in theoretically sensible ways on financial asset ownership, financial literacy, and saving choices as well as on public transfers.

Keywords: risk sharing; financial literacy; public policy; Covid-19.

JEL Classification: D14, D52, G53.

---

[*] Department of Economics and Statistics, University of Torino, CEPR, CESifo. E-mail: giuseppe.bertola@unito.it. ORCID: 0000-0003-3703-8259.

[**] Corresponding author: Department of Economics and Statistics, University of Torino, G53 Financial Literacy and Personal Finance Network, CeRP - CCA (Italy). E-mail: anna.loprete@unito.it. ORCID: 0000-0002-7373-4561.

1. Introduction

Whether financial literacy was useful during the Covid-19 pandemic is an empirical question. While even the smartest financial economist would not have hedged against a "black swan" unprecedented event, households' ability to share risks depended on access to and awareness of financial markets as well as by public transfers. Repeated survey data with the necessary panel and retrospective time dimension can provide relevant evidence from individual consumption reactions to the sharp income changes experienced by Italian households in the early phases of the pandemic.

A vast literature on the relevance of financial literacy has emphasized that it can help make private finance decisions over the life cycle (Lusardi e Mitchell, 2007; Jappelli e Padula, 2013; Alessi et al., 2011; Fornero et al., 2021) and improve citizenship and public decisions (Fornero and Lo Prete, 2023). Limited knowledge of economics and finance may reduce access to financial markets, implied wrong choices, and increased inequality through lack of diversification or mistakes that redistribute randomly (Jonker and Kosse, 2020).

Estimating standard models of the relationship between individual consumption and income changes on individual data makes it possible to study the role of financial literacy as a determinant of households' ability to plan and share risk. If financial markets were perfect and complete, an aggregate shock would change all welfare levels in perfectly correlated ways (see e.g. Chapter 3 in Bertola, Foellmi, and Zweimueller, 2006), and in cross-section data there would be no reason for consumption changes systematically to depend on income changes at the individual level. In reality, of course, markets are incomplete, and a vast empirical literature documents that consumption does respond to relative income shocks in individual panel data (Altonji and Siow, 1987) as well as in

data aggregated at the country or regional level (see e.g. Lo Prete, 2016, and references therein). Here, we estimate similar models on data collected by the Italian Financial Education Committee in collaboration with Doxa (Doxa, 2020 and 2021), aiming not only at documenting financial market incompleteness but also at characterizing it in terms of asset allocation and financial competence.

The data provide somewhat limited information on income and consumption changes and financial assets, and more precise and novel information on financial literacy, for a panel of about four thousand Italian households surveyed during the Covid-19 pandemic. That episode triggered unusually large and dispersed income changes and had obvious redistributive consequences (Adams-Prassl et al. 2020), which public transfer programs aimed at smoothing and sometimes actually reversed (as Bruckmeier et al. 2021 show happened in Germany). The economic consequences of the Covid-19 pandemic have been related in the literature to changes in expectations of asset returns and risks (Arrondel at al., 2023) as well as to risk preferences, employment, and income (e.g., Crossley et al., 2021). Some recent research relates pandemic developments to financial fragility (Clark et al., 2021), entrepreneurs' resilience (D'Ignazio et al., 2022), reliance on professional financial advice (Brunetti and Ciciretti, 2023).

We focus on whether and how financial market access and financial competence shaped the dynamics of inequality during the early stages of the COVID-19 pandemic. Exploiting the time dimension of the data, we relate financial literacy to changes of each household's consumption and income, rather than to financial fragility levels in a specific year as in Bottazzi and Oggero (2023). Like uninsurable income risk, poor risk management amplifies consumption fluctuations over time for financially incompetent individuals, hence increases inequality across individuals. While the role of portfolio

choices is not theoretically clear, because they were unlikely to hedge against an unprecedented large aggregate shock, as consumption declined at the aggregate level it should have declined more for households with low total asset holdings and low financial literacy. Aiming to detect this empirically, we exploit the panel structure of the data to build more precise measure of financial literacy. We observe whether the same person gives different answers when asked exactly the same questions at one-year distance and consider financially literate only those who answer correctly in both periods, correcting some of the measurement error induced by the possible reluctance of financially illiterate individuals to admit their ignorance and answer "don't know" (Bertola and Lo Prete, 2023).

Section 2 discusses how an aggregate shock may have heterogenous implications when markets are incomplete, and some households do not use them competently. Section 3 introduces the empirical model and the available data. Section 4 reports results from a variety of empirical models documenting that the consumption implications of the pandemic were related to financial choices and to financial literacy. Section 5 concludes.

2. Motivation and theoretical considerations

The Covid-19 outbreak shocked the social and economic life of billions of people around the world. The first cases of coronavirus infection were detected in December 2019 in China. The rapid spread of the virus on a global scale was declared a "public health emergency of international concern" on 30 January 2020 and a "pandemic" on 11 March 2020 by the World Health Organization (WHO). The WHO declared the end of the

emergency after more than three years, on 5 May 2023, having recorded 276 million cases of coronavirus disease and more than 2 million deaths just in the European Region.

The pandemic reduced market incomes drastically at the aggregate level, and aggregate consumption had to be reduced accordingly: financial markets may at most operate across the globe, so cannot smooth out a truly global shock. Income changes were obviously not the same across individuals. They were dramatically negative for those who during lockdowns could not perform in-person services, but positive for those working in home delivery services or production of personal protection equipment and vaccines, while civil servants and many others continued to work and earn steady paychecks but had fewer opportunities to spend.

In principle, financial markets can smooth out across individuals the consumption implications of heterogeneous income shocks. During the pandemic, working individuals might lend some of their income to idle individuals, directly or through banks, and smooth consumption reactions across individuals though savings and borrowing. Consumption should remain stable in relative terms if idiosyncratic income shocks are temporary and can be smoothed also though financial transactions, as those experiencing negative income shocks sell liquid assets to a market where savers are buying them. Ex-post income shocks could also be redistributed through ex-ante insurance contracts, or risky asset ownership: just like price shocks that increase the profits of some firms and make consumption more expensive for consumers are to some extent compensated automatically for consumers who own those firms' stock, the heterogeneous implications of COVID-19 across sectors could be in principle have been offset by the returns of individual stock portfolios.

In reality, of course, markets are incomplete, many individuals do not even access them, and those who do need not be competent enough to know how to access them appropriately. Thus, aggregate shocks that impact individual incomes differently influence the distribution of welfare and consumption changes, in ways that depend on sector of occupation, region of residence, and other individual characteristics that determine the sign and direction of income shocks, as well as on financial competence, effective financial market access, and the size and composition of personal wealth.

Not all of these variables have obvious implications for the welfare and consumption implications of a large and negative shock. While wealthier individuals are in a better position to buffer income shocks by dissaving, not all assets are liquid, and many lost a great deal of value during the pandemic: the market perceived the negative shock to be more permanent at the time than it proved to be ex post, and asset holders were reluctant to liquidate their assets at market lows. Through this channel, the Covid-19 pandemic could have reduced consumption more for households that owned risky assets just before its outbreak. It is also possible that asset ownership is associated with additional precautionary savings, hence less dissaving, if wealth was higher for households with larger and more persistent labor income shocks.

During the Covid-19 pandemic risk was also shared through policy measures that issued public debt and used the proceeds to subsidize firms and maintain employment during lockdowns and pay extraordinary public subsidies or grant tax holidays to individuals. From the financial point of view, the government budget channeled some of the savings of individuals who continued to earn income to the consumption of out-of-work individuals and, by stabilizing the disposable income of particularly unlucky individuals, remedied the financial market incompleteness that makes personal credit

6

contracts very difficult to stipulate and enforce. Not only the human, social, and economic toll of the pandemic, but also the scope of debt-financed redistribution was unprecedented during the pandemic: in 2020 and 2021, COVID 19-related additional spending and tax reductions amounted to about 16% of 2020 GDP on average in advanced economies, 25% in the US, and 10% in Italy.[1] Hence, not only market income and wealth, but also eligibility for public transfers influenced the pandemic's consumption and welfare implications at the individual level.

3. Empirical framework and data

Theory suggests that the pandemic's implications for individual consumption were heterogeneous and depended on individual income shocks, financial market access and competence, receipt of public subsidies, and possibly other as individual characteristics. To assess and characterize these effects empirically it is possible to estimate regressions in the form

$$\Delta C_i = \alpha + \beta(FL_i, FA_i)\Delta Y_i + \gamma(FL_i, FA_i) + X_i\delta + \varepsilon_i \qquad (1)$$

where the dependent variable ΔC_i is the consumption change for each household i. The intercept α is common to all households, and in perfect markets would depend on discount and return rates as well as (and, in the early stages of the pandemic, especially) on the unexpected aggregate shock to current and future income. The coefficient that relates individual consumption to individual income changes ΔY_i would be zero if individual risk were perfectly shared but is positive when financial markets are imperfect. Expression $\beta(FL_i, FA_i)$ allows it to depend on indicators of individual financial literacy,

---

[1] See the IMF Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandmic, available at https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19 for definitions and details.

FL_i, and financial asset holdings, FA_i. Expression $\gamma(FL_i, FA_i)$ allows also for consumption changes that are independent of income changes on the same indicators, as well as on $X_i\delta$, a linear set of controls for socioeconomic and demographic individual variables. Some of the elements of X_i can be of interest, especially those that capture eligibility for public subsidies, but we are mostly interested in the role of financial asset ownership and financial literacy in shaping consumption reactions, captured by the $\beta(FL_i, FA_i)$ and $\gamma(FL_i, FA_i)$ functions which may be nonlinear, in particular because of interactions between financial literacy and financial asset holdings. Theory predicts that both (and especially liquid assets) can help smooth consumption, so we expect their main effect to be positive in times of income and consumption decline, such as the pandemic period we study: households who have accessed financial markets competently should experience smaller consumption declines, and interaction coefficients may detect that the effect was stringer for households who competently adjusted their financial portfolio.

The available data, as we shall see, do not reject those theoretical predictions but are not precise enough to detect a significant role for some of them. The dataset merges information from two waves of the survey on financial literacy and financial resilience collected by the Italian Financial Education Committee in collaboration with Doxa (Doxa, 2021 and 2022). The survey, administered for the first time in May-June 2020 and on a yearly basis afterwards, collects information on financial education, income, demographics, and preferences towards digitalization and sustainability for 4027 households who report their situation before the Covid-19 outbreak retrospectively, and during 2020 and 2021 at the time they are surveyed.

3.1. Income and consumption shocks

Available income change indicators are admittedly very imprecise. There is no continuous information on income change: its 2019 level is not recorded, and for 2020 respondents were only asked where its euro amount fell in 15 possible ranges. We approximate it by the midpoint of the reported ranges and use the resulting "income level" variable in some specifications.

Discrete indicators of income changes are available. Respondents report whether income "increased, decreased, or remained the same". In all specifications the independent variable ΔY_{it}, "income shock", takes value -1 if income decreased in 2020 with respect to before the start of the Covid-19 emergency, zero if it did not change, +1 if it increased. The indicator of "consumption shock" ΔC_{it} similarly exploits survey responses as to whether individual food consumption decreased, remained constant, or increased because of the COVID emergency. Consumption declines might generally depend on unavailability of some services, but food consumption is more likely to reflect permanent income expectations, precautionary motives, and liquidity constraints.

The data appendix reports summary statistics and the exact wording of these and other questions and replies we use to construct the main variables in the regressions.

3.2. Financial literacy

Financial literacy (FL_i) measures household i's competence on basic economics and finance. According to the original definition, people are defined financially literate if they answer correctly to the three questions first coded by Lusardi and Mitchell (2011). The first two questions assess respondents' basic understanding of interest rates and inflation, the third question evaluates knowledge of risk diversification. As in other

surveys, other questions assess a wider array of competences related to financial education. We construct a more precise measure based on whether the same person also appeared to be financially literate when answering exactly the same questions one year later. In the sample 45% of respondents answered correctly to the big three in 2020, but only 32% did in both 2020 and 2021: almost one third of those that appeared to be literate in 2020 did not in 2021. We code the financial literacy dummy to one only for the respondents who answered correctly in both surveys. This makes it possible to remove at least some of the measurement errors due to guessed answers when the "do not know" option is available but not taken.

3.3. Risk sharing channels

It is possible to share risk thorough different channels. The *capital and income channel* shares risk in financial markets. We have information on ownership of financial asset before the pandemic in the 2021 wave of the Doxa survey (Doxa, 2021). In most of the regressions we aggregate asset ownership information as a dummy that takes value one if the household owns any asset. The resulting variable "financial assets" takes value one for the 26% of the respondents who owned one or more of pension funds, insurance policies, stocks, bonds, cryptos, in 2019.

Many respondents owned simple financial assets, such as saving deposits. In some specifications we use indicators of whether respondents also owned pension funds (11%), insurance policies (11%), stocks and bonds (20%), cryptos (5%). The portfolio composition is very heterogeneous and does not appear to be well diversified: among the 437 respondents who had invested in a pension fund, only 213 owned an insurance policy, and 288 owned public and private bonds, stocks, or investment funds. Interestingly, financially literate households owned more of all asset categories, but not

10

of cryptos (see Figure 1 and Table A2, which reports significantly positive correlations between financial literacy and overall asset ownership, ownership of pension funds, insurance policies, and stocks and bonds, while ownership of cryptos is negatively correlated with financial literacy). Ownership of different assets is potentially relevant for our analysis of consumption changes because they are more or less liquid and experienced different value declines, which makes them differently useful as consumption buffers. Some asset categories, such as pension funds and insurance contracts, are less likely to imply wealth effects because their value is reported at long intervals, while that of ETF and mutual funds (which declined dramatically in the Spring of 2020) is observed continuously.

Second, we will consider if the increased uncertainty and the perceived length of the emergency's income loss led to precautionary savings, a *credit channel*. Changes of saving behavior influence the relationship between income and consumption changes. The data offer insights on their motivation from the answers to two questions. Those who declared in 2020 to have experienced an income decline since the start of the pandemic were asked whether they perceived it to be "long-lasting, for several years, at least one year, a few months" allowing for a don't know answer. We construct a "temporary" variable, coded one if the answer was one year or below, and expect it to be associated with consumption-smoothing dissaving in the face of negative income shocks. We also know whether before and after the emergency each household had positive, zero, or negative saving flows. We construct a variable that equals one if the household had positive savings in 2020 but zero or negative savings in 2019 and label it "precautionary savings" because the Covid-19 epidemic may well have increased the perceived variance

of future income. This variable may however also capture the effect of reduced spending opportunities in lockdown for households that did not experience income declines.

A third risk-sharing channel is represented by ex-post compensations by the government, the *fiscal channel*. In 2021, respondents were asked if at least one member of the household was receiving redundancy payments, unemployment benefits, or basic income (introduced in Italy on March 2019). During the pandemic dismissals were prohibited: 19% of the households received temporary redundancy subsidies (*Cassa Integrazione Guadagni*), only 3.6% unemployment benefits and 4% basic income (*Reddito di Cittadinanza*, granted on the basis of strict eligibility criteria). We construct a "New subsidy" indicator that takes value one if any of the previous income support measures was received by someone not benefiting from public policies before the outburst of the pandemic. We expect it to dampen income fluctuations if they at least partially offset market income decline.

4.   Income shocks and consumption reactions

In perfect and complete financial markets (food) consumption should not change differently across households. This is unsurprisingly not the case in these and other data, and besides rejecting perfect risk sharing models in the form (1) can characterize how household characteristics shape consumption reactions in realistically imperfect markets.

4.1. Explaining consumption reactions: financial literacy, and financial assets

Table 1 inspects the relationship of consumption changes to income shocks before and after the outburst of the Covid-19 emergency (column 1). Both indicators are very noisy, as their discrete -1, 0, +1 value aggregate very different and heterogeneous continuous changes. However, the coefficient of income changes as an explanation of consumption

changes does indicate that consumption declines less for financially literate households (column 2). To identify the channels through which financial literacy empirically reduces the likelihood of negative consumption changes in the controlled regressions of model (1) we assess the relevance of consumption risk sharing on financial markets including indicators of households' ownership of various assets. Financial assets do help smoothing consumption reactions to income shocks (column 3). And financial literacy provides additional consumption buffering (column 4). The interaction of financial literacy and total asset holdings is not significant (p-value=0.20) in column 5, however its sign suggests that asset ownership more effectively buffers consumption for those who are financially literate. The F statistics at the bottom of the table, tests the joint significance of the three coefficients, i.e. of the interacted $\gamma(FL_i, FA_i)$ term in model (1), and rejects the hypothesis that the coefficients are zero at the 4% level. In theory, the sensitivity of consumption to income should also depend on the household's ability to buffer shocks by competent access to financial markets. In practice, the available discrete indicators of consumption and income change are too rough to detect this effect, represented by expression $\beta(FL_i, FA_i)$ in model (1): the interaction between financial literacy, financial assets, and the discrete income change indicator is not significant in regressions we do not report.

The coefficients of interest are very similar in regressions including a large variety of control variables (columns 6-10). One is the available measure of the income level. In theory it should not directly matter for consumption changes if their other determinants were correctly measured but turns out to attract a highly significant positive coefficient. The empirical association of higher income with more likely consumption increases and less likely consumption declines may be driven by the measurement errors implied by

13

the available discrete measures of consumption and income changes, and of financial variables. For example, the size and persistence of the income declines that are only measured as a dummy indicator may be correlated with unobserved variables, such as the sector of occupation, that are in turn correlated with income levels. Moreover, higher-income household are likely to own a larger amount of assets when the FA dummy takes value unity.

A variety of other socio-demographic controls also leave the result of interest unchanged. Only some attract mildly significant coefficients (consumption changes are more positive for female respondents). There is no significant relation between consumption reactions and home ownership, a variable capturing wealth heterogeneity across households, nor with the interaction between home ownership and financial literacy (not reported).

Table 2 reports additional regressions that confirm the robustness of the pattern of coefficients in the first four lines and uncover some additional empirical regularities of possible interest. When available information on professional status is included respondents in blue-collar jobs experienced more negative income declines (columns 1-2), confirming that the significance of income levels may reflect sector- and occupation-specific factors. And so did those who were unemployed when surveyed (columns 3-4), possibly because at least some of them had become unemployed because of the pandemic. Controlling for the occupational status makes the coefficient of ages over 50 significantly negative.

In regressions including a dummy that takes value one when the respondent is a financially literate woman, gender is not significant on its own (columns 5-6). This

suggests that financial literacy matters most for women who, because of their professional status or family structure, are in charge of the household's financial choices.

While the discrete data are too rough to detect interactions between income changes and financial market information, some relevant information is offered by regressions run separately on the sample of households that experienced positive or zero income shocks (columns 7-8) and experienced negative or zero income shocks (columns 9-10). Income levels are significant only for the latter and absorb some of the significance of financial asset ownership, while leaving the pattern and overall significance of financial literacy and financial asset ownership largely unaffected.

4.2. Financial asset types, savings, and consumption preferences

Table 3 considers the empirical role of asset ownership in different categories, still including all the controls of previous tables (the coefficients of interest are, again, much the same if no controls are included). Pension funds are associated with less negative consumption changes, especially through their interaction with financial literacy (columns 1-2). As discussed above their value is only reported at long intervals, and sharp losses do appear to have had smaller wealth effects than those of ETF and mutual funds. Results on insurance policies (columns 3-4), stocks and bonds (columns 5-6), confirm the role of financial assets as buffers, although this is difficult to disentangle from income-related resilience, but do not seem directly associated to households' financial literacy, although they are jointly significant. In the last part of Table 3, ownership of crypto currencies, by 5% of households only, is not associated to lower consumption declines, nor to financial literacy, whose negative coefficient attracts all significance and drives the test results.

15

There is evidence of an increase in savings after the outburst of the pandemic (35% of the surveyed households had a savings account in 2021, while only 13% did before the pandemic). Hence in Table 4, we use the admittedly limited information on saving behavior we have to assess the relevance of precautionary motives. In the data, there is only limited evidence that perception of temporariness of shocks or an increase in precautionary savings influence consumption reaction across households. The estimated coefficients are not significant, but their signs are sensible. The consumption of households who increase savings reacts more strongly to income shocks, but reacts less strongly if the shock is perceived to be temporary (columns 1-2). The interactions between additional saving and financial literacy (column 3-4) or temporariness of the shock (column 5-6) are positive, but even less significant.

The next specifications reported in Table 4 replace the "income shock" indicator with changes of survey responses as to the degree to which "income suffices for monthly expenses" before and during the pandemic. This indicator may also account for changes of monthly expenses due to taste shocks and spending difficulties during lockdowns but is closely related to changes of income and plays a very similar role in the regression of interest (columns 7-8). Aiming to detect the consumption implications of lockdowns in the last part of Table 4 we introduce a dummy for provinces where in March 2020 a "red zone" was declared, forcing the population to stay at home (except for necessity, work, and health reasons) more strictly than in other areas. The dummy does not contribute to explaining the "consumption shock" variable (columns 9-10), corroborating our interpretation of food consumption changes in terms of permanent income expectations, precautionary motives, and liquidity constraints but not of spending restrictions.

4.3. Explaining income changes, and the role of public policy

Income shocks are very poorly measured in the data, and measurement errors may induce spurious correlation with the equally rough indicator of consumption changes. The first part of Table 5 runs regressions of the discrete income shock indicator on some relevant observed covariates, notably the "New subsidy" dummy that detects ex-post compensations by the government in the form of redundancy fund, unemployment benefits, and basic income, might have partially offset income declines. These regressions are a possible first stage for two-stage least squares regressions where in the second stage income shocks are instrumented as explanatory variables of the change of consumption. We include all the controls of previous tables, some of which are individually significant. Notably, the starting income level that turned out to be a strongly significant determinants of consumption-change indicators in the previous Tables turns out to be a significant determinant of income change indicators in these regressions. Higher levels of income are associated to more positive income shocks, possibly because incomes were on average higher in occupations and sectors that were relatively less affected by the pandemic. The income shock is more likely to be negative for households that became subsidy recipients during the emergency, indicating that the subsidies only partly offset their large market income declines (columns 1-2).

In the following columns of Table 5 we report regressions that instrument the income shock indicator with variables that in theory influence consumption reactions only through income. In second-stage specifications, we experiment using as excluded instruments the "New subsidy" indicator only (columns 3-4), and also the income level (columns 5-6) which, as discussed above, should in theory not influence food consumption changes. While it is hard to rely on asymptotically valid statistics when

17

dependent and independent variables take only two or three values, the Hansen J statistic strongly rejects the overidentifying restriction, and the instruments do appear to have strong explanatory power: the Kleibergen-Paap rk Wald F statistic is well above the critical values (in the order of 10) which foster confidence in the precision of the estimates from the second stage.

In all specifications, the instrumented income shock variable does attract a larger and more significant coefficient than in the OLS regressions of previous tables. The inclusion of the income level in second-stage regressions (columns 3-4) absorbs a portion of the effect of the negative income shock, and the interaction between financial assets ownership and financial literacy again attracts a theoretically appealing positive sign: having assets and knowing how to structure a portfolio reduced consumption fluctuations during the Covid-19 pandemic. Including the two instrumental variable candidates in the second stage (columns 5-6) leaves the coefficients of financial assets and financial literacy broadly unchanged. Financial literacy and financial assets buffer consumption, as they did Table 1. Their interaction, now positive and significant, contributes much more than in previous specification to the joint significance of the three terms, and indicates that financial assets helped reduce consumption fluctuations for households who are financially literate.

5. Concluding remarks and policy implications

The empirical results we obtain on the available data broadly conform to theoretical expectations, and availability of a relatively precise indicator of financial literacy offers interesting and novel insights: not only previous financial choices and economic

conditions, but also financial competence appears empirically to have smoothed the negative of consumption impact of the Covid-19 pandemic in Italy.

Because both ownership of financial assets and financial literacy are low in the most disadvantaged groups of the population (Bottazzi and Oggero, 2023), imperfect financial markets and low financial competence amplified the distributional implications of that large aggregate shock with idiosyncratic implications and is likely to similarly increase welfare inequality in less unusual circumstances. Finding that financial literacy stabilized consumption during the Covid-19 pandemic offers insights for policymaking. Since the 1990s, individuals and households have become increasingly responsible for economic and financial choices that were previously managed by public pension and subsidy schemes. As investors they now operate on financial markets that are easier to access, hence more inclusive, but also increasingly complex. Our empirical analysis of the Covid-19 pandemic's distributional implications highlights both the still important role of public financial interventions, and the novel and equally important role of private financial markets, which quite sensibly turn out to have worked better for financially literate households. Improving financial competence is not easy, especially for adults with low education, but is likely to reduce income and welfare inequality.

References

Adams-Prassl, A., Boneva, T., Golin, M., Rauh, C. (2020). Inequality in the impact of the coronavirus shock: evidence from real time surveys. Journal of Public Economics 189, 104245.

Alessie, R., Lusardi, A., van Rooij, M. (2011). Financial Literacy, Retirement Preparation and Pension Expectations in the Netherlands. Journal of Pension Economics and Finance 10(4), 527-545.

Altonji, J.G, Siow, A. (1987). Testing the Response of Consumption to Income Changes with (Noisy) Panel Data. Quarterly Journal of Economics 102 (2), 293-328.

Arrondel, L., Etilé, F., Masson, A. (2023). Savers' preferences and beliefs during the Covid pandemic. Mimeo.

Bertola, G., Foellmi, R., and Zweimueller, J. (2006) Income Distribution in Macroeconomic Models, Princeton University Press.

Bertola, G., Lo Prete, A. (2023). Wrong answers when "don't know" is possible in survey measures of financial literacy. Mimeo.

Bottazzi, L., Oggero, N. (2023). Financial Literacy and Financial Resilience: Evidence from Italy. Journal of Financial Literacy and Wellbeing 2, 1-26.

Bruckmeier, K., Peichl, A., Popp, M., Wiemers, J., Wollmershäuser, T. (2021). Distributional effects of macroeconomic shocks in real-time: A novel method applied to the COVID-19 crisis in Germany. The Journal of Economic Inequality 19, 459 487.

Brunetti, M., Ciciretti, R. (2023). In dire straits ask for counseling: Covid-19 income shock and financial professional advice. Mimeo.

Clark, R.L., Lusardi, A., Mitchell, O.S. (2021). Financial Fragility during the COVID-19 Pandemic. AEA Papers and Proceedings 111, 292-96.

Crossley, T.F., Fisher, P., Low, H. (2021). The heterogeneous and regressive consequences of COVID-19: Evidence from high quality panel data. Journal of Public Economics 193, 104334.

D'Ignazio, A., Finaldi Russo, P., Stacchini, M. (2022). Micro-entrepreneurs' Financial and Digital Competences During the Pandemic in Italy. Bank of Italy Occasional Paper No. 724.

Doxa (2020). Rapporto Edufin 2020. Educazione finanziaria: strumento di orientamento in tempo di incertezza. Online publication.

Doxa (2021). Rapporto Edufin 2021: l'educazione finanziaria come anticorpo alla vulnerabilità economica. Online publication.

Fornero, E., Lo Prete. A. (2023). Financial education: from better personal finance to improved citizenship. Journal of Financial Literacy and Wellbeing 1, 12-27.

Fornero, E., Lo Prete, A., Oggero, N. (2021). Now more than ever: why financial literacy is a key element of post-COVID-19 recovery. In B. J Cude and G. Nicolini (Eds.), The Routledge Handbook of Financial Literacy. Routledge, London, 137-152.

Jonker, L., Kosse, A. (2020). The interplay of financial education, financial literacy, financial inclusion and financial stability: Any lessons for the current Big Tech era? DNB Working Paper 692.

Jappelli, T., Padula, M. (2013). Investment in financial literacy and saving decisions. Journal of Banking & Finance 37(8), 2779-92.

Lo Prete, A. (2016). Labor market institutions and household consumption insurance within OECD countries. The World Economy 39(6), 755-771.

Lusardi, A., Mitchell, O.S. (2011). Financial literacy around the world: an overview. Journal of Pension Economics and Finance 10, 497-508.

Figures

Figure 1 – Assets ownership by category and financial literacy
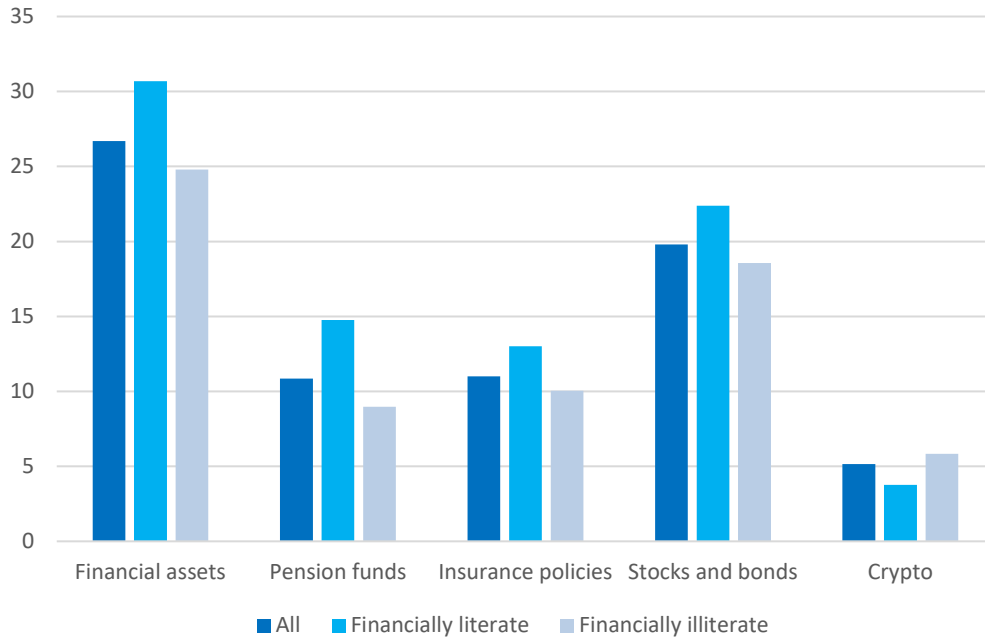
Note. The figure reports the percentage of financial assets' owners in the population on the vertical axis. Data are computed for the total population ("All"), and for the two sub-populations of "Financially literate" and "Financially illiterate" households.

Table 1 – Risk sharing, financial literacy and assets

Dependent variable: Consumption Shock										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income shock	0.15***	0.14***	0.15***	0.15***	0.15***	0.15***	0.15***	0.16***	0.15***	0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Financial literacy (FL)		0.09**		0.09**	0.06		0.08*		0.07*	0.04
		(0.04)		(0.04)	(0.05)		(0.04)		(0.04)	(0.05)
Financial assets (FA)			0.09**	0.08*	0.04			0.08*	0.07*	0.03
			(0.04)	(0.04)	(0.05)			(0.04)	(0.04)	(0.05)
FA x FL					0.12					0.12
					(0.09)					(0.09)
OTHER CONTROLS:										
Income level						0.07***	0.06***	0.07***	0.06***	0.06***
						(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Home ownership						-0.05	-0.05	-0.05	-0.06	-0.06
						(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
High school degree						0.02	0.02	0.02	0.02	0.02
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
College Degree						0.06	0.06	0.06	0.05	0.05
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Post-graduate Degree						0.10	0.09	0.09	0.08	0.08
						(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Age 18-34						-0.05	-0.05	-0.06	-0.06	-0.06
						(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Age 50-64						-0.08	-0.08	-0.07	-0.07	-0.08
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Age 65+						-0.09	-0.09	-0.09	-0.09	-0.09
						(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Gender (female)						0.08*	0.09**	0.09**	0.09**	0.09**
						(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Minors						-0.02	-0.01	-0.02	-0.02	-0.01
						(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Invalids						-0.03	-0.02	-0.03	-0.03	-0.03
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
North-East						-0.06	-0.06	-0.06	-0.06	-0.07
						(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Centre						-0.03	-0.03	-0.03	-0.03	-0.03
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
South and Islands						-0.05	-0.04	-0.04	-0.03	-0.04
						(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Test of γ significant				3.74	2.84				2.80	2.26
				[0.02]	[0.04]				[0.06]	[0.08]
R squared	0.01	0.02	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.04
Observations	4027	4027	4027	4027	4027	4027	4027	4027	4027	4027

Note. The table reports OLS estimates. The F statistic tests for the joint significance of FL, FA, and their interaction when present (Prob > F in square brackets). All specifications include a constant (not reported). Robust standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.

Table 2 – Additional controls and sub-sample analysis

| | | | | Dependent variable: Consumption Shock | | | | | |
| Sample: | All | | All | | All | | Positive or nihil income shock | | Negative or nihil income shock | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income shock	0.14***	0.14***	0.15***	0.16***	0.15***	0.16***	0.17*	0.18*	0.15***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.10)	(0.10)	(0.04)	(0.04)
Financial literacy (FL)	0.07	0.04	0.08*	0.04	0.05	0.01	0.10**	0.07	0.07*	0.04
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.04)	(0.05)
Financial assets (FA)	0.08*	0.03	0.07*	0.03	0.08*	0.03	0.11**	0.07	0.07	0.02
	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.06)	(0.04)	(0.05)
FA x FL		0.13		0.12		0.13		0.12		0.13
		(0.09)		(0.09)		(0.09)		(0.11)		(0.09)
Self-employed	-0.05	-0.05								
	(0.06)	(0.06)								
Blue collar	-0.11*	-0.11*								
	(0.07)	(0.07)								
Retired	0.07	0.07								
	(0.08)	(0.08)								
Other	0.09	0.09								
	(0.12)	(0.12)								
Unemployed			-0.23**	-0.23**						
			(0.12)	(0.12)						
Woman x FL					0.09	0.09				
					(0.09)	(0.09)				
OTHER CONTROLS:										
Income level	0.06***	0.06***	0.06***	0.06***	0.06***	0.06***	0.03	0.04	0.07***	0.07***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Home ownership	-0.07*	-0.06	-0.06	-0.05	-0.06	-0.06	-0.12**	-0.11**	-0.06	-0.06
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
High school degree	0.02	0.02	0.01	0.01	0.02	0.02	-0.06	-0.06	0.01	0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
College Degree	0.05	0.05	0.05	0.05	0.06	0.05	-0.01	-0.01	0.05	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)
Post-graduate Degree	0.08	0.09	0.07	0.08	0.08	0.08	0.03	0.03	0.07	0.07
	(0.08)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)	(0.09)	(0.09)	(0.07)	(0.07)
Age 18-34	-0.06	-0.06	-0.05	-0.05	-0.06	-0.06	0.04	0.04	-0.06	-0.06
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)
Age 50-64	-0.08*	-0.08*	-0.08	-0.08*	-0.07	-0.08	-0.04	-0.05	-0.07	-0.08
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)
Age 65+	-0.16*	-0.16*	-0.10	-0.10	-0.09	-0.09	-0.08	-0.08	-0.09	-0.09
	(0.08)	(0.08)	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)	(0.06)	(0.06)
Gender (female)	0.08*	0.08*	0.10**	0.10**	0.07	0.07	0.06	0.06	0.10**	0.10**
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)	(0.06)	(0.04)	(0.04)
Minors	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.03	-0.03	-0.02	-0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)
Invalids	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.07	-0.07	-0.03	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.05)	(0.05)
North-East	-0.06	-0.06	-0.06	-0.07	-0.06	-0.07	-0.08	-0.08	-0.07	-0.07
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Centre	-0.03	-0.02	-0.03	-0.03	-0.03	-0.03	-0.15**	-0.15**	-0.03	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)
South and Islands	-0.03	-0.03	-0.03	-0.03	-0.04	-0.04	-0.06	-0.07	-0.04	-0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)
Test of γ	2.71	2.25	2.86	2.29	1.84	1.62	4.27	3.30	2.53	2.14
significant	[0.07]	[0.08]	[0.06]	[0.08]	[0.16]	[0.18]	[0.01]	[0.02]	[0.08]	[0.09]
R squared	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04
Observations	4027	4027	4027	4027	4027	4027	1959	1959	3918	3918

Note. The table reports OLS estimates. The F statistic tests for the joint significance of FL, FA, and their interaction when present (Prob > F in square brackets). All specifications include a constant (not reported). Robust standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.

Table 3 – Asset ownership by category

Dependent variable: Consumption Shock

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income shock	0.15***	0.16***	0.15***	0.15***	0.15***	0.15***	0.15***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Financial literacy (FL)	0.07*	0.04	0.07*	0.06	0.08*	0.06	0.08*	0.07*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
Pension funds	0.11*	-0.02						
	(0.06)	(0.07)						
Pension funds x FL		0.30**						
		(0.12)						
Insurance policies			0.10	0.06				
			(0.06)	(0.07)				
Insurance policies x FL				0.09				
				(0.15)				
Stocks and bonds					0.08	0.04		
					(0.05)	(0.06)		
Stocks and bonds x FL						0.10		
						(0.11)		
Crypto							0.03	0.01
							(0.07)	(0.08)
Crypto x FL								0.11
								(0.19)
OTHER CONTROLS	✓	✓	✓	✓	✓	✓	✓	✓
Test of γ significant	3.26	4.22	2.53	1.69	2.61	1.86	1.72	1.30
	[0.04]	[0.01]	[0.08]	[0.17]	[0.07]	[0.13]	[0.18]	[0.27]
R squared	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Observations	4027	4027	4027	4027	4027	4027	4027	4027

Note. The table reports OLS estimates. The F statistic tests for the joint significance of FL, the asset category considered, and their interaction (Prob > F in square brackets). All specifications include the control variables listed in Table 1 and a constant (not reported). Standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.

Table 4 – Savings and consumption preferences

Dependent variable: Consumption shock										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income shock	0.20***	0.20***	0.20***	0.20***	0.20***	0.20***			0.15***	0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)			(0.04)	(0.04)
Income suffices for monthly expenses (change)							0.08***	0.08***		
							(0.03)	(0.03)		
Financial literacy (FL)	0.08*	0.04	0.05	0.02	0.08*	0.04	0.08*	0.05	0.07*	0.04
	(0.04)	(0.05)	(0.06)	(0.06)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)
Financial assets (FA)	0.07*	0.03	0.07*	0.03	0.07*	0.03	0.07*	0.03	0.08*	0.03
	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)
FA x FL		0.13		0.13		0.13		0.10		0.13
		(0.09)		(0.09)		(0.09)		(0.09)		(0.09)
Temporary	0.06	0.06	0.06	0.06	0.05	0.05				
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)				
Savings	-0.05	-0.05	-0.07	-0.07	-0.06	-0.06				
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)				
Savings x FL			0.06	0.05						
			(0.08)	(0.08)						
Savings x Temporary					0.04	0.04				
					(0.09)	(0.09)				
Red zone									-0.07	-0.07
									(0.06)	(0.06)
OTHER CONTROLS	✓	✓	✓		✓	✓		✓	✓	✓
Test of γ significant	2.74	2.26	1.48		2.25	2.84		2.13	2.78	2.31
	[0.06]	[0.08]	[0.22]		[0.08]	[0.06]		[0.09]	[0.06]	[0.07]
R squared	0.04	0.04	0.04		0.04	0.04		0.04	0.04	0.04
Observations	4027	4027	4027		4027	4027		4027	4027	4027

Note. The table reports OLS estimates. The F statistic tests for the joint significance of FL, the asset category considered, and their interaction (Prob > F in square brackets). All specifications include the control variables listed in Table 1 and a constant (not reported). Standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.

Table 5 – Determinants of the income shock indicator and IV

Dependent variable	Income shock		Consumption shock		Consumption shock	
	(1)	(2)	(3)	(4)	(5)	(6)
Income shock			0.24**	0.24**	0.32***	0.32***
			(0.12)	(0.12)	(0.11)	(0.11)
Financial literacy (FL)	0.02	0.06**	0.07*	0.04	0.09**	0.05
	(0.03)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)
Financial assets (FA)	-0.02	0.04	0.08*	0.03	0.09**	0.03
	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)
FA x FL		-0.16**		0.14		0.15*
		(0.06)		(0.09)		(0.09)
New subsidy	-0.42***	-0.42***				
	(0.03)	(0.03)				
OTHER CONTROLS:						
Income level	0.05***	0.05***	0.06***	0.06**		
	(0.02)	(0.02)	(0.02)	(0.02)		
Home ownership	0.01	0.01	-0.06	-0.06	-0.05	-0.05
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
High school degree	-0.04	-0.04	0.02	0.02	0.04	0.04
	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)
College Degree	-0.03	-0.03	0.06	0.05	0.09*	0.09*
	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)
Post-graduate Degree	-0.08	-0.08	0.09	0.09	0.13*	0.14**
	(0.05)	(0.05)	(0.07)	(0.07)	(0.07)	(0.07)
Age 18-34	0.09	0.09	-0.06	-0.06	-0.07	-0.07
	(0.05)	(0.05)	(0.08)	(0.08)	(0.08)	(0.08)
Age 50-64	-0.03	-0.02	-0.07	-0.08	-0.07	-0.07
	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)
Age 65+	0.11***	0.11***	-0.11*	-0.11	-0.11*	-0.11
	(0.04)	(0.04)	(0.06)	(0.07)	(0.06)	(0.06)
Gender (female)	-0.00	-0.00	0.09**	0.10**	0.08*	0.08*
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Minors	-0.03	-0.03	-0.01	-0.01	0.01	0.01
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Invalids	-0.10**	-0.10***	-0.02	-0.02	-0.02	-0.01
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
North-East	-0.00	-0.00	-0.07	-0.07	-0.08	-0.08
	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)
Centre	0.04	0.04	-0.04	-0.03	-0.06	-0.05
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
South and Islands	0.06	0.06*	-0.04	-0.04	-0.07	-0.07
	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Test of γ significant	0.42	2.45	5.73	7.29	8.09	10.43
	[0.66]	[0.06]	[0.06]	[0.06]	[0.02]	[0.01]
KP test			231	230	122	122
Hansen J statistic					6.19	6.15
					[0.01]	[0.01]
R squared	0.15	0.15				
Observations	4027	4027	4027	4027	4027	4027

Note. The table reports OLS estimates in columns 1-2, 2SLS estimates in columns 3-8. All specifications include the control variables listed in Table 1 and a constant (not reported). All specifications include a constant (not reported). Excluded instruments: New subsidy (columns 3-4), income level and New subsidy (columns 5-6). Robust standard errors are in parentheses. Significant at * 10 percent, ** 5 percent, *** 1 percent.

Data Appendix

Survey questions

Financial literacy, consumption and income change are measured on the basis of the following questions.

Understanding of interest rate. "Suppose you had €100 in a savings account that pays an interest rate of 2% per year and has no charges. After 5 years, how much do you think you would have in the account if you left the money to grow?" a) More than €102 b) Exactly €102 c) Less than €102 d) Do not know

Understanding of inflation. "Suppose you had €100 in a savings account that pays an interest rate of 1% per year and has no charges. Imagine that the inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?" a) More than today b) Exactly the same c) Less than today d) Do not know

Understanding of risk diversification. "Do you think that the following statement is true or false? 'Investing €1,000 in stocks of a single company usually is less risky than investing €1,000 in stocks of 10 different companies.'"   a) True   b) False c) Do not know

Consumption reaction. "Since the start of COVID emergency, how your family food consumption expenditure changed with respect to its usual level?" a) Increased a lot   b) Increased c) Remained stable d) Decreased   e) Decreased a lot

Income change. "Think about all the sources of income your family has (labor, rental, capital income, etc.). Since the start of COVID emergency, your family income has:" a) Increased   b) Remained stable c) Decreased

Table A1 - Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Consumption shock	4027	0.15	0.71	-1	1
Income shock	4027	-0.43	0.53	-1	1
Financial literacy	4027	0.32	0.47	0	1
Income level (in thousand euro)	4027	2.00	1.00	0.4	4.5
Home ownership	4027	0.61	0.49	0	1
High school degree	4027	0.37	0.48	0	1
College Degree	4027	0.16	0.37	0	1
Post-graduate Degree	4027	0.03	0.18	0	1
Age 18-34	4027	0.07	0.26	0	1
Age 50-64	4027	0.33	0.47	0	1
Age 65+	4027	0.27	0.45	0	1
Gender (female)	4027	0.35	0.48	0	1
Minors	4027	0.28	0.45	0	1
Invalids	4027	0.18	0.38	0	1
North-East	4027	0.19	0.40	0	1
Centre	4027	0.20	0.40	0	1
South and Islands	4027	0.34	0.47	0	1
Financial assets	4027	0.25	0.43	0	1
Pension funds	4027	0.09	0.29	0	1
Insurance policies	4027	0.10	0.30	0	1
Stocks and bonds	4027	0.18	0.38	0	1
Cryptos	4027	0.05	0.22	0	1
New subsidy	4027	0.19	0.40	0	1
Self-employed	4027	0.16	0.37	0	1
Blue collar	4027	0.11	0.32	0	1
Retired	4027	0.25	0.44	0	1
Other	4027	0.02	0.14	0	1
Unemployed	4027	0.02	0.16	0	1
Temporary	4027	0.29	0.45	0	1
Savings	4027	0.33	0.47	0	1
Income suffices for monthly expenses (change)	4027	-0.32	0.76	-5	3
Red zone	4027	0.22	0.41	0	1
New subsidy	4027	0.33	0.47	0	1

Notes: The table reports information on the weighted sample.

Table A2 – Bivariate correlations

	Financial literacy
Financial assets	0.06***
Pension funds	0.09***
Insurance policies	0.04***
Stocks and bonds	0.04***
Cryptos	-0.04***

Note. Significant at * 10 percent, ** 5 percent, *** 1 percent.