CSEF

Centre for Studies in Economics and Finance

WORKING PAPER NO. 647

Consumption and Income Expectations during Covid-19

Giovanni Immordino, Tullio Jappelli, and Tommaso Oliviero

June 2022

University of Naples Federico II

University of Salerno

Bocconi University, Milan

CSEF - Centre for Studies in Economics and Finance
DEPARTMENT OF ECONOMICS AND STATISTICS – UNIVERSITY OF NAPLES FEDERICO II
80126 NAPLES - ITALY
Tel. and fax +39 081 675372 – e-mail: csef@unina.it
ISSN: 2240-9696

CSEF
Centre for Studies in Economics and Finance

WORKING PAPER NO. 647

Consumption and Income Expectations during Covid-19

Giovanni Immordino*, Tullio Jappelli†, and Tommaso Oliviero‡

Abstract
Using a survey of Italian households administered in November 2021, we study the effect of microeconomic and macroeconomic expectations (about the health crisis and fear of contagion among others) on consumption expectations in 2022. The survey elicits individual-level indicators of income and consumption expectations, distinguishing between consumption at home, away from home, online and total. We find that expected household income and expected aggregate GDP growth are strongly related to consumption expectations; income risk is positively associated with expected consumption growth for richer households, confirming the presence of a precautionary saving motive.

JEL classification: D14, D15.

Keywords: Consumption Expectations; Income Expectations; Covid-19 Crisis.

Acknowledgements: The authors acknowledge financial support from the Italian Ministry of University and Research (MUR) under a FISR Grant. All authors are affiliated with the University of Naples Federico II and CSEF. We thank Nello Esposito for excellent research assistance.

* Università di Napoli Federico II and CSEF. E-mail: giovanni.immordino@unina.it

† Università di Napoli Federico II and CSEF. E-mail: tullio.jappelli@unina.it (*Corresponding author*)

‡ Università di Napoli Federico II and CSEF. E-mail: tommaso.oliviero@unina.it

Table of contents

1. Introduction

Following the deep, double-digit recession in 2020, the euro area economies, including Italy, recovered in 2021. In the first three quarters of 2021 Italy experienced a strong recovery, driven by increased household consumption. However, in the fourth quarter, GDP slowed with the rise in COVID cases making consumers more cautious. The Bank of Italy estimates that the economy grew by only half a percentage point in the quarter four of 2021, and in its recent (21 January 2022) Economic Bulletin states that "the growth in the number of Covid-19 cases and the subsequent worsening of expectations concerning the general state of the economy led to consumers being more cautious in their purchases".[1]

Although the decline in consumption in 2020 and the recovery in the first three quarters of 2021 were sharp, movements in disposable income have been milder due to the government support policies in place during the crisis. The propensity to save reflects these movements, rising sharply from an average of 8% in the pre-Covid period (2012-19) to almost 17% in the second quarter of 2020, and then declining to 11% in the third quarter of 2022.

During the crisis, questions arose about how income expectations, expectations about Covid-19 cases, and social distancing measures would affect consumption expectations. To investigate these issues, with the help of Doxa, a leading institute for opinion polls, market research and statistical analysis, we designed and administered an Income and Spending Expectations Covid-19 (ISEC) survey. The survey collected information on 3,000 Italian households, based on a questionnaire that asked about standard socioeconomic variables and expectations about consumption, income and health in the 12 months following the survey (which largely coincides with 2022).

[1] See https://www.bancaditalia.it/pubblicazioni/bollettino-economico/2022-1/en-boleco-1-2022.pdf?language_id=1

Our goal is to relate consumption plans for 2022 not just to mean income and health outcomes but to their distribution, therefore including measures of perceived idiosyncratic risk. ISEC asked for respondents' subjective expectations of the distribution of consumption and income growth one year ahead, distinguishing between disposable income and aggregate GDP growth. We also asked for respondents expectations about the probability of future lockdowns, vaccination rates and fear of infection from Covid-19. The survey also included questions related to standard socioeconomic variables such as respondent age, family size and composition, education and occupation status.

This project is related to two literature strands. In terms of topic, it contributes to recent work on the determinants of consumption expenditure during Covid-19, see for instance Baker et al. (2020) and Chetty et al. (2020). The organizing framework we use is the Euler equation for consumption which relates expected consumption growth to income expectations and considers income and health risks as sources of consumption risk .

In terms of methodology, we contribute to work that uses subjective expectations of income, employment, retirement income, retirement age, interest rates and other variables which now are widely used by macroeconomists. Manski (2004; 2017) provides an excellent discussion of the advantages of measures of expectations in macroeconomics. The European Central Bank's (ECB's) Consumer Expectations Survey (Georgarakos and Kenny, 2020) and the Federal Reserve Bank of New York's Survey of Consumer Expectations (Armantier et al., 2016) are leading examples of surveys designed to elicit some of these expectations.

The paper is organized as follows. Section 2 reviews consumption studies during the Covid-19 crisis. Section 3 outlines a standard intertemporal model as an organizing framework to estimate the effect of income and health expectations on expected consumption growth. Section 4 describes the data and how the way we obtained data on individual distributions of

expected growth rates for income and consumption. Section 5 reports the regression results and section 6 provides some robustness tests. Section 7 concludes.

2. Consumption during Covid-19

The Covid-19 crisis was accompanied by a large drop in consumption in both the US and Europe. Understanding the reasons for the extent of the consumption drop, its timing and its heterogeneity –across both different expenditure categories and different households – has been the focus of much recent research. Most studies rely on retrospective administrative data and do not measure consumer sentiment, income expectations or perceptions of exposure to Covid-19.

There are several possible explanations for the unusually large drop in consumption observed in 2020. First, there was the direct effect of the pandemic and the associated lockdown measures which prohibited several categories of consumption. The drop in consumption was especially large in sectors directly affected by social distancing measures such as accommodation, restaurants, tourism and transportation. Several studies document that the drop in consumption in the second quarter of 2020 was induced more by these measures than by labor market disruptions.[2]

Second, it is possible that the drop in consumption was due to concern about the risk of infection. Following the initial wave of the pandemic, although consumption was not prohibited, many people chose to reduce their shopping, travel and interactions with friends, relatives and colleagues due to fears about contracting the virus. While the lockdown effect can be regarded as producing a form of forced saving, the infection-concern effect is behavioral

[2] See Baker et al. (2020) and Cox et al. (2020) for the US, Chronopoulos et al. (2020), Hacioglu et al. (2020) and Dunn et al. (2020) for the UK, Andersen et al. (2020) for Denmark, Bounie et al. (2020) for France and Carvalho et al. (2020a, 2020b) for Portugal and Spain.

effect because it was not imposed by lockdown orders. Chetty et al. (2020) find support for this hypothesis by showing that in the US the contraction in spending was more marked for goods and services that required in-person contact. Eichenbaum et al (2022) show that the consumption impact of Covid is small when people know the true case-fatality rate but large when people have empirically-plausible pessimistic prior beliefs about the case-fatality rate. Goolsbee and Syverson (2021) use cell phone data and show that the individual choice to reduce expenditure was more important than the lockdown orders. In previous work, we found that in Italy the probabilities of consumption drops and increased saving during the pandemic were positively associated to fear of contagion, particularly while shopping (Immordino et al., 2022).

A third possible explanation for the drop in consumption is the precautionary saving effect derived from the uncertainty about the length of the health crisis and its potential economic effects on future income, employment prospects and government ability to sustain household budgets through welfare programs. Coibion et al. (2021) use a survey experiment in the ECB Consumer Expectations Survey (CES) and found that macroeconomic uncertainty caused a reduction in consumers' willingness to spend. Christelis et al. (2020) also use CES data and show that the consumption drop was largest among households more fearful that their financial positions would deteriorate due to COVID-19. Based on a series of qualitative surveys administered between June 2020 and November 2021, the Bank of Italy suggests that the consumption drop in Italy in 2020-21 and the associated high saving rate were the result of a combination of lockdown and social distancing measures, precautionary reasons and fear of contagion.[3]

All of these studies use retrospective survey or administrative data on consumption. Our approach differs in that we use survey data on consumption expectations in the 12 months

[3] See Rondinelli and Zanichelli (2021) for the latest survey, and Bank of Italy, Economic Bulletin, January 2021.

following the interview, and study how these expectations are affected by subjective expectations about disposable income, aggregate GDP, various sources of uncertainty and fear of contracting the COVID-19 virus. Therefore, our approach has the potential to identify the drivers of consumption expectations, and possible interventions that might affect them.

3. Organizing framework

Our organizing framework is the standard permanent income model with precautionary saving, reviewed in Jappelli and Pistaferri (2017, Chapter 6). With a constant interest rate r, the Euler equation for consumption states that the marginal utility of consumption of individual *i* in period *t* is proportional to the expected marginal utility, that is:

$$u'(c_{i,t}) = \frac{1+r}{1+\delta_{i,t}} E_{it} u'(c_{i,t+1}) \tag{1}$$

A second-order Taylor series expansion of $u'(c_{i,t+1})$ around $c_{i,t}$ delivers an expression for the expected growth rate of consumption $E_{it}(gc_{i,t+1})$:

$$E_{it}(gc_{i,t+1}) = \sigma(c_{i,t})\left(\frac{r-\delta_{i,t}}{1+r}\right) + \frac{1}{2}p(c_{i,t})E_{it}(gc_{i,t+1}^2) + W_{i,t} \tag{2}$$

We assume that the discount rate δ depends on demographic characteristics $X_{i,t}$. We then obtain a relation between expected consumption growth and expected consumption risk which can be expressed in a regression framework as:

$$E_{it}(gc_{i,t+1}) = \alpha + \beta E_{it}(gc_{i,t+1}^2) + \gamma' X_{i,t} + v_{i,t} \tag{3}$$

where *gc* is the consumption growth of individual *i*, and $v_{i,t}$ is an error term reflecting higher order terms of the approximation and measurement error.

Notice that the error term in equation (3) is not correlated with expected consumption risk. As in Christelis et al. (2020), the use of expectations implies that measurement error which

arises from differences between reported and actual expenditures is not relevant in our case since we do not make use of consumption realizations. Therefore, equation (3) can be estimated by exploiting cross-sectional variability in expectations about the individual consumption distributions.

Equation (3) does not assume that some households are myopic or liquidity constrained. Let's adopt a rule-of-thumb which refers to a situation where consumption equals income (or tracks income closely), and therefore expected consumption growth depends directly on expected income growth. The model is an interesting case because it approximates the behavior of consumers with short horizons, limited resources or hyperbolic discounting. Accordingly, we augment the regressions as:

$$E_{it}\left(gc_{i,t+1}\right) = \alpha + \beta E_{it}\left(gc_{i,t+1}^{2}\right) + \gamma' X_{i,t} + \lambda E_{it}\left(gy_{i,t+1}\right) + v_{i,t} \qquad (4)$$

where *gy* is the growth rate of disposable income. The parameter λ represents the extent to which expected consumption growth responds to income growth over and above the amount warranted by the permanent income model, that is, the excess sensitivity of consumption growth to expected income growth. One way to interpret this parameter is to posit that each household sets consumption equal to income with probability λ (perhaps because of binding liquidity constraints or myopia) and follows the permanent income model with probability (1-λ).

To make equation (4) operational we proxy consumption risk by three potential sources of underlying risks relevant in during the pandemic crisis: individual and aggregate income risk, probability of social distancing measures, and fear of infection. In the regressions, we distinguish also between individual and aggregate expected income growth. In each case, we maintain the hypothesis that these risks are unavoidable and exogenous which of course is debatable, at least in the case of individual income risk.

Our framework allows us to verify the main factors that potentially affect expected consumption growth: (i) an idiosyncratic component, captured by income risk and the risk of future social distancing measures, (ii) an aggregate component, captured by expectations about GDP growth, (iii) an excess sensitivity component, capturing the behavior of rule-of-thumb consumers whose consumption path is closely correlated to their income path.

4. The ISEC Survey

To study the determinants of the consumption expectations of Italian households during the COVID-19 crisis, we designed the ISEC. We commissioned Doxa, a leading Italian polling agency that is engaged in market research and social studies to administer the survey. The survey was aimed at eliciting information on expected consumption in 2022, distinguishing between total household consumption, food consumption at home, food consumption away from home and online purchases. We also asked about income expectations both individual and aggregate, that is, GDP growth rate, and pandemic-related perceptions such as individual fear of contagion during economic activities and probability of future lockdowns.

The ISEC survey was administered to a representative sample of the Italian resident population aged between 18 and 75 and included 3,016 households. The sampling scheme is similar to that employed by the Bank of Italy Survey of Household Income and Wealth (SHIW) which is a representative survey of the Italian population. In ISEC the Italian resident population is stratified according to three criteria: geographic area of residence (North-East, North-West, Central, South), age group (18-34, 35-44, 45-54, 55-64, over 65) and gender. The survey was administered in the two weeks between 20 November and 5 December 2021 which were the weeks immediately before the fourth wave of the pandemic.[4]

[4] The ISEC sample is drawn from a larger representative sample of 120,000 individuals maintained and updated regularly by Doxa. All the interviews were enabled by a Computer Assisted Web Interviewing (CAWI) method.

Table 1 presents the ISEC survey demographic and occupational characteristics alongside those of the 2016 SHIW, the most recent release of the Bank of Italy survey. The comparison highlights similarities between the two surveys but also and features that are specific to ISEC. By construction, the gender, age and geographic distributions of the two samples are almost identical. Also, the two samples include similar shares of retired and unemployed individuals, and average family size. However, in the ISEC sample, education levels are higher: the proportion of respondents with tertiary education is 26% in ISEC compared to 15% in the SHIW, and the proportion of individuals with secondary education is 55% in ISEC and 43% in the SHIW. The oversampling of individuals with higher education is common in surveys conducted using CAWI methods because more highly educated respondents are more likely to have internet access and therefore are more likely to respond to an online questionnaire. See the Appendix B for a detailed description of ISEC, the questionnaire and descriptive analysis of the responses.

To measure expected consumption growth we asked respondents to assign probability weights to each of the following seven scenarios regarding household consumption growth in the 12 months following the survey relative to the previous 12 months:[5] (i) decrease by more than 10%; (ii) decrease by between 5% and 10%; (iii) decrease by between 0% and 5%; (iv) approximately the same; (v) increase by between 0% and 5%; (vi) increase by between 5% and 10%; (vii) increase by more than 10%. We required the sum of the probabilities to equal 1. Using this information, for each individual we calculated the expected rate of consumption growth, the second moment and the standard deviation of the consumption distributions.

The overall response rate was 71.2%, with low unit non-response for all questions. The questionnaire was constructed in October 2021 by the paper's authors with the help of field experts. A pilot survey of 100 interviews was conducted in the last week of October 2021, and the questionnaire was revised in early November 2021.

[5] Since the survey was in conducted at the end of November 2021, expectations refer mostly to 2022.

Figure 1 displays the distribution of the expected growth rate of total consumption, food consumption at home, away from home and online purchases. All four distributions behave similarly. The histogram of total consumption shows a mass around 0% consumption growth: 24% of respondents expected consumption to be "approximately the same" as in the previous 12 months. However, there also is considerable heterogeneity in expectations: 18% are pessimistic (expect negative consumption growth), while 58% are optimistic (expect positive growth). Among the latter group, 12% expect consumption growth higher than 0.05. The average standard deviation of the individual distributions is 0.033, again with considerable heterogeneity: 27% report point expectations, while for 20% of the sample the standard deviation exceeds 0.06 and for 5% it exceeds 0.083.[6] Table 2 presents the summary statistics and shows that the only consumption component with average expected negative growth rate is consumption away from home.[7]

Using the same format as the questions about consumption expectations, we computed the expected growth rate of disposable income in the 12 months following the survey. On average, respondents expect negative income growth (-1.3%), again with considerable heterogeneity.[8] In particular, 24% expect no income change, 30% expect positive income growth and 46% expect their income to drop. The average standard deviation of the individual distributions is close to the same statistic for the expected consumption growth distribution (0.032), with 26% of respondents reporting point expectations (no income variability). For 20% of the sample the standard deviation exceeds 0.04, and for 5% it exceeds 0.08.

[6] Notice that in the text we report the average standard deviation of the individual distributions of consumption growth but table 2 reports the standard deviation of the distribution of average expected consumption growth.
[7] Notice that in table 2 sample statistics are computed for our regression estimation sample, while table 1 reports the summary statistics for the entire initial sample of all observations.
[8] These statistics are broadly comparable to the Bank of Italy survey administered in November 2021 which elicited qualitative indicators of consumption and income expectations (Rondinelli and Zanichelli, 2021).

The ISEC survey also asked about individual macroeconomic forecasts of GDP growth rate in 2022. Table 2 shows that average expected GDP growth is 2%. The majority of respondents (76%) expected positive GDP growth, and 20% expected growth to be higher than 4%. These aggregate forecasts are lower than the November 2021 forecasts from the Italian government, the Bank of Italy and international organizations for 2022 (all above 4%). However, they are considerably higher than the forecasts of individual disposable income growth which suggests that respondents are more optimistic about the income of others relative to their own income.

Figure 2 plots the four expected consumption growth indicators against the expected disposable income growth (taking averages within each distribution bin). Consumption and income expectations are well aligned, and the slopes are positive in all cases. The correlations are much less than 1 however, and lower in magnitude for food consumption at home and online purchases. Indeed, the slope of the bivariate regression of expected consumption growth on income growth ranges from 0.21 for food consumption at home to 0.47 for food consumption away from home.

Figure 3 plots the same consumption growth indicators against the expected GDP growth. Again in this case the correlations are all positive but lower than for disposable income growth, particularly for food consumption at home. The slope ranges from 0.06 for food consumption at home to 0.27 for consumption away from home. Taken together, figures 2 and 3 suggest that expectations about individual and aggregate income are potentially important drivers of consumption expectations.

One of the objectives of the paper is to explore whether uncertainty affects expected consumption growth, as predicted by models with precautionary saving. We consider income and pandemic-related uncertainties as the two main sources of risk in November 2021. We

measure individual income risk by the second moment of the distribution of expected income growth, as described above.

In the case of pandemic-related risk, we focus on two variables: fear of contagion and probability of future lockdowns. Both depending on their intensity, could potentially limit work and consumption activities. For fear of contagion, we elicit individual perceptions of fear of Covid-19 by asking about the perceived risks associated with three economic and social activities: (i) working, (ii) shopping, eating out or traveling, (iii) contact with relatives or friends. Each of these variables is coded from 1 (not worried), to 10 (extremely worried). We then computed the average of the three variables, normalized it to 1 and labeled it "Average Fear".

Figure 4 plots the distribution of the three indicators of fear, and of their average. The distribution of fear while shopping is mostly between 6 and 8, while fear of contacts it is between 5 and 7. The distribution of fear related to work also peaks between 6 and 8, while 19.6% report "no fear" (half of these are unemployed or retired). The mean of the normalized measure of "Average fear" is 0.58.

The ISEC survey also asked about the probability of future restrictions on social and economic activities such as another lockdown like the one implemented in March and April 2020 or partial lockdowns imposing different constraints.[9] We asked respondents to rate their expectations on a scale from 1 (extremely unlikely) to 10 (extremely likely). The average for lockdown probability is 0.58 with over 75% of respondents reporting a probability greater than or equal to 50%.

[9] On November 4th, 2021, the Italian government implemented lockdown measures based on different strictness of social distancing measures, and designated regions as "red," "orange," "yellow" or "white" depending on the number of their COVID-19 cases, forecasts of the spread of the infection and available intensive care beds.

Table 1 reports summary statistics for the socioeconomic variables in ISEC for the initial total sample (3,016 observations, column 1) and the estimation sample (2,385 observations, column 2), and compares them to the SHIW 2016 results (column 3).[10]

If we compare columns (1) and (3), we observe no appreciable differences between the two surveys for the gender and regional variables. ISEC includes a larger proportion of respondents aged 55 to 64 (6 percentage points higher), and a correspondingly lower proportion of respondents aged over 65 (4 points lower). These age differences reflect the lower proportion of retired individuals. ISEC includes a larger proportion of respondents with secondary or university education. Comparison between columns (1) and (2) shows that there are slightly higher proportions of males and younger respondents in the estimation sample.

Table 2 presents the summary statistics for the main variables that we use in the regression analysis. In the ISEC estimation sample, 10.4% of respondents are self-employed, 13% are unemployed and 11.6% are retired. Average monthly disposable income is 2,375 euros (median 1,750 euros). Comparison with SHIW 2016 figures shows that weighted average disposable income is lower (1,429 euros, with a median value of 1,391 euros). Taken together, these numbers suggests that ISEC includes a slightly higher proportion of working age respondents (18-64), with slightly higher disposable income. However, overall the two samples are aligned across many dimensions.

[10] The estimation sample excludes observations with missing values. Three variables -- expected GDP growth, probability of lockdown and average fear of contagion -- have missing values. As a robustness check, we replicated the regressions imputing missing values for these three variables (see Section 6).

5. Regression results

Table 3 reports the regression results for expected total consumption growth in the 12 months following the interview (largely coinciding with 2022). The right-hand-side variables in column 1 include only expected growth rate of disposable income, expected GDP growth, second moment of the distribution of expected income growth (our proxy for income risk), probability of lockdown and average fear of contagion.

The results show that respondents' expectations about disposable income are the most important drivers of expected consumption growth. The coefficient is quite precisely estimated, showing that a 1 percentage point increase in expected disposable income growth is associated with 0.33 percentage points higher expected consumption growth. This result could be interpreted as each household setting its consumption growth equal to its expected income growth with a 0.3 probability; alternatively, that about one third of households are hand-to-mouth or HTM households whose expected consumption path is closely aligned to their income path. The results also suggest significant sensitivity of expected consumption growth with respect to aggregate GDP growth. The estimated coefficient suggests that a 1 percentage point increase in GDP growth is associated with 0.15 percentage points of expected consumption growth. In this specification, the coefficients of income risk, probability of lockdown and average fear are small and not statistically different from zero.

Table 3 column (2) extends the baseline specification by including the demographic variables (age, gender, family size, education, employment and regional dummies) and the log of disposable income in 2021. The estimated coefficients of expected disposable income growth and aggregate GDP growth rate are not affected. The coefficient of log income is positive and significant, and unemployed individuals relative to other individuals expect lower consumption growth (coefficient is -0.6%). The other coefficients are not statistically different from zero.

In columns (3) and (4) the sample is split into two groups. Column (3) includes only households with current income strictly below the median (1,750 euros); in column (4) the sample includes individuals whose income is equal to or above the median. The sensitivity of expected total consumption growth to expected GDP growth does not differ between the two groups. However, the coefficient of expected disposable income growth is almost twice as large for the low-income group (0.447 vs. 0.242). Since both coefficients are precisely estimated, they are also statistically different from each other. Furthermore, the coefficient of income risk is positive and statistically different from zero only for the high-income group. These findings are broadly in line with the hypothesis that liquidity constraints and/or myopic behavior are more prevalent in the low-income group, and that precautionary saving considerations are more important among high-income households.

Tables 4, 5 and 6 report similar regressions for expected food consumption growth at home, away from home and online. In the regressions for consumption growth at home (table 4) the coefficient of expected income growth is lower (0.22) than the coefficient of total consumption and is not statistically different between low and high-income households. Also, expected GDP growth does not predict expected consumption at home. These results suggest that the basket of goods consumed in the home which includes mostly necessity goods, is less sensitive to individual and aggregate expected income growth.

The regressions for expected consumption away from home (table 5) are aligned to total consumption (table 3). The coefficient of expected income growth is 0.44, and is larger for the low-income group (0.56) relative to the high-income group (0.35). The coefficient of expected GDP growth is in the 0.1-0.2 range, and is statistically different from zero in the total and the high-income samples. In contrast to the results in table 3, the probability of lockdown is negatively associated with expected consumption growth: going from the lowest to the highest

reported lockdown probabilities, reduces expected consumption growth by 1 percentage point which could be expected given that lockdowns reduce social interactions, recreational activities, shopping and restaurant visits. Table 6 uses expected growth in online purchases as the dependent variable. Again, the results are in line with our findings for total consumption, possibly because purchasing online has recently become a standard activity for many Italian households**.**

6. Robustness checks

In this section we report various exercises to check the reliability of our sample (to the presence of heaping and missing values) and the robustness of our specification.

The literature on subjective expectations refers repeatedly to individual answers tending to heap around certain values. This might be the result of rounding which could complicate the analysis because the rounding might be done at different levels; some rounding might be done at multiples of 10 or 5, others might focus on extreme values such as 0, 50 and 100.[11] To investigate the degree of heaping, figures A1 and A2 (Appendix A) provide histograms of the probabilities assigned to expected total consumption and income growth intervals in the seven intervals specified in the questionnaire.

We observe that the probabilities vary with the income and consumption intervals (generally lower for intervals that include more extreme values for consumption and income growth) but are not clustered around the same values. We observe no indication of the prevalence of "50% responses" in any of the intervals.

[11] A related issue is that values such as 50 might reflect a form of ignorance or be interpreted as a symptom of respondent uncertainty (Bruine de Bruin et al. 2002). Giustinelli et al. (2018) show that rounding and heaping are associated with observable respondent characteristics such as personal finances, health and macroeconomic events.

To check this in more detail, we examined whether rounding was correlated to household characteristics. In line with Manski and Molinari (2010), we noticed that people tend to report probabilities in multiples of 5 and 10 (M5 and M10), and estimated probit regressions for the probability of reporting these values. Tables A1 and A2 (Appendix A) report the regressions for M10 for expected income and consumption growth; the regressions for M5 are similar. With the exception of the central interval of expected income and consumption growth (young males tend to round less), there is no systematic evidence of significant rounding according to age, gender, income or education.

Item non-responses are another potential threat to the reliability of our estimates. Three variables included in the estimations contain a significant number of non-responses. We note that if we drop expected GDP growth, average fear and probability of lockdown first the results for the other variables are largely unaffected (Appendix A, table A3). We imputed missing values for these three variables using a multiple imputation method with five replicates, based on the same set of regressors as in the baseline regression. Table A4 (Appendix A) reports the results for our baseline specification using these imputed values for the full sample of 3,016 observations; they confirm the initial results.

We also need to check the stability of our baseline specification. Using the whole sample and interacting expected income growth and expected GDP growth with an income dummy provides an alternative way to test for differences in expected income growth responses between low and high-income households. The regressions for the four definitions of expected consumption growth are reported in table A5 (Appendix A). They confirm the results reported in section 5.

Fear of contagion is higher on average, in Southern Italy although during the first wave of the epidemic, Northern Italy had a higher number of COVID-19 cases. Initially lockdown

measures were uniform across all Italian regions; from November 2020 they different by region depending on the prevalence of Covid-19 cases. Therefore, our Covid-related regressors might be correlated with regional effects. Also, omitted regional effects might be correlated with expected income growth. The regressions table A6 (Appendix A) include regional fixed effects. Again, our initial results are confirmed.[12]

7. Summary

We analyzed the determinants of expected consumption growth in a sample of over 3,000 Italian households interviewed in November 2021 immediately before the fourth wave of the Covid-19 pandemic. Our survey elicited individual distributions for expected consumption growth (total, food at home, away from home, online purchases), expected income growth (individual and aggregate) and pandemic-related variables (probability of lockdown, fear of contagion).

We employed a standard intertemporal consumption model as our organizing framework and showed that expected household income and aggregate GDP growth are associated strongly with expected consumption growth. An intuitive interpretation of this result is that for around a third of households, consumption tracks income closely, and that around half of the households in the relatively low-income groups are more likely to be credit constrained or have short horizons. We provide evidence also that consumption growth is positively associated with expected income risk, particularly for individuals with relatively high incomes and as predicted by models with precautionary saving. The probability of lockdown is associated negatively to expected growth of consumption away from home. This contrasts with our findings for the first

[12] As a final check, we control for possible non-linear effects of income by replacing log income with 15 income-group dummies; again, the estimates are unchanged (results available upon request).

wave of the pandemic in Italy (Immordino et al, 2021) and shows that fear of contagion is currently not one of the main drivers of consumption, due possibly to successful vaccination campaigns which at the time of our survey had achieved 80% vaccination coverage of the population.

Our results suggest that overall before the fourth wave of the pandemic (November 2021), concern over prospective income growth (individual and aggregate) had a major influence on consumption expectations. Changing these expectations through the introduction of appropriate policy instruments will be key to a sustained recovery but will be difficult in the context of current geo-political events which are already causing reduced expectations about income in 2022.

References

Andersen, Asger, Emil Toft Hansen, Niels Johannesen, Adam Sheridan (2020), "Consumer Responses to the COVID-19 Crisis: Evidence from Bank Account Transaction Data," *Covid Economics* 7, 88-114.

Armantier, Olivier, Giorgio Topa, Wilbert van der Klaauw, Basit Zafar (2016), "An Overview of the Survey of Consumer Expectations," Federal Reserve Bank of New York Staff Reports No. 800.

Baker, Scott, Robert Farrokhnia, Steffen Meyer, Michaela Pagel, Constantine Yannelis, (2020), "How Does Household Spending Respond to an Epidemic? Consumption During the 2020 COVID-19 Pandemic," *The Review of Asset Pricing Studies* 10(4), 834 - 862.

Bounie, David, Youssouf Camara, John W. Galbraith (2020), "Consumers' Mobility, Expenditure and Online-Offline Substitution Response to COVID-19: Evidence from French Transaction Data," CIRANO Working Paper No. 2020-28

Bruine de Bruin, Wandi, Paul S. Fischbeck, Neil A. Stiber, and Baruch Fischhoff (2002), "What Number is "Fifty-Fifty"? Redistributing Excessive 50% Responses in Elicited Probabilities," *Risk Analysis: An International Journal* 22, 713-23.

Carvalho, Bruno P., Susana Peralta, Joao Pereira (2020a), "What and How did People Buy during the Great Lockdown? Evidence from Electronic Payments," *Covid Economics* 28, 119-158.

Carvalho, Vasco, M., Stephen Hansen, Álvaro Ortiz, Juan Ramón García, Tomasa Rodrigo, Sevi Rodríguez Mora, José Ruiz (2020b), "Tracking the COVID-19 Crisis with High Resolution Transaction Data," CEPR Discussion Paper No. 14642.

Chetty, Raj, John N. Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team (2020), "How did COVID-19 and Stabilization Policies Affect Spending and Employment? A New Real-time Economic Tracker Based on Private Sector Data," NBER Working Paper No. 27431.

Christelis, Dimitris, Dimitris Georgarakos, Tullio Jappelli, Maarten van Rooij (2020), "Consumption Uncertainty and Precautionary Saving," *The Review of Economics and Statistics* 102, 148-161.

Chronopoulos, Dimitris K., Marcel Lukas and John O.S. Wilson (2020), "Consumer spending responses to the Covid-19 pandemic: An assessment of Great Britain," *Covid Economics* 34, 145-186.

Coibion, Olivier, Yuriy Gorodnichenko, and Michael Weber (2020), "How Did U.S. Consumers Use Their Stimulus Payments?" NBER Working Paper 27693.

Cox, Natalie, Peter Ganong, Pascal Noel, Joseph Vavra, Arlene Wong, Diana Farrell, and Fiona Greig (2020), "Initial Impacts of the Pandemic on Consumer Behavior: Evidence from Linked Income, Spending, and Savings Data," Brookings Papers on Economic Activity, forthcoming.

Dunn, Abe, Kyle Hood, Alexander Driessen (2020), "Measuring the Effects of the COVID-19 Pandemic on Consumer Spending using Card Transaction Data," Bureau of Economic Analysis Working Paper No. 2020-5.

Eichenbaum, Martin S., Miguel Godinho de Matos, Francisco Lima, Sergio Rebelo, Mathisa Trabandt (2022), "Expectations, Infections, and Economic Activity," NBER Working Paper No. 27988.

Georgarakos, D. and G. Kenny (2020), "Euro Area Household Sector Adjustment during the Global Pandemic: Insights from a New Consumer Survey," European Central Bank.

Giustinelli, Pamela, Charles F. Manski, and Francesca Molinari (2018), "Tail and Center Rounding of Probabilistic Expectations in the Health and Retirement Study," NBER Working Paper No. 24559.

Goolsbee Austan, Chad Syverson (2021), "Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline," Journal of Public Economics, vol. 193, 104311

Hacioglu, Sinem, Diego Känzig, Paolo Surico (2020), "Consumption in the Time of Covid-19: Evidence from UK Transaction Data," CEPR Discussion Paper 14733.

Immordino, Giovanni, Tullio Jappelli, Tommaso Oliviero, Alberto Zazzaro (2022), Fear of COVID-19 Contagion and Consumption: Evidence from a Survey of Italian Households," *Health Economics* 31, 496-507.

Jappelli, Tullio, Luigi Pistaferri (2017), *The Economics of Consumption: Theory and Evidence.* Oxford: Oxford University Press.

Manski, Charles. F. (2004), "Measuring Expectations," *Econometrica* 72, 1329-1376.

Manski, Charles F. (2017), "Survey of Measurement of Probabilistic Macroeconomic Expectations: Progress and Promise," NBER Macroeconomics Annual 2017, vol. 32, Martin Eichenbaum and Jonathan A. Parker (eds.), 411–471. Chicago, IL: University of Chicago Press.

Manski, Charles. F., and Francesca Molinari (2010), "Rounding Probabilistic Expectations in Surveys", *Journal of Business and Economic Statistics* 28, 219–231.

Rondinelli, Concetta, Francesca Zanichelli (2021), "Principali risultati della quinta edizione dell'indagine straordinaria sulle famiglie italiane, Banca d'Italia," Note Covid-19, https://www.bancaditalia.it/pubblicazioni/note-covid-19/2021/Nota_Covid_ISF6.pdf

Figure 1. The distribution of expected consumption growth

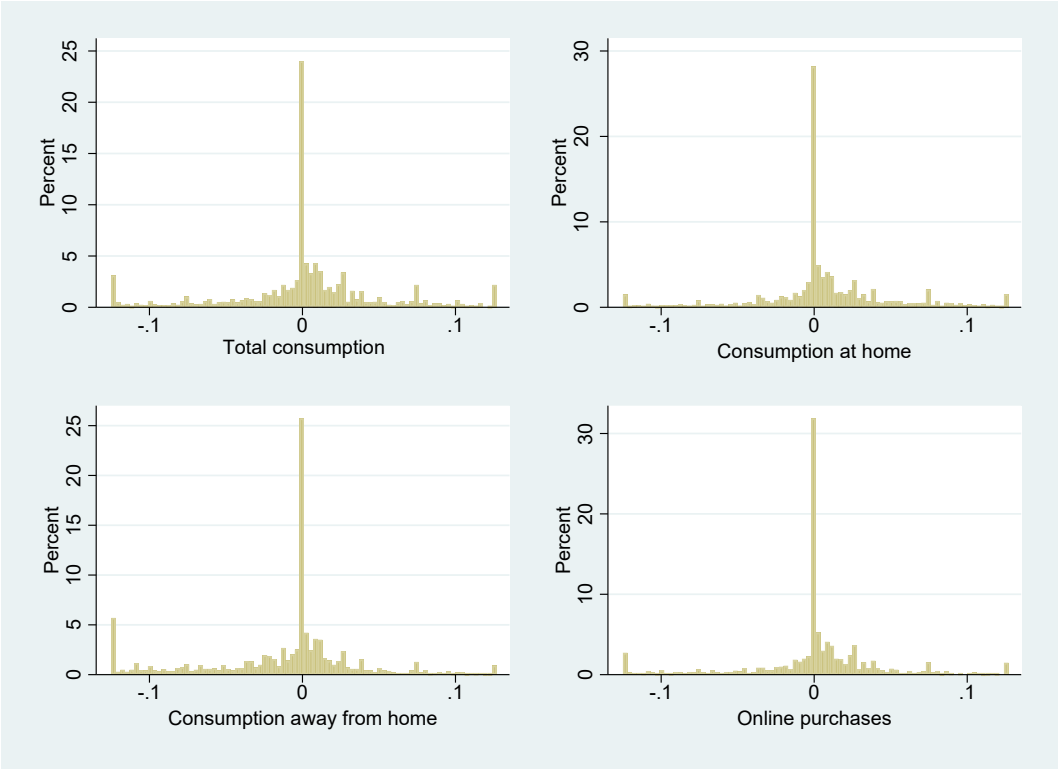

Figure 2. Expected consumption growth and expected income growth

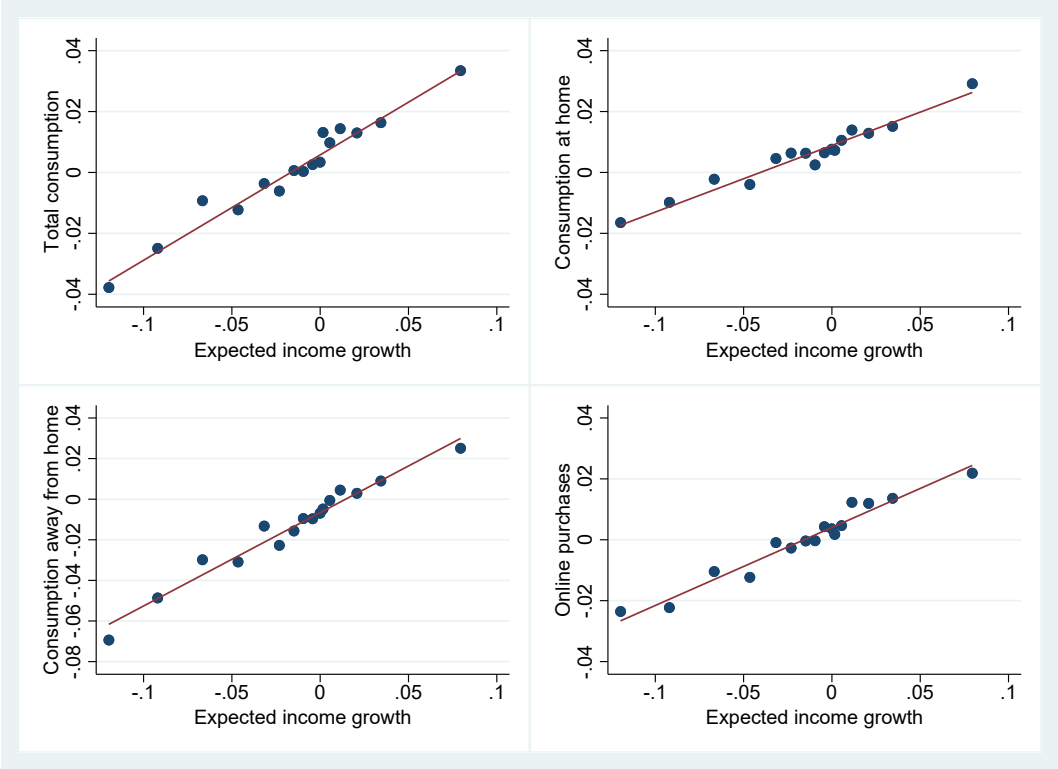

Figure 3. Expected consumption growth and expected GDP growth

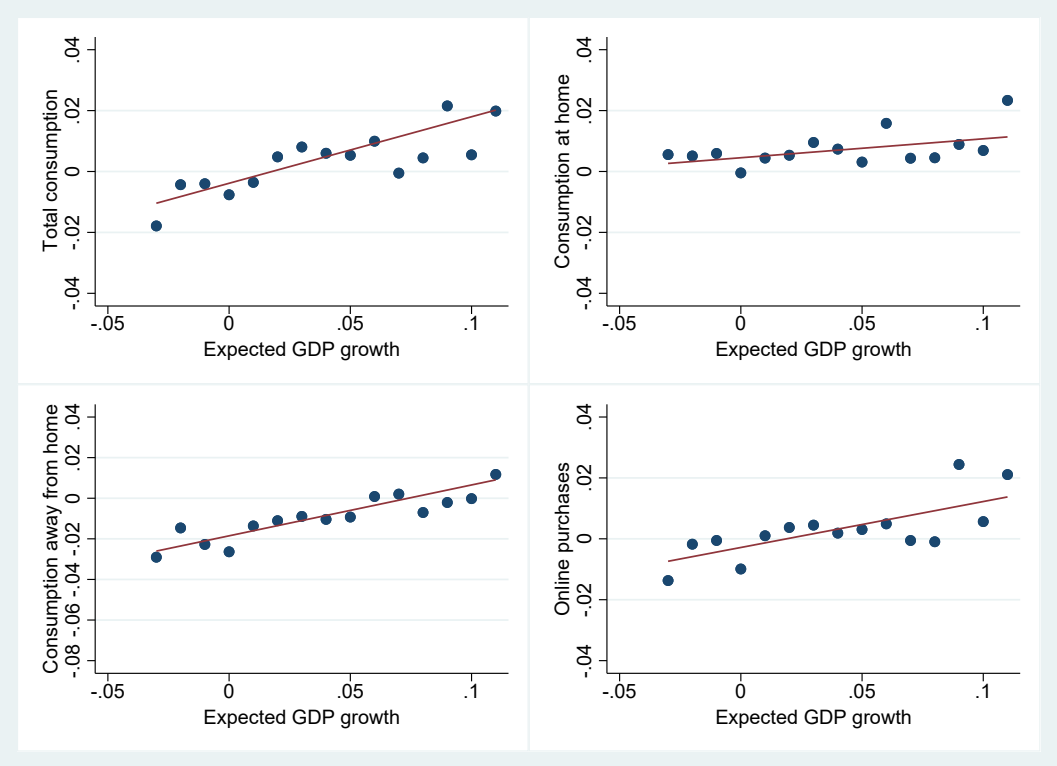

Figure 4. The distribution of Covid-fear

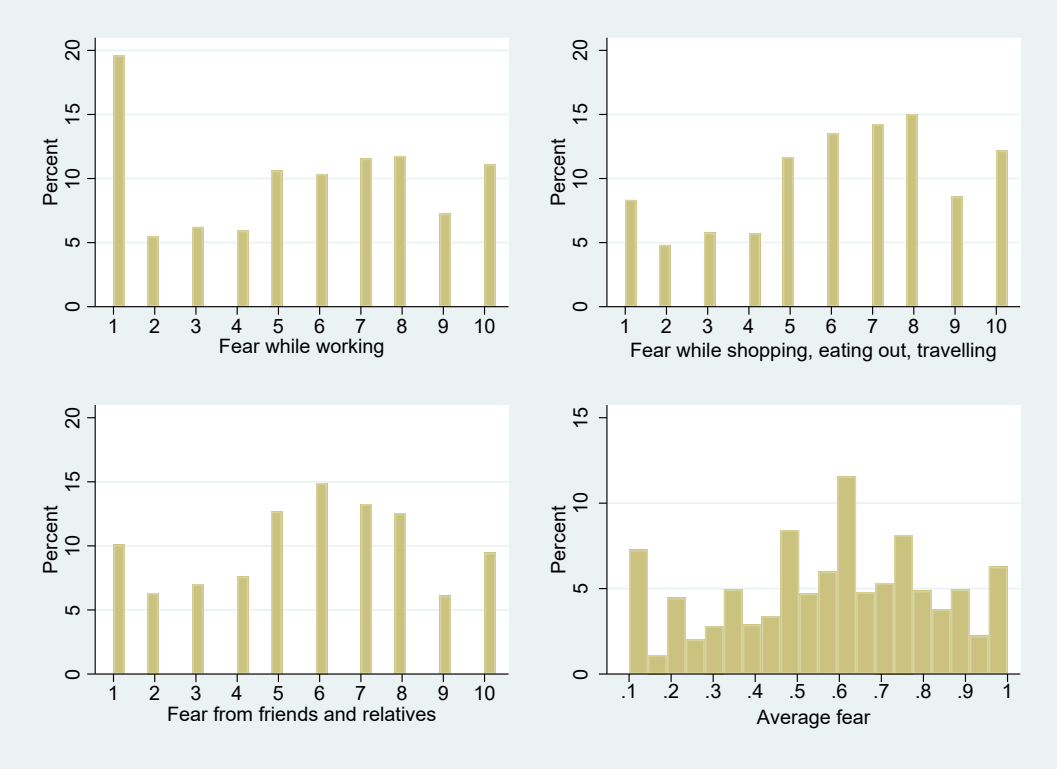

Table 1. ISEC-SHIW comparison

	ISEC Total sample	ISEC Estimation sample	SHIW
Male	0.49	0.53	0.49
Female	0.51	0.47	0.51
Age			
18-34	0.24	0.26	0.24
35-44	0.17	0.13	0.19
45-54	0.23	0.21	0.22
55-64	0.24	0.22	0.18
65-over	0.12	0.12	0.16
Education			
Primary education	0.19	0.17	0.42
Secondary education	0.55	0.56	0.43
Tertiary education	0.26	0.27	0.15
Sector of activity			
Retired	0.13	0.12	0.15
Not employed	0.14	0.13	0.11
Household size			
1 member	0.09	0.08	0.14
2 members	0.28	0.27	0.24
3 members	0.30	0.31	0.25
4 members	0.26	0.26	0.26
5 or more members	0.07	0.07	0.12
Geographical Area			
North	0.46	0.46	0.45
Centre	0.20	0.20	0.19
South and Islands	0.34	0.34	0.35
Observations	3,016	2,385	12,116

Note: The table compares sample means of selected demographic variables in the ISEC (2021) and SHIW (2016). In the SHIW we extract household heads in the 18-75 range. Sample means are computed using sample weights. The group “Not employed” includes the unemployed and those searching for a first job.

Table 2. Descriptive statistics

	Mean	Median	Std. Dev.
Expected total consumption growth	.001	0	0.049
Expected growth of food consumption at home	.006	0	0.043
Expected growth of food consumption away from home	-.012	0	0.050
Expected growth of online purchases	.001	0	0.043
Expected disposable income growth	-.013	0	0.043
Expected GDP growth	.023	.02	0.029
Income risk	.004	.003	0.004
Probability of lockdown	.584	.6	0.247
Average fear	.576	.6	0.245
Age	46.805	48	14.118
Male	.531	1	0.499
Family size	2.995	3	1.106
College	.272	0	0.445
Self-employed	.104	0	0.305
Unemployed	.13	0	0.337
Retired	.116	0	0.320
Not working	.177	0	0.382
South	.34	0	0.474
Centre	.202	0	0.401
Income (euros)	2,375.89	1,750.00	2,248.10

Note. Summary statistics refer to the ISEC sample used in the regression analysis (total number of observations is 2,385).

Table 3. Regressions for total consumption

	Baseline	With demographics	Low income	High income
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.329	0.326	0.447	0.242
	(0.030)***	(0.030)***	(0.054)***	(0.038)***
Expected GDP growth	0.145	0.125	0.112	0.127
	(0.035)***	(0.036)***	(0.064)*	(0.043)***
Income risk	0.074	0.216	-0.042	0.666
	(0.280)	(0.285)	(0.510)	(0.348)*
Prob. of lockdown	0.001	0.001	0.009	-0.003
	(0.004)	(0.004)	(0.009)	(0.005)
Average fear	-0.005	-0.005	-0.006	-0.003
	(0.004)	(0.005)	(0.009)	(0.005)
Age		0.000	-0.000	0.000
		(0.000)	(0.000)	(0.000)
Male		-0.000	-0.005	0.001
		(0.002)	(0.004)	(0.002)
Family size		-0.000	0.001	-0.002
		(0.001)	(0.002)	(0.001)
College		0.003	0.000	0.004
		(0.002)	(0.005)	(0.003)*
Self-employed		-0.005	-0.009	-0.002
		(0.003)	(0.006)	(0.004)
Unemployed		-0.006	-0.005	-0.004
		(0.003)*	(0.006)	(0.004)
Retired		0.002	0.011	-0.002
		(0.004)	(0.008)	(0.004)
Not working		-0.003	0.001	-0.005
		(0.003)	(0.005)	(0.003)
South		0.001	0.004	-0.001
		(0.002)	(0.004)	(0.003)
Centre		-0.001	0.006	-0.004
		(0.003)	(0.006)	(0.003)
Log income		0.006	0.004	0.004
		(0.002)***	(0.008)	(0.002)
Constant	0.004	-0.043	-0.024	-0.022
	(0.003)	(0.015)***	(0.054)	(0.020)
R^2	0.10	0.11	0.17	0.07
N	2,385	2,385	788	1,597

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table 4. Regressions for food consumption at home

	Baseline	With demographics	Low income	High income
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.222	0.223	0.273	0.189
	(0.030)***	(0.030)***	(0.054)***	(0.037)***
Expected GDP growth	0.020	0.014	-0.012	0.028
	(0.032)	(0.032)	(0.058)	(0.038)
Income risk	0.099	0.243	0.261	0.355
	(0.277)	(0.280)	(0.518)	(0.334)
Prob. of lockdown	-0.002	-0.002	-0.005	-0.001
	(0.004)	(0.004)	(0.008)	(0.004)
Average fear	-0.003	-0.001	-0.001	-0.001
	(0.004)	(0.004)	(0.008)	(0.005)
Age		-0.000	0.000	-0.000
		(0.000)	(0.000)	(0.000)
Male		-0.002	-0.003	-0.002
		(0.002)	(0.004)	(0.002)
Family size		0.001	0.003	-0.000
		(0.001)	(0.002)*	(0.001)
College		-0.003	-0.001	-0.004
		(0.002)	(0.005)	(0.002)*
Self-employed		-0.005	-0.010	-0.001
		(0.003)	(0.006)	(0.003)
Unemployed		-0.008	-0.008	-0.008
		(0.003)***	(0.005)	(0.003)**
Retired		0.004	0.009	0.002
		(0.003)	(0.007)	(0.003)
Not working		-0.003	-0.001	-0.004
		(0.002)	(0.005)	(0.003)
South		-0.003	-0.006	-0.002
		(0.002)	(0.004)	(0.002)
Centre		-0.002	-0.008	0.000
		(0.002)	(0.005)	(0.003)
Log income		0.003	0.002	0.002
		(0.002)*	(0.007)	(0.002)
Constant	0.011	-0.012	-0.008	0.004
	(0.003)***	(0.014)	(0.051)	(0.018)
R^2	0.05	0.06	0.08	0.04
N	2,385	2,385	788	1,597

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table 5. Regressions for food consumption away from home

	Baseline	With demographics	Low income	High income
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.445	0.428	0.559	0.352
	(0.030)***	(0.030)***	(0.049)***	(0.038)***
Expected GDP growth	0.145	0.143	0.072	0.174
	(0.034)***	(0.035)***	(0.061)	(0.043)***
Income risk	0.164	0.181	0.910	0.022
	(0.280)	(0.285)	(0.480)*	(0.356)
Prob. of lockdown	-0.009	-0.008	-0.009	-0.006
	(0.004)**	(0.004)*	(0.008)	(0.005)
Average fear	0.001	-0.001	0.001	0.000
	(0.004)	(0.005)	(0.008)	(0.006)
Age		-0.000	-0.001	-0.000
		(0.000)**	(0.000)***	(0.000)
Male		0.002	0.002	0.000
		(0.002)	(0.004)	(0.002)
Family size		-0.000	-0.000	-0.001
		(0.001)	(0.002)	(0.001)
College		0.002	-0.000	0.003
		(0.002)	(0.005)	(0.002)
Self-employed		-0.005	-0.013	-0.000
		(0.003)	(0.006)**	(0.004)
Unemployed		-0.011	-0.013	-0.007
		(0.003)***	(0.005)***	(0.004)*
Retired		-0.005	-0.004	-0.006
		(0.004)	(0.008)	(0.004)
Not working		-0.003	-0.003	-0.004
		(0.003)	(0.005)	(0.003)
South		-0.003	-0.002	-0.003
		(0.002)	(0.004)	(0.003)
Centre		-0.003	-0.001	-0.005
		(0.003)	(0.005)	(0.003)*
Log income		0.006	-0.003	0.003
		(0.002)***	(0.007)	(0.003)
Constant	-0.006	-0.035	0.043	-0.025
	(0.003)**	(0.015)**	(0.050)	(0.022)
R^2	0.16	0.17	0.24	0.12
N	2,385	2,385	788	1,597

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table 6. Regressions for online purchases

	Baseline	With demographics	Low income	High income
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.257	0.245	0.339	0.186
	(0.028)***	(0.028)***	(0.049)***	(0.035)***
Expected GDP growth	0.099	0.093	0.070	0.104
	(0.031)***	(0.032)***	(0.055)	(0.038)***
Income risk	0.252	0.323	0.515	0.383
	(0.262)	(0.264)	(0.481)	(0.312)
Prob. of lockdown	0.003	0.003	0.007	0.001
	(0.004)	(0.004)	(0.008)	(0.005)
Average fear	0.000	0.000	-0.001	0.001
	(0.004)	(0.004)	(0.008)	(0.005)
Age		-0.000	-0.000	-0.000
		(0.000)***	(0.000)***	(0.000)*
Male		0.000	0.001	-0.001
		(0.002)	(0.004)	(0.002)
Family size		-0.000	-0.002	0.000
		(0.001)	(0.001)	(0.001)
College		-0.000	-0.001	0.000
		(0.002)	(0.004)	(0.002)
Self-employed		-0.005	-0.006	-0.004
		(0.003)	(0.006)	(0.003)
Unemployed		-0.009	-0.010	-0.005
		(0.003)***	(0.005)**	(0.003)
Retired		0.004	0.006	0.002
		(0.003)	(0.007)	(0.003)
Not working		-0.001	0.006	-0.004
		(0.002)	(0.005)	(0.003)
South		-0.002	-0.002	-0.001
		(0.002)	(0.004)	(0.002)
Centre		-0.002	0.003	-0.005
		(0.002)	(0.005)	(0.003)*
Log income		0.005	0.012	0.003
		(0.002)***	(0.007)*	(0.002)
Constant	-0.001	-0.025	-0.060	-0.014
	(0.003)	(0.013)**	(0.048)	(0.018)
R^2	0.07	0.09	0.13	0.05
N	2,385	2,385	788	1,597

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

APPENDIX A

ADDITIONAL FIGURES AND REGRESSIONS

Figure A1. Probability of consumption growth

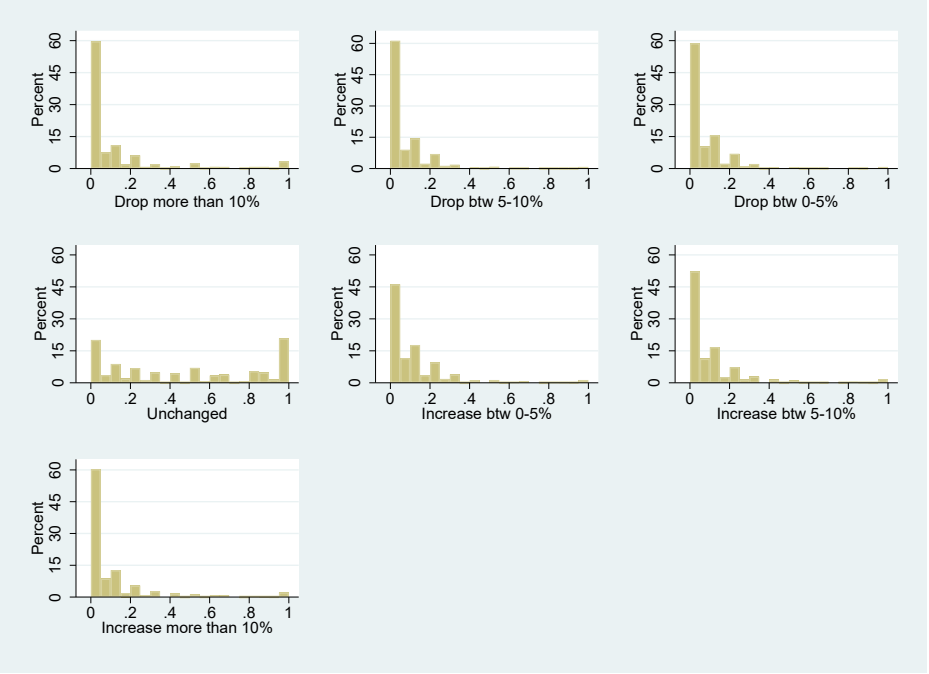

Figure A2. Probability of expected income growth

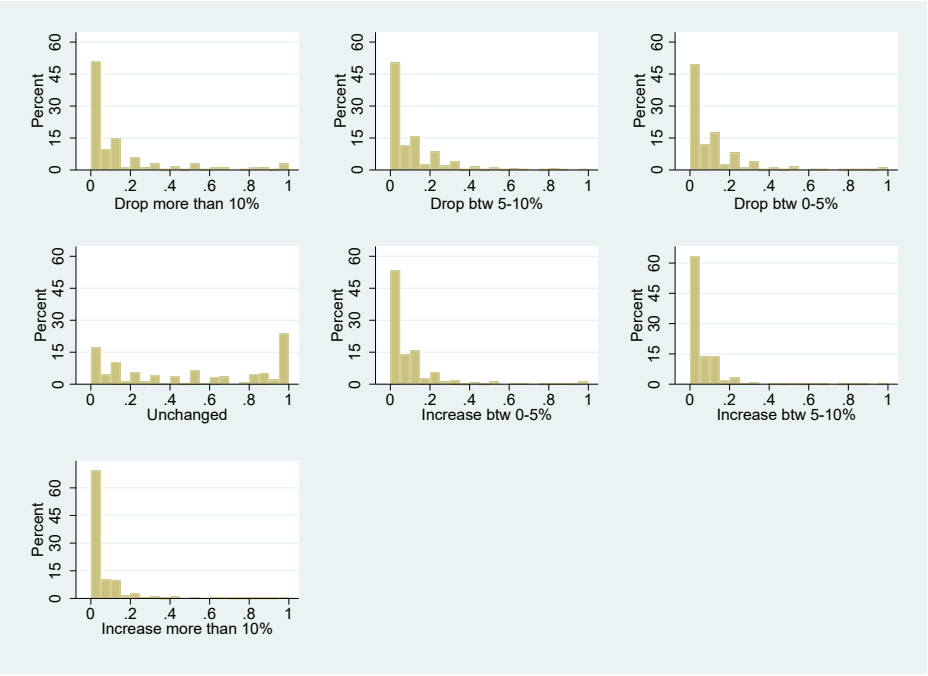

Table A1 – Expected income growth regressions for M10

	Drop more than 10%	Drop btw 5-10%	Drop btw 0-5%	Unchanged	Increase btw 0-5%	Increase btw 5-10%	Increase more than 10%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	-0.0001	-0.0003**	0.0001	0.0037***	-0.0001	-0.0001	-0.0001
	(0.0003)	(0.0002)	(0.0002)	(0.0006)	(0.0002)	(0.0001)	(0.0001)
Male	-0.0130	-0.0003	-0.0054	-0.0464***	0.0022	0.0024	0.0054
	(0.0086)	(0.0045)	(0.0057)	(0.0168)	(0.0055)	(0.0027)	(0.0041)
College	-0.0072	-0.0072	0.0104	-0.0013	0.0044	-0.0031	-0.0014
	(0.0099)	(0.0048)	(0.0075)	(0.0200)	(0.0068)	(0.0028)	(0.0045)
Log income	-0.0195**	0.0003	-0.0045	-0.0069	0.0130***	0.0023	0.0036
	(0.0086)	(0.0041)	(0.0049)	(0.0145)	(0.0042)	(0.0026)	(0.0035)
N	3,016	3,016	3,016	3,016	3,016	3,016	3,016
Pseudo-R2	0.0082	0.0085	0.0054	0.0122	0.0146	0.0169	0.0093

Note. Table reports marginal effects from probit estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table A2 – Expected consumption growth regressions for M10

	Drop more than 10%	Drop btw 5-10%	Drop btw 0-5%	Unchanged	Increase btw 0-5%	Increase btw 5-10%	Increase more than 10%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	-0.0002	-0.0001	0.0002	0.0021***	-0.0001	0.0003	-0.0000
	(0.0003)	(0.0002)	(0.0002)	(0.0006)	(0.0002)	(0.0002)	(0.0002)
Male	-0.0118	-0.0012	-0.0042	-0.0568***	0.0090	-0.0005	-0.0047
	(0.0086)	(0.0044)	(0.0042)	(0.0164)	(0.0057)	(0.0058)	(0.0067)
College	-0.0082	-0.0043	0.0017	0.0019	0.0106	0.0035	0.0054
	(0.0099)	(0.0050)	(0.0052)	(0.0196)	(0.0077)	(0.0071)	(0.0079)
Log income	-0.0320***	-0.0132***	0.0020	0.0013	0.0076*	0.0070	-0.0020
	(0.0095)	(0.0039)	(0.0036)	(0.0141)	(0.0044)	(0.0046)	(0.0056)
N	3,016	3,016	3,016	3,016	3,016	3,016	3,016
Pseudo-R2	0.0179	0.0230	0.0061	0.0064	0.0121	0.0069	0.0013

Note. Table reports marginal effects from probit estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table A3. Regressions using total sample

	Total consumption	Food consumption at home	Food consumption away from home	Online purchases
	(1)	(2)	(3)	(4)
Expected disp. inc. growth	0.341	0.237	0.438	0.245
	(0.029)***	(0.029)***	(0.030)***	(0.028)***
Income risk	0.057	0.184	-0.190	0.112
	(0.270)	(0.261)	(0.278)	(0.254)
Age	-0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)***	(0.000)**
Male	0.001	-0.001	0.003	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)
Family size	0.000	0.001	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
College	0.004	-0.003	0.002	0.001
	(0.002)**	(0.002)*	(0.002)	(0.002)
Self-employed	-0.004	-0.006	-0.006	-0.005
	(0.003)	(0.003)**	(0.003)*	(0.003)*
Unemployed	-0.006	-0.008	-0.009	-0.008
	(0.003)**	(0.003)***	(0.003)***	(0.003)***
Retired	0.003	0.003	-0.000	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Not working	-0.003	-0.004	-0.003	0.000
	(0.002)	(0.002)*	(0.002)	(0.002)
South	0.001	-0.003	-0.001	-0.002
	(0.002)	(0.002)*	(0.002)	(0.002)
Centre	-0.002	-0.003	-0.003	-0.004
	(0.002)	(0.002)	(0.002)	(0.002)**
Log income	0.007	0.003	0.006	0.006
	(0.002)***	(0.001)*	(0.002)***	(0.001)***
Constant	-0.051	-0.013	-0.044	-0.036
	(0.013)***	(0.012)	(0.013)***	(0.012)***
R^2	0.11	0.07	0.17	0.08
N	3,016	3,016	3,016	3,016

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table A4. Regression using total sample, with imputed values

	Total consumption	Food Consumption at home	Food consumption outside home	Online purchases
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.333	0.238	0.430	0.241
	(0.029)***	(0.029)***	(0.030)***	(0.028)***
Expected GDP growth	0.103	-0.011	0.136	0.073
	(0.031)***	(0.028)	(0.030)***	(0.028)***
Income risk	0.074	0.191	-0.128	0.121
	(0.269)	(0.261)	(0.277)	(0.253)
Prob. of lockdown	-0.000	-0.002	-0.010	0.001
	(0.004)	(0.004)	(0.004)**	(0.004)
Average fear	-0.003	-0.000	0.004	0.002
	(0.004)	(0.004)	(0.004)	(0.004)
Age	-0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)***	(0.000)***
Male	0.000	-0.001	0.002	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Family size	0.001	0.001	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
College	0.004	-0.003	0.001	0.001
	(0.002)*	(0.002)*	(0.002)	(0.002)
Self-employed	-0.004	-0.006	-0.006	-0.004
	(0.003)	(0.003)**	(0.003)*	(0.003)
Unemployed	-0.006	-0.008	-0.009	-0.008
	(0.003)**	(0.003)***	(0.003)***	(0.003)***
Retired	0.002	0.003	-0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Not working	-0.003	-0.004	-0.003	0.000
	(0.002)	(0.002)*	(0.002)	(0.002)
South	0.001	-0.003	-0.002	-0.002
	(0.002)	(0.002)*	(0.002)	(0.002)
Centre	-0.002	-0.003	-0.003	-0.004
	(0.002)	(0.002)	(0.002)	(0.002)**
Log income	0.007	0.003	0.006	0.006
	(0.002)***	(0.001)*	(0.002)***	(0.001)***
Constant	-0.046	-0.011	-0.036	-0.036
	(0.013)***	(0.012)	(0.013)***	(0.012)***
R^2	0.11	0.07	0.18	0.08
N	3,016	3,016	3,016	3,016

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table A5. Regressions with interaction term

	Total consumption	Food consumption at home	Food consumption outside home	Online purchases
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.236	0.190	0.361	0.185
	(0.038)***	(0.037)***	(0.038)***	(0.035)***
Expected GDP growth	0.136	0.027	0.187	0.109
	(0.043)***	(0.038)	(0.042)***	(0.038)***
Income risk	0.404	0.314	0.313	0.439
	(0.288)	(0.280)	(0.284)	(0.262)*
Prob. of lockdown	0.001	-0.002	-0.008	0.003
	(0.004)	(0.004)	(0.004)*	(0.004)
Average fear	-0.004	-0.001	0.000	0.001
	(0.005)	(0.004)	(0.005)	(0.004)
Age	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)**	(0.000)***
Male	-0.001	-0.002	0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)
Family size	-0.000	0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
College	0.004	-0.003	0.002	0.000
	(0.002)*	(0.002)	(0.002)	(0.002)
Self-employed	-0.005	-0.005	-0.005	-0.005
	(0.003)	(0.003)	(0.003)	(0.003)
Unemployed	-0.005	-0.008	-0.010	-0.009
	(0.003)	(0.003)***	(0.003)***	(0.003)***
Retired	0.002	0.004	-0.005	0.004
	(0.004)	(0.003)	(0.004)	(0.003)
Not working	-0.003	-0.003	-0.004	-0.001
	(0.003)	(0.002)	(0.003)	(0.002)
South	0.001	-0.003	-0.003	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Centre	-0.001	-0.002	-0.004	-0.003
	(0.003)	(0.002)	(0.003)	(0.002)
Low Income	-0.003	-0.002	-0.002	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Exp. Inc. growth × Low income	0.237	0.084	0.173	0.160
	(0.063)***	(0.064)	(0.057)***	(0.058)***
Exp. GDP growth × Low income	-0.030	-0.036	-0.123	-0.037
	(0.075)	(0.067)	(0.073)*	(0.065)
Constant	0.005	0.012	0.007	0.013
	(0.006)	(0.006)**	(0.006)	(0.005)**
R^2	0.12	0.06	0.18	0.09
N	2,385	2,385	2,385	2,385

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1.

Table A6. Regressions for total consumption with regional fixed effects

	Total consumption	Food consumption at home	Food consumption outside home	Online consumption
	(1)	(2)	(3)	(4)
Expected disp. income growth	0.323	0.226	0.427	0.244
	(0.030)***	(0.030)***	(0.030)***	(0.029)***
Expected GDP growth	0.123	0.005	0.144	0.091
	(0.036)***	(0.032)	(0.035)***	(0.031)***
Income risk	0.217	0.251	0.166	0.330
	(0.284)	(0.280)	(0.285)	(0.264)
Prob. of lockdown	0.001	-0.002	-0.007	0.003
	(0.004)	(0.004)	(0.004)	(0.004)
Average fear	-0.004	-0.001	-0.000	0.000
	(0.005)	(0.004)	(0.005)	(0.004)
Age	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)***	(0.000)***
Male	0.000	-0.002	0.002	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Family size	-0.000	0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
College	0.004	-0.003	0.002	0.000
	(0.002)	(0.002)	(0.002)	(0.002)
Self-employed	-0.005	-0.005	-0.005	-0.005
	(0.003)	(0.003)*	(0.003)	(0.003)
Unemployed	-0.006	-0.009	-0.011	-0.009
	(0.003)*	(0.003)***	(0.003)***	(0.003)***
Retired	0.002	0.004	-0.005	0.004
	(0.004)	(0.003)	(0.004)	(0.003)
Not working	-0.002	-0.003	-0.003	-0.000
	(0.003)	(0.002)	(0.003)	(0.002)
Log income	0.006	0.003	0.006	0.005
	(0.002)***	(0.002)*	(0.002)***	(0.002)***
Constant	-0.038	-0.002	-0.020	-0.037
	(0.021)*	(0.018)	(0.023)	(0.014)***
R^2	0.12	0.07	0.18	0.09
N	2,385	2,385	2,385	2,385

Note. The table reports OLS estimates with robust standard errors. *** p-value ≤ 0.01; ** p-value ≤ 0.05; * p-value ≤ 0.1. Region fixed effects have been included in all specifications.

APPENDIX B

The Income and Spending Expectations (ISEC) Survey

*This Appendix has been written in collaboration with Nello Esposito, who provided excellent research assistance for the entire project.

Table of Contents

Figures and Tables

1. Introduction

The Income and Spending Expectations (ISEC) survey conducted during the Covid-19 pandemic, aimed to collect information on households' expectations about individual and aggregate income, their employment status and their health-related experience of Covid-19 to enable comparison with their expectations about consumption in 2022. The variables used to measure individual expectations include income growth and risk, expected consumption of non-durables and durables, employment and GDP growth. We are interested, also, in their expectations about health in terms of general health developments, probability of future lockdowns and fears related to infection. The questionnaire also includes questions related to socioeconomic variables such as age, household size and composition, education and occupation status.

ISEC covers a representative sample of the Italian resident population, aged between 18 and 75. The 3,016 individuals in the sample were interviewed online by Doxa, a leading Italian firm that is engaged in market research and social studies. The sampling scheme used is similar to that employed by the Bank of Italy Survey of Household Income and Wealth (SHIW), which is a representative survey of the Italian population. The Italian resident population is stratified according to three criteria: geographic area of residence (North-East, North-West, Central, South), age group (18-34, 35-44, 45-54, 55-64, over 65) and gender. The survey was administered in the two weeks between 20 November and 5 December 2021, in the weeks that preceded the emergence of the fourth wave of the pandemic.

The sample is drawn from a larger representative sample of 120,000 individuals, maintained and updated regularly by Doxa. The interviews were enabled by a Computer Assisted Web Interviewing (CAWI) method. The overall response rate was 71.2%, with low levels of non-response for all questions. The questionnaire was constructed with the help of field experts and academic researchers and was piloted with 100 respondents in the first two weeks of November 2021.

This report presents the most important results that emerged from a descriptive analysis of the survey. Section 2 compares the main features of the ISEC survey and the 2016 SHIW (the latest available at the time of the writing). Section 3 examines households' perceptions of fear of contagion and Section 4 focuses on real consumption and income, in the 12 months preceding the interviews. Section 5 examines individual expectations related to spending in 2022 and Section 6 focuses on expectations about income and job losses in 2022. Appendix A presents the main methodological issues involved in the construction of the questionnaire; Appendix B provides an English translation of the original Italian language questionnaire.

2. Demographic characteristics

We compare the demographic and occupational characteristics of the ISEC sample with the SHIW sample. Table B1 presents the means of main demographic variables in the ISEC and SHIW samples. The share of women is the same. The age distributions are similar for the first

three classes, covering individuals aged 18 to 54 years old, but the group of 65+ is 16% in the SHIW and 12% in ISEC. There is a significant difference between these two surveys with respect to education level: in ISEC survey, the share of respondents with primary education only is 19% and the share with tertiary education is 26%, compared to respectively 42% and 15% in the SHIW. Household size is similar in both, although, the share of single households in SHIW is larger. In terms of geographical distribution, the shares of households living in the North, South and Centre of Italy are almost identical in the two samples.

Around 75% of respondents to the ISEC survey are owner-occupiers, a proportion consistent with national data. Average household size is 3 (Figure B1), including an average of 1.55 who are employed (Figure B2). The share of income recipients is 50%: 103 (3.42% of the sample) households have children aged 0-2 years old; 216 (7.2%) have children aged 2-5-years old ; 500 (16.6%) have children aged 6-14 years; and 342 (11.3%) have children aged 14-18 years (and. A further 1,002 households (33.2% of the sample) include adult age sons and 1,234 (40.9%) are childless (Figure B3).

3. Covid-19 and the vaccine

The survey collected information on individual experience of Covid-19. Specifically, it asked whether the interviewee or a family member had been infected during the pandemic, and details of their vaccination status (e.g., number of doses received). A small number of participants preferred not to respond to these questions.

Numerous (74.5%) respondents reported having caught Covid-19 and 16.3% reported at least one case of infection in the household. In the overall sample, the absolute number of infected individuals was 267 (8.8%), 85 (2.7%) reported ‘don’t’ know’ and 37 (1.2%) did not respond. See graphical representation in Figure B4.

In response to the question about vaccination status (Figure B5), more than 75% of the interviewees reported having received either two jabs (or 1 dose of the Jansen vaccine). This suggests that more than 70% of the sample had received their first vaccination, which is in line with official Italian Health Ministry data on vaccinations at end 2021 (around 87% of the 18–75-year age group had received their first vaccination). Among those who responded to the question (3.4% preferred not to answer) 10.2% of respondents had received their booster (third) jab.

4. Labour conditions

This section focuses on employment (see summarises in Figures B6, B7 and B8). Figure B6 shows the employment status of respondents: 27% are white collar workers and 13% are blue collar workers. Around 13% of the sample were housewives or househusbands and retired individuals represented a similar share. Students and young unemployed seeking their first employment represent 5% and 1.8% of the sample respectively.

Figure B7 shows that most employees have full-time open-ended labour contracts, although a sizeable share (36%) had fixed term or part-time contracts.

Figure B8 shows the composition of the sample of employed individuals by sector of activity. There is a relatively high presence of public sector employees (11.2%), retail workers (11.3%) and individuals working in manufacturing (9.40%).

Figure B9 shows the level of working from home since the outbreak of the COVID-19 pandemic. It shows that about 45% of respondents never worked from home while almost 26% of the sample had worked from home starting in March 2020. Given that around 25% of respondents were not in employment, the adjusted share of employed respondents who never worked from home is 62% and the proportion that move entirely to distance working is 34%. Figure B10 plots the importance of remote working from home by sector, which is relevant only for those sectors for which working from home is feasible. Therefore, it excludes agriculture, manufacturing and transportation sector workers and unemployed individuals, but includes real estate, finance and public sector employees and self-employed professionals. The proportions of individuals who never worked from home is: 50% public sector, 45% finance and 30% professional and real estate.

Finally, the survey asked employed respondents about the chances that they would remain in the job and asked unemployed respondents what they considered their chances of finding a job. Probabilities were scored on a 1-10 scale where 1 is the lowest probability and 10 is the highest: 40% of respondents reported confidence that they would keep their job and 10% expected that they would be fired, a probability equal to 1. Among unemployed respondents, only 7% felt confident that they would find employment and more than 25% rated their chances of finding a job at between 10% and 20%. The distributions are displayed in the graph in Figure B11.

4. Consumption, income and wealth in 2021

The ISEC survey includes questions about consumption, income and change in wealth during the pandemic. Expenditure on food for consumption at home in 2021 (Figure B12) varied widely; most households spend between €200 and €400 per month, with the average €380 and the standard deviation €278. Monthly spending on housing and household bills also varies (Figure B13). Average spending is €616, and the standard deviation is €500. The monthly distribution (sum of the two above components) is depicted in Figure B14.

Figure B15 shows how household wealth changed between 2020 and 2021. The majority (almost 60%) of interviewees had not experienced a significant change in their wealth. However, 172 respondents (almost 6%) reported a decrease in household wealth of more than €20K. Respondents were asked, also, about any monetary aid specific to the Covid-19 crisis. Figure B16 shows that 675 (about 18% of respondents) received some (either central or local) government aid such as CIG, Fondo di Solidarietà, Reddito di Cittadinanza, Bonus baby-sitter, etc., around 130 (4.28%) had received some monetary aid from their employer and 74 (2.45%) had been helped financially by friends or relatives. About 80% - 2,300 – had not

received any financial help. Thus, overall, some 20% of the households surveyed had received help from government, relatives and friends or their employer.

5. Expectations about consumption, income and wealth

In this section, we present the results for households' income, wealth and consumption expectations. In Section 5, we reported on variations in actual consumption and wealth; in this section, we report the results from four questions about consumption expectations, one question about income expectations and one about wealth expectations. The four consumption questions asked about total consumption, food consumption at home, food consumption away from outside home and online purchases. Interviewees were asked to assign probabilities related to: a decrease(increase) of more than 10%; a decrease(increase) of between 10% and 5%; a decrease(increase) of between 5% and 0%, no real difference, in the case of seven different scenarios (see questions E1 to E6 in Appendix B). These subjective probabilities sum to 1. Figure B17 depicts the distributions of the expected changes. Most people, have stable consumption and income expectations, with the average percentage change of total consumption in 2022 rated zero (-0.004%). This applies, also, to online purchases (-0.0245%). However, food consumption away from home in 2022 was expected to fall by 1.4%; income was expected to decrease by an average of 1.4%, but wealth was expected to remain stable (-0.029%).

Figure B18 depicts willingness to invest in durables in 2022: 750 (almost 25%) intend to buy a car, 413 intend to buy a bike or a scooter (13.69%) and more than 1,000 (42.51%) expected to spend on white goods (e.g., washing machines, fridges). Only 1,013 (33.58%) expected to invest in black goods (e.g., electrical appliances) in 2022.

Figure B19 depicts the distributions for the marginal propensities to consume, to save, to repay a debt and to make a gift, computed based on the responses to a question asking the interviewee to indicate how a €5,000 lottery would be spent. The respective averages are: 19.3% (for consumption), 35.8% (to save), 14.4% (repay a debt) and 6.6% (gifting).

7. Expectations about the economic and the health crises

Survey respondents were asked for their (quantitative) predictions about GDP growth in 2022 and expected vaccination rates (share of the population receiving a booster/third jab by end January 2022). These are "subjective" predictions and, inevitably, were influenced by information gleaned from social media, TV and print media.

On average, respondents expect GDP to grow by 2.2% in 2022. However, there is considerable heterogeneity in these forecasts with standard deviation of 2.9% (see Table B2).

At the time of the survey (December 2021), respondents expected 34.3% of people would have received their booster jab by end January 2022 (see Table B4), compared toOurwolrdindata.org data on the pandemic and the vaccines worldwide, indicating a rate of 55.2%, a database collecting data on.

Respondents were asked for a qualitative assessment of the general economic and health situations. Table B3 shows that most were optimistic about 2022: almost 45% of interviewees believe that the economic situation will be "slightly better", while about 25% responded that the situation would be broadly like 2021. Similar questions related to the health situation in 2022 (Table B5) show that 43% expect the situation to improve and 15% expect it to improve quite significantly, while about 25% expect the situation to be like 2021.

8. Probability of lockdowns and fear of contagion

They survey asked about the probability of another lockdown – rated on a scale from 1 to 10 for a complete lockdown (as in March-April 2020) and for a less strict lockdown based on the severity (white, yellow, orange or red) of the pandemic effects in the four Italian regions. Almost 75% of respondents indicated a probability greater than or equal to 50% of a lockdown in 2022 (Figure B20). Again, on a 1-10 scale (1 not worried and 10 extremely worried), interviewees were asked to rank their concern over catching Covid-19, in various settings. Figure B21 shows that, on average, fear of becoming infected at work is 5.73 (top left panel), fear of being infected when eating out, travelling or shopping is 6.20 (top right panel) and fear of catching the virus from friends and/or relatives is 2.71 (bottom left panel). The overall average for these three indicators is 5.78. Finally, Figure B22 shows how much time, per week, people spent reading/learning about vaccines and covid. On average, over 50% of the sample spend more than one hour a day reading newspapers, watching news on TV and searching for information on the Internet.

9. Summary

The ISEC survey collected information on households' expectations about individual and aggregate income, employment status and their experience with Covid-19, variables we related to households' expectations about consumption and saving plans in 2022. The survey was conducted by Doxa, a leading Italian market research and social studies firm, and included 3,016 households, randomly selected from a panel of over 120,000 individuals using a similar sampling scheme to that used for the Bank of Italy SHIW. We asked for expectations related to GDP growth, the vaccine campaign, consumption (at home, away from home, online purchases, total consumption), saving and income growth. The survey responses provide insights on many dimensions of the Covid-19 and current economic crises and allow us to relate expectations to respondents' demographic and economic conditions. It seems that, although are relatively optimistic about the end of the health crisis and the general economic situation, consumption expectations are flat although there are some differences among groups of respondents.

B1. Figures and Tables

Figure B1. Household size (question Q11)

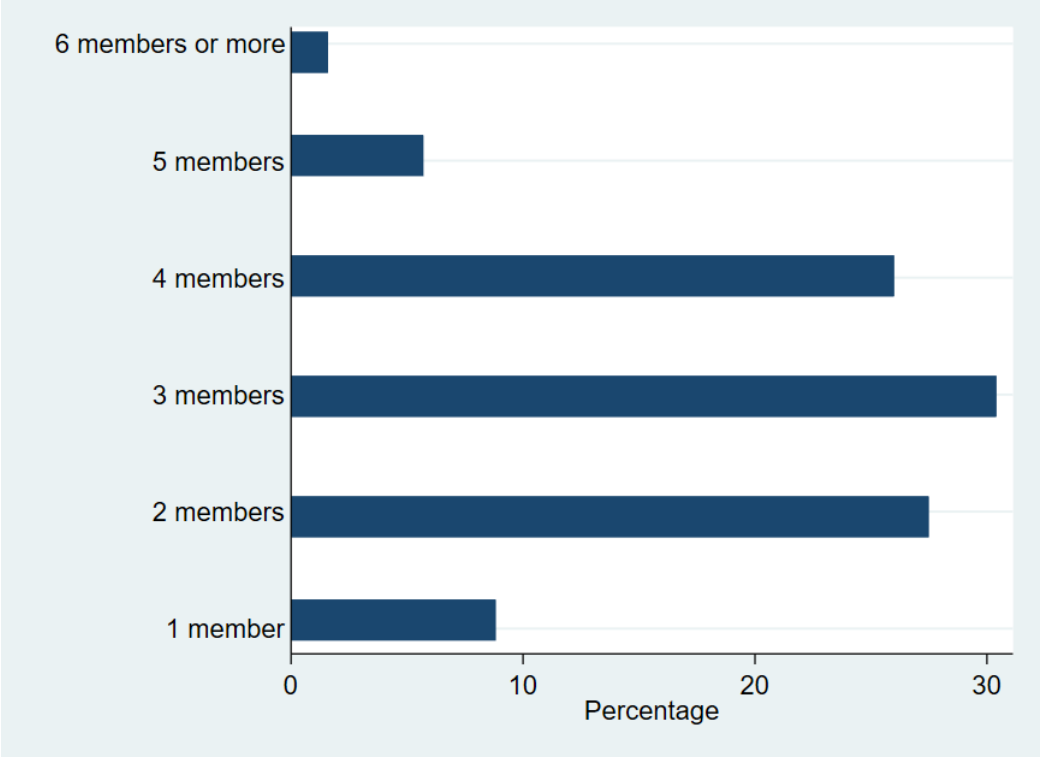

Figure B2. Number of income recipients (question Q11)

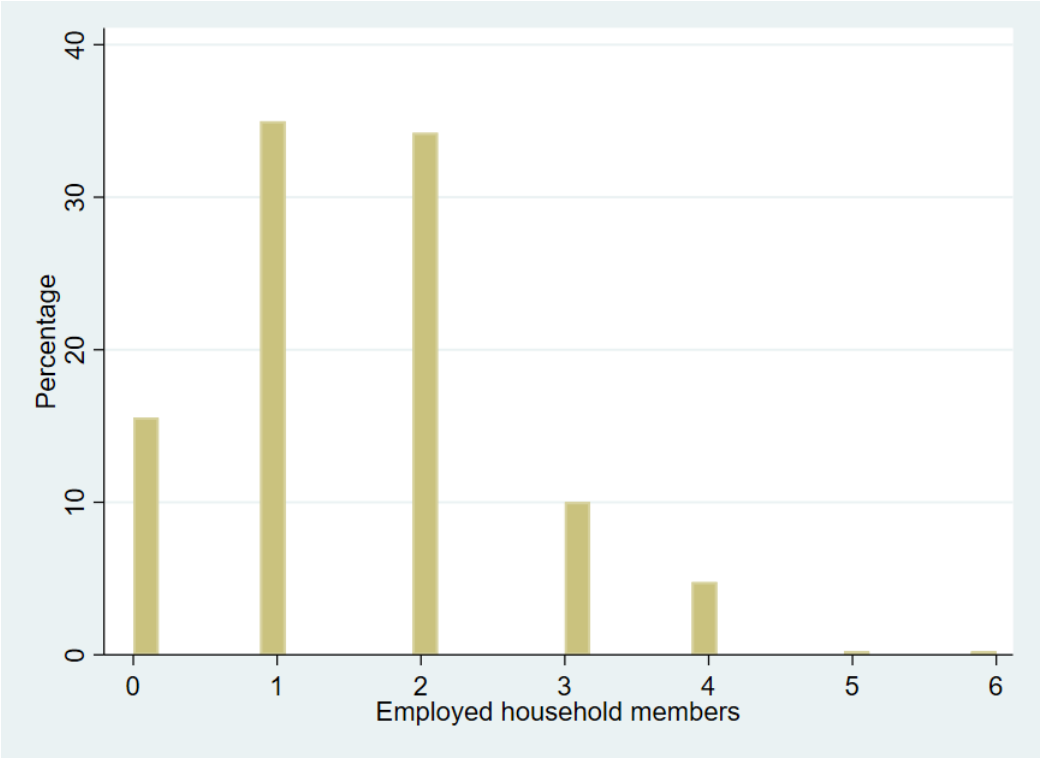

Figure B3. Age of children (question Q12)

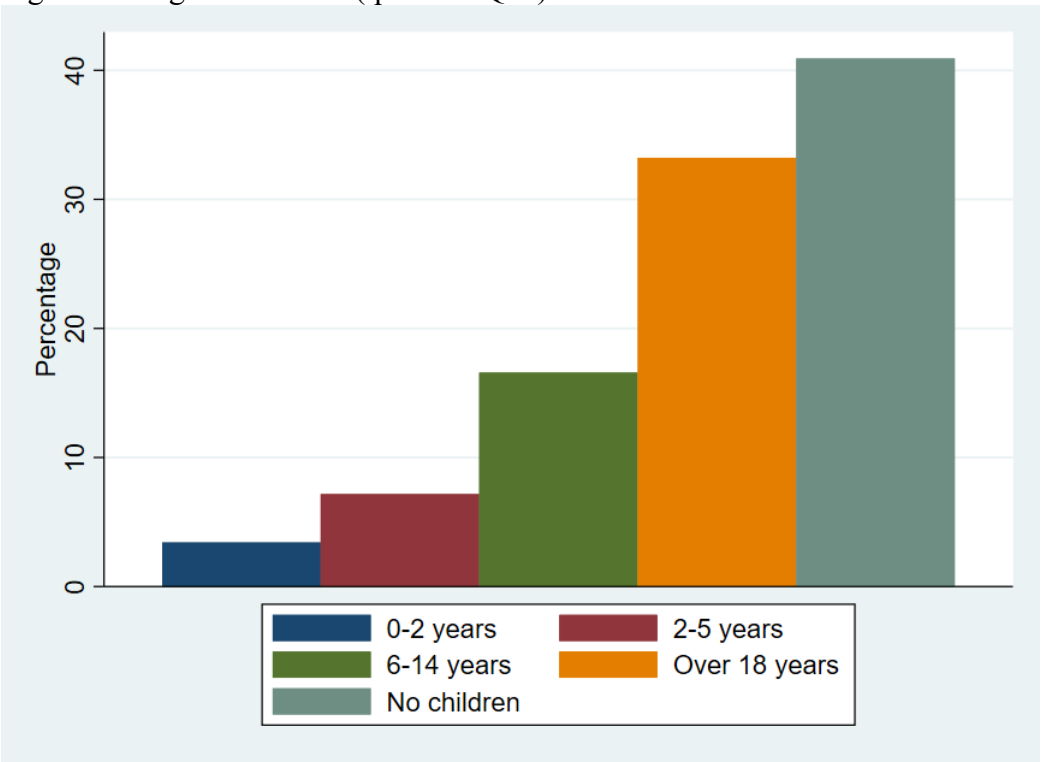

Figure B4. COVID-19 breakthrough infection in the sample (question B3)

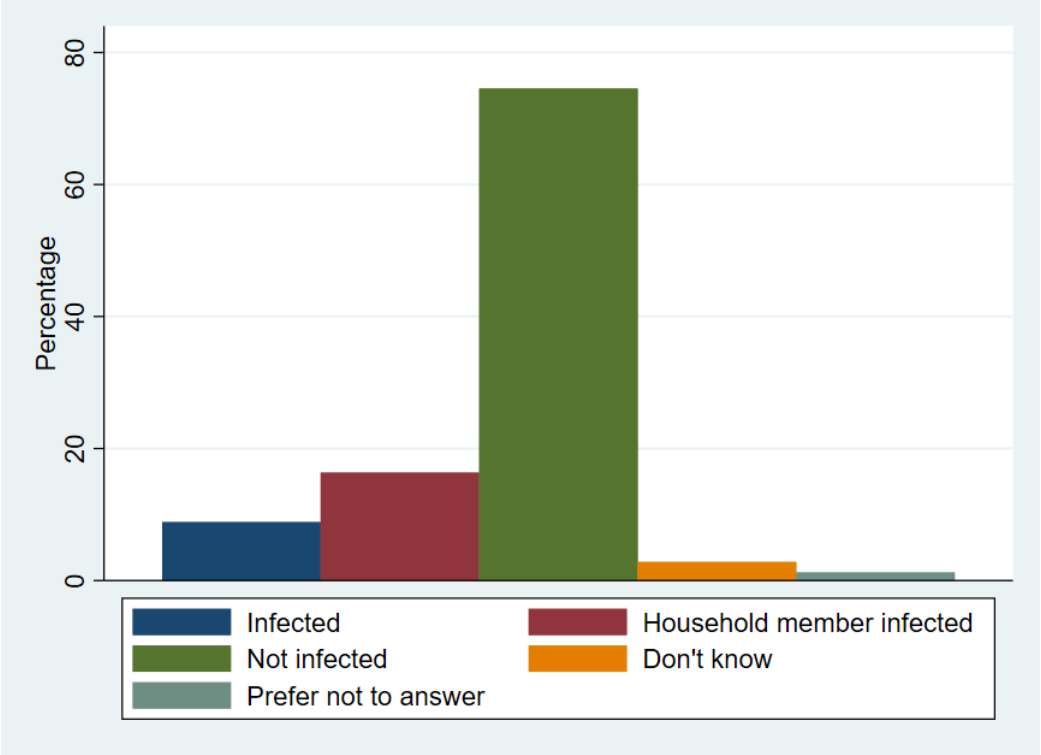

Figure B5. Vaccination status (question B4)

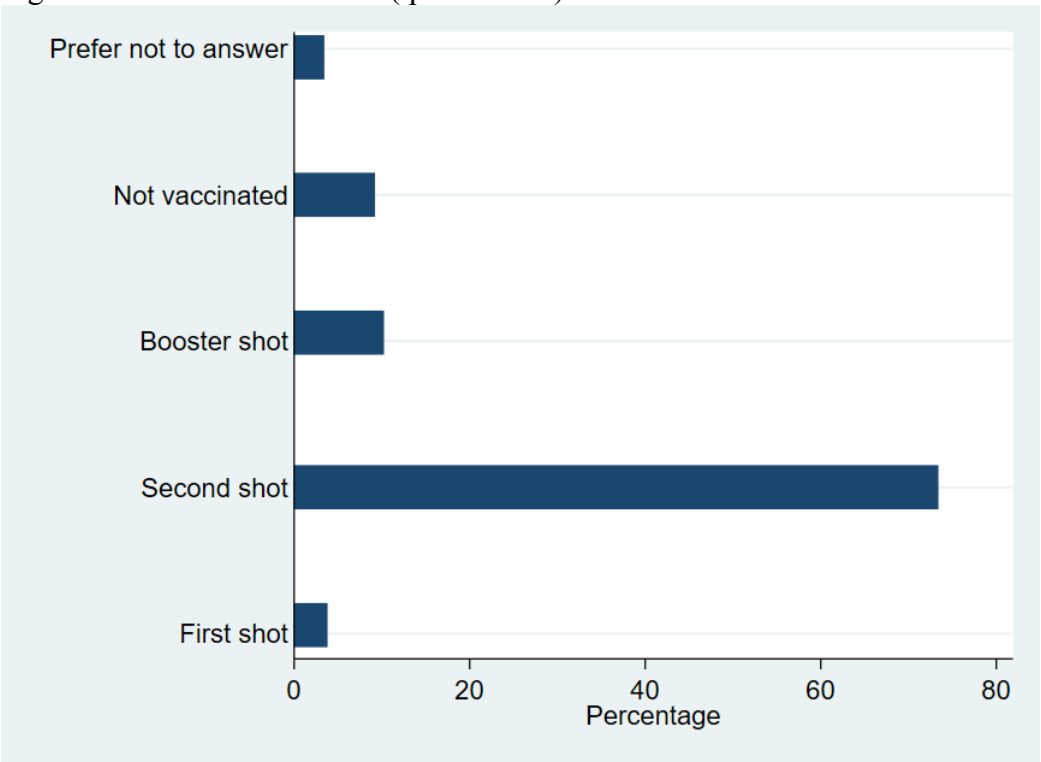

Figure B6. Employment status (question Q10)

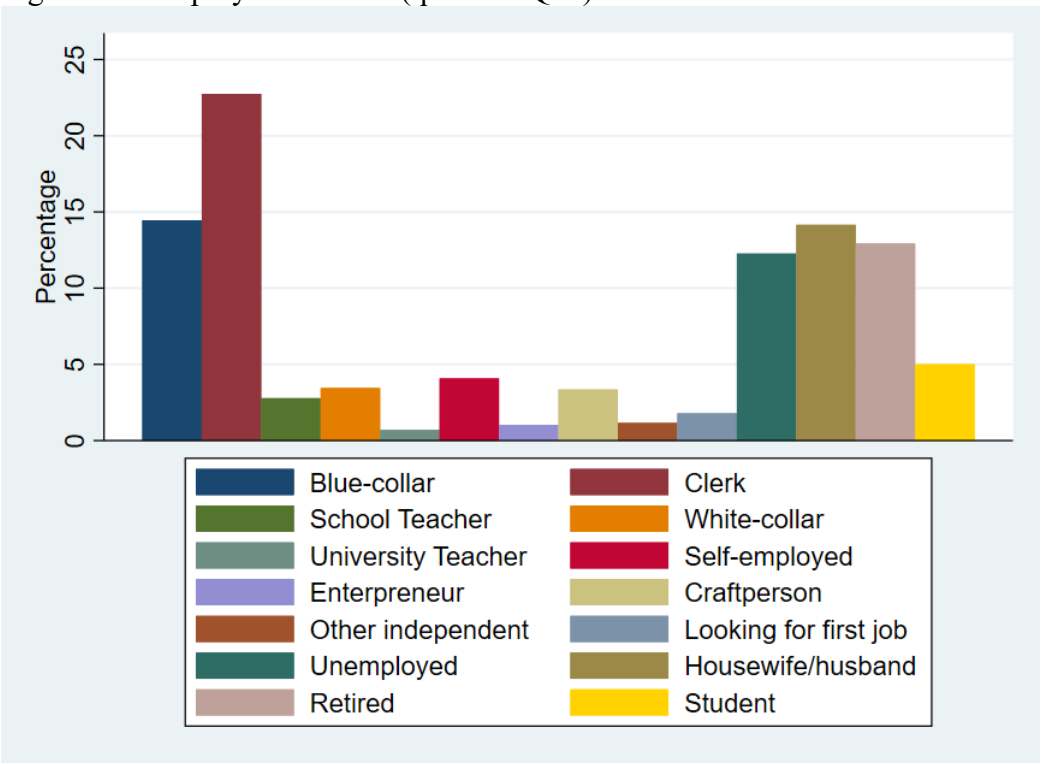

Figure B7. Employees by contract type (question C1)

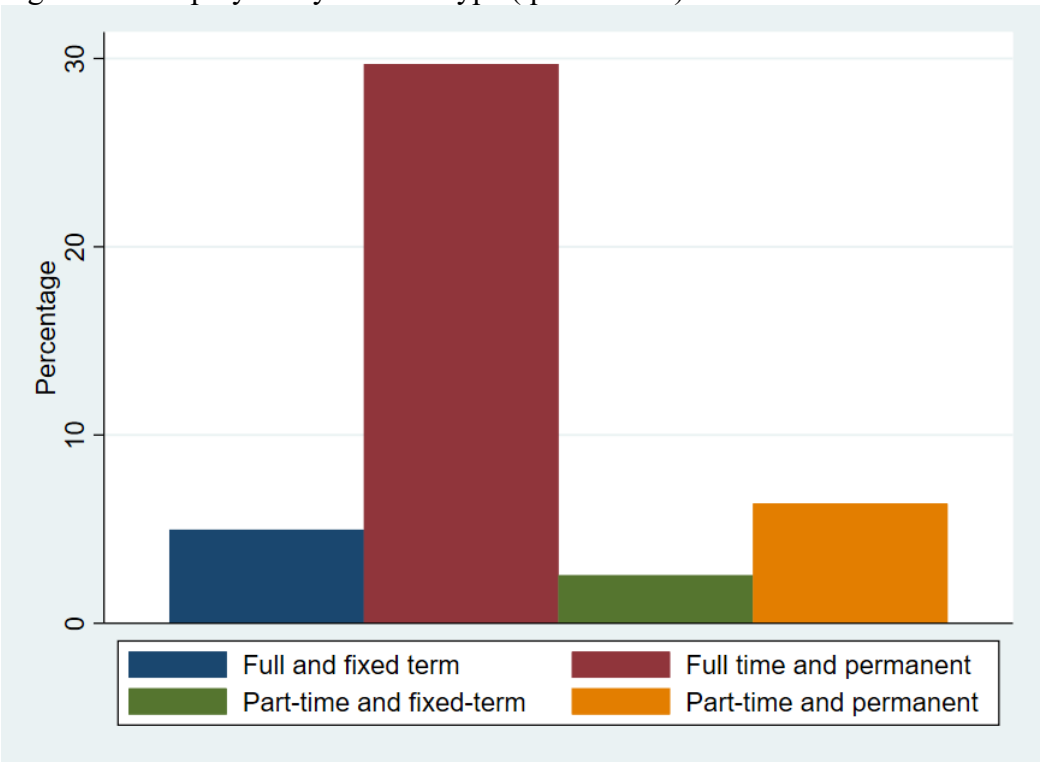

Figure B8. Employment by sector (question C2)

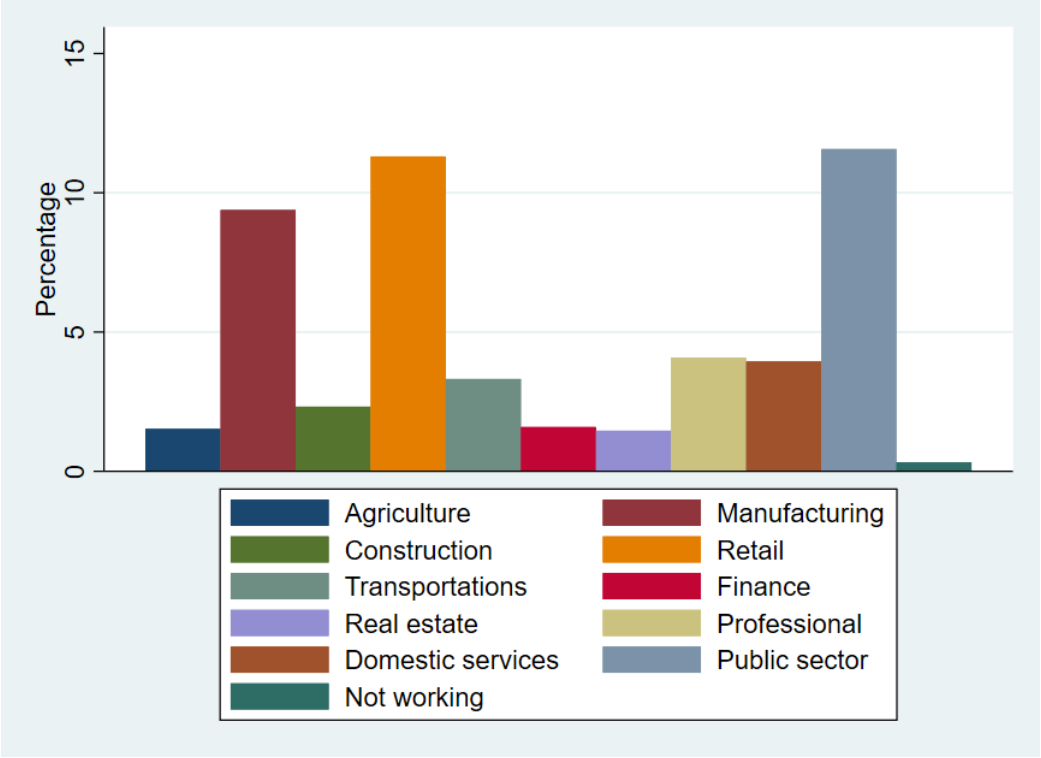

Figure B9. Hours spent working from home per week(C7)

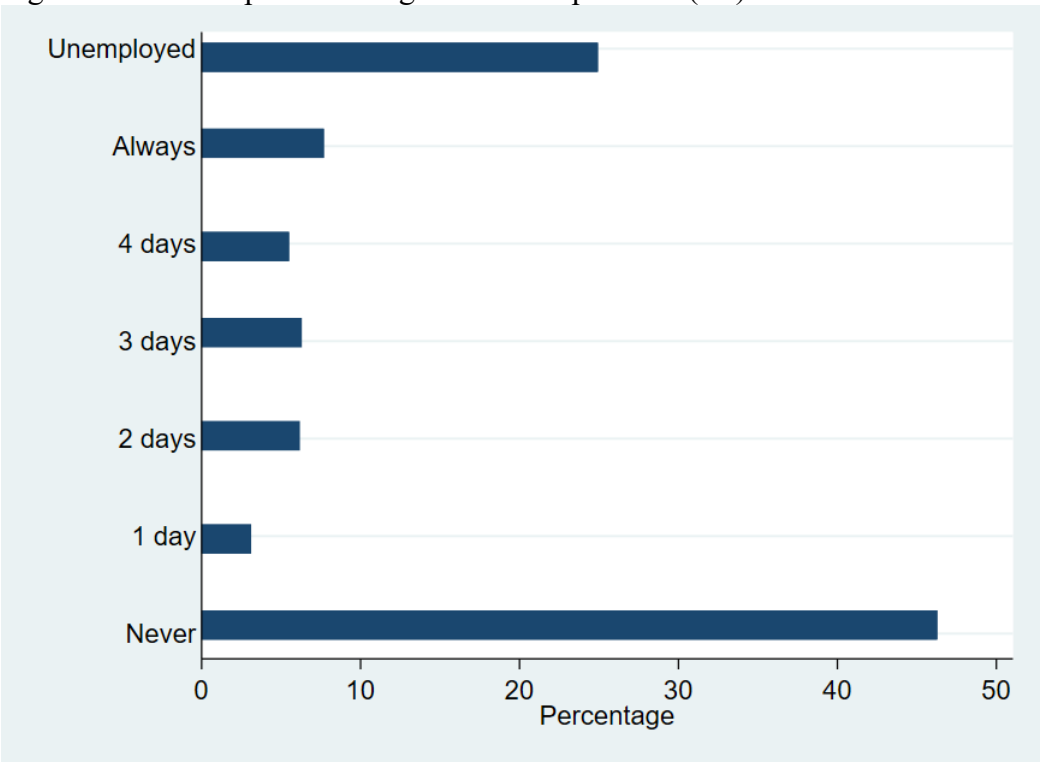

Figure B10. Hours spent working from home per week, by sector (C7)

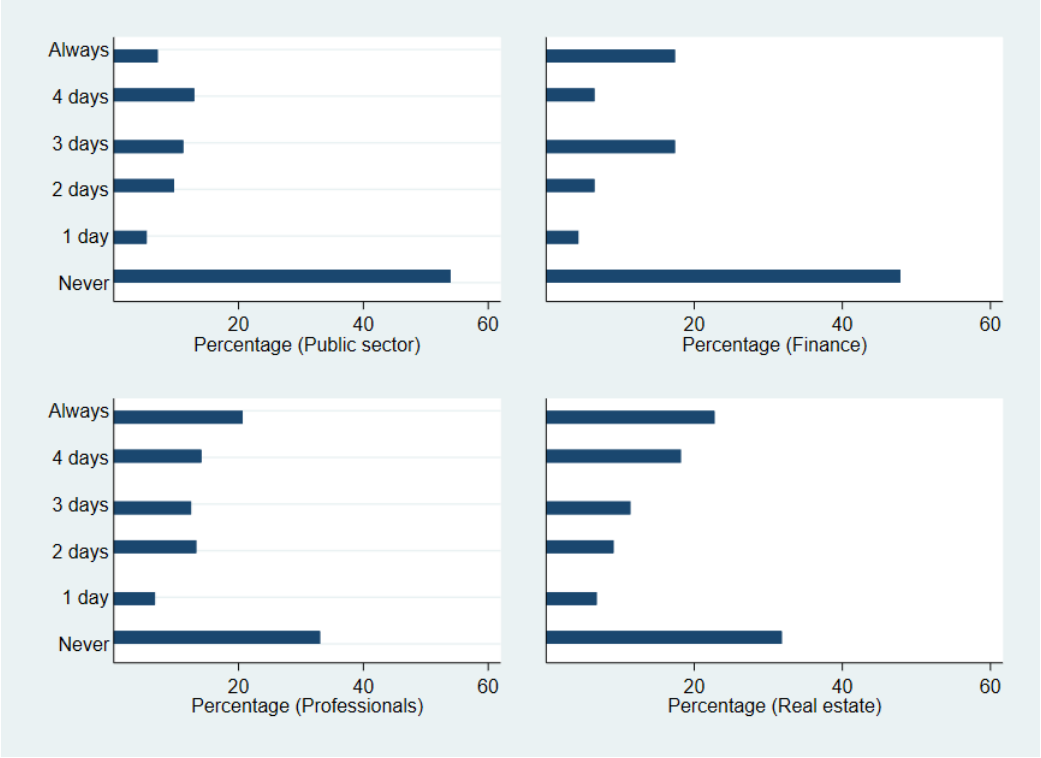

Figure B11. Subjective probability of keeping the current job and finding a job (questions E12 and E13)

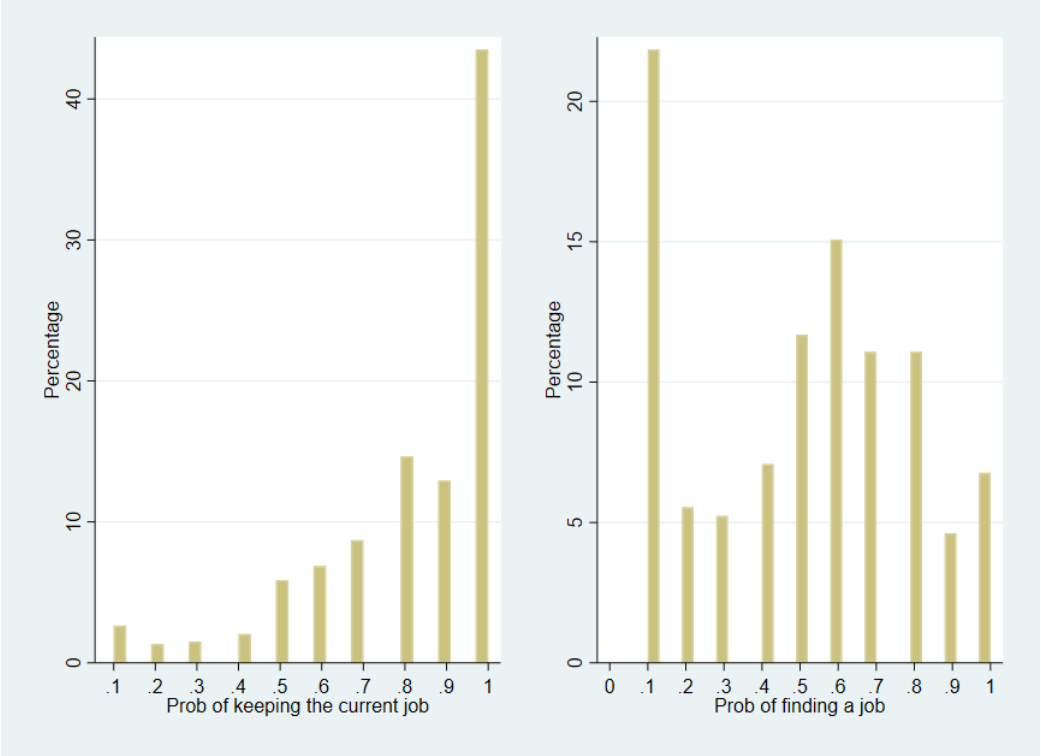

Figure B12. Average monthly food consumption in 2021 (question E0_A)

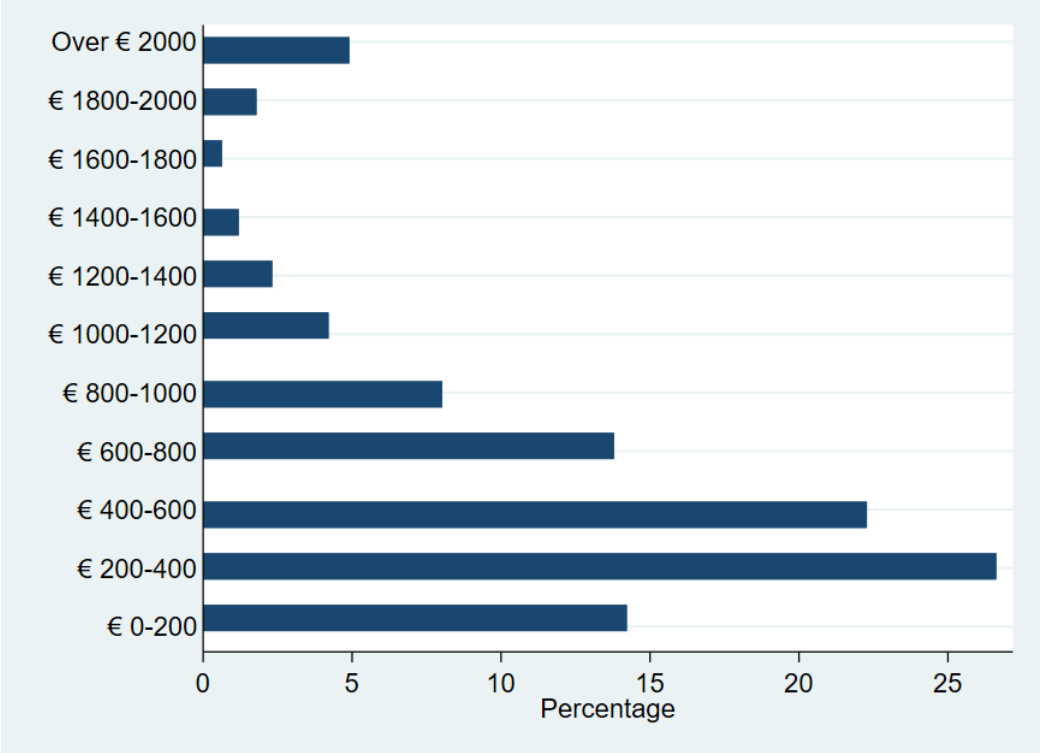

Figure B13. Average monthly spending on housing and bills in 2021 (question E0_B)

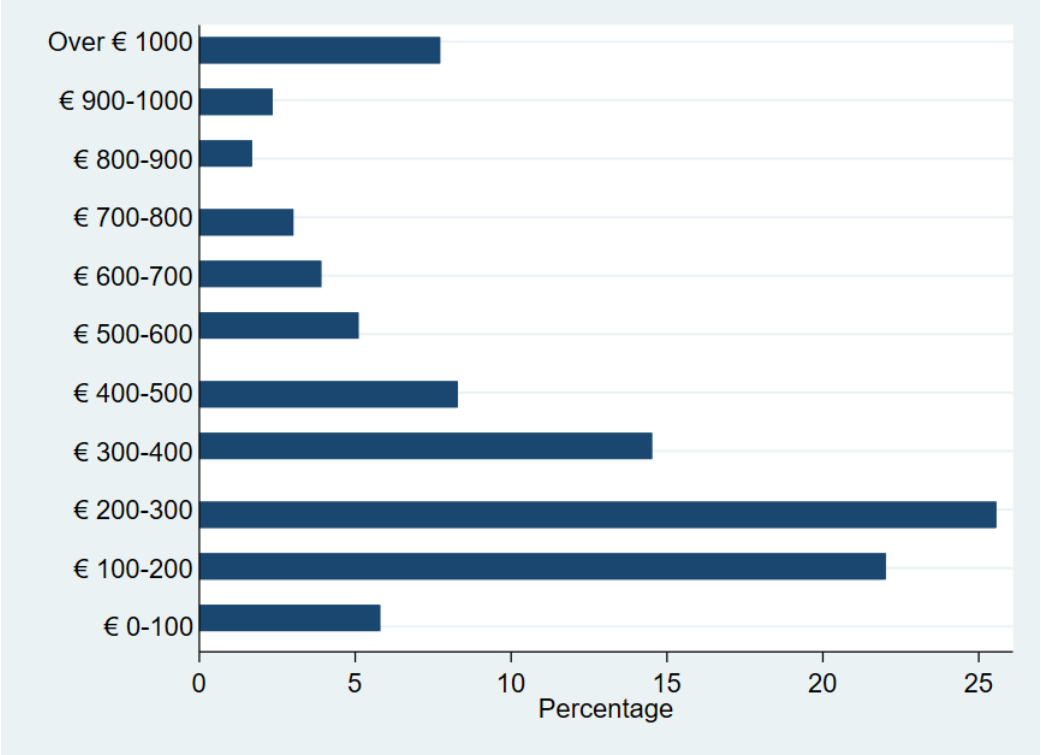

Figure B14. Monthly consumption spending in 2021 (E0_A + E0_B)

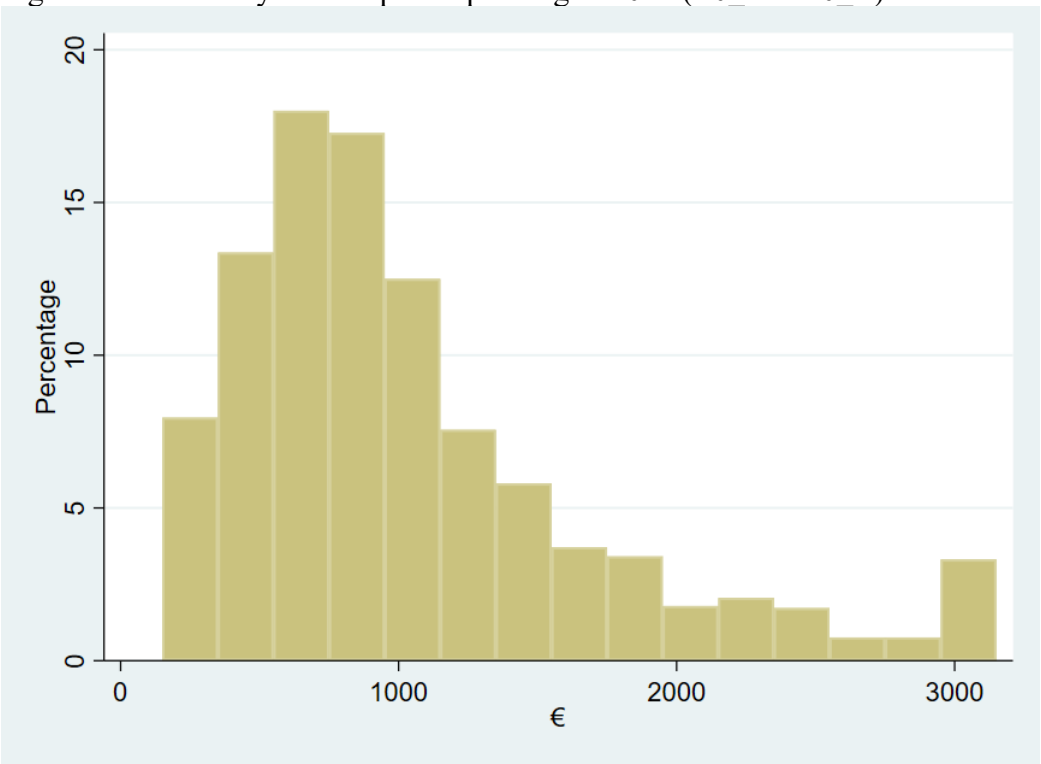

Figure B15. Wealth change in 2021 (question E7)

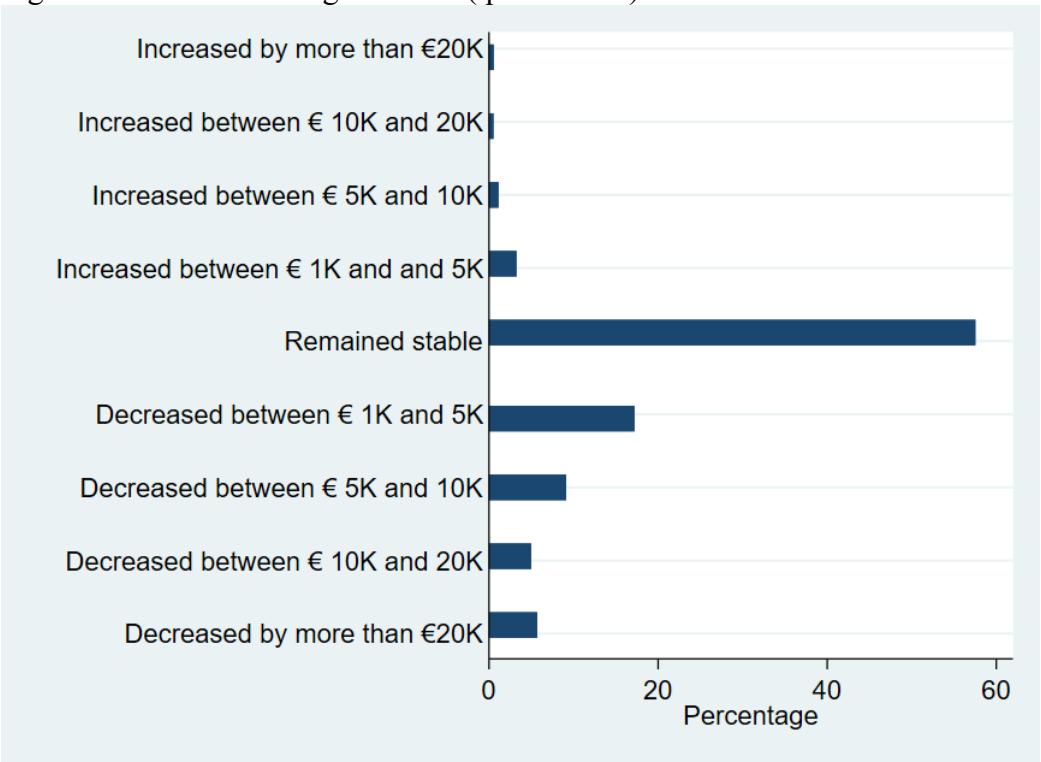

Figure B16. Financial help because of the pandemic (question C5)

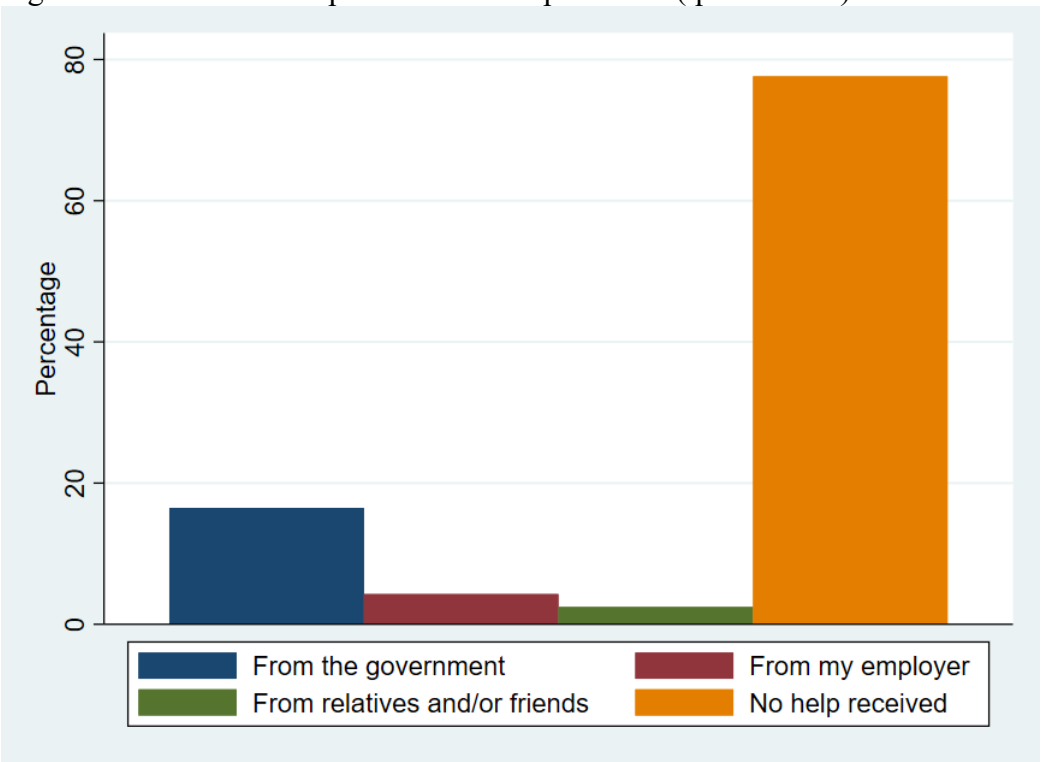

Figure B17. Expected growth rate of income, total consumption, online purchases, food consumption away from home, food consumption at home and wealth in 2022 (questions E1 to E6)

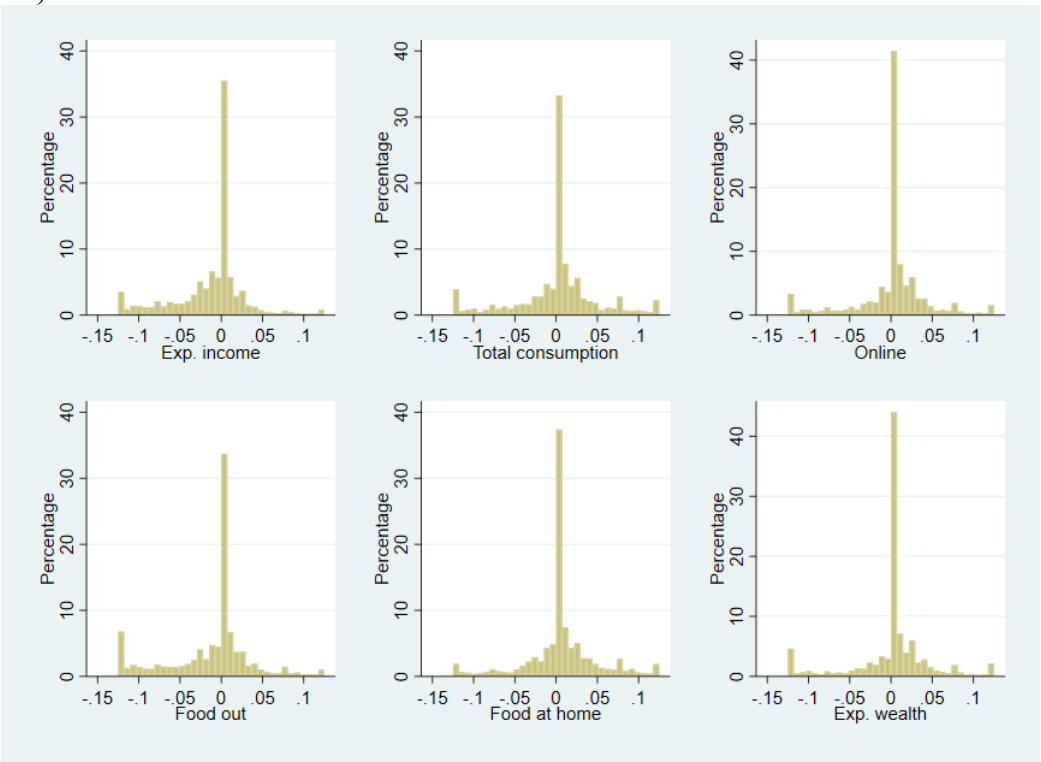

Figure B18. Intention to purchase durables (question E10)

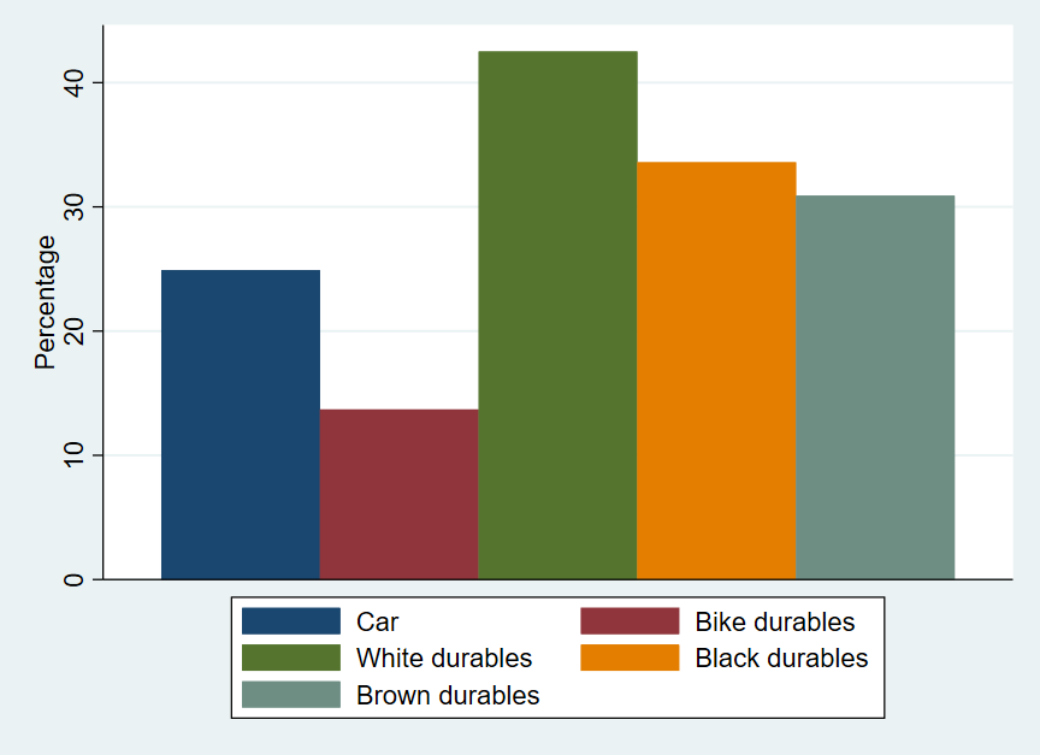

Figure B19. Marginal propensity to consume, save, repay debts and make gifts (question E11)

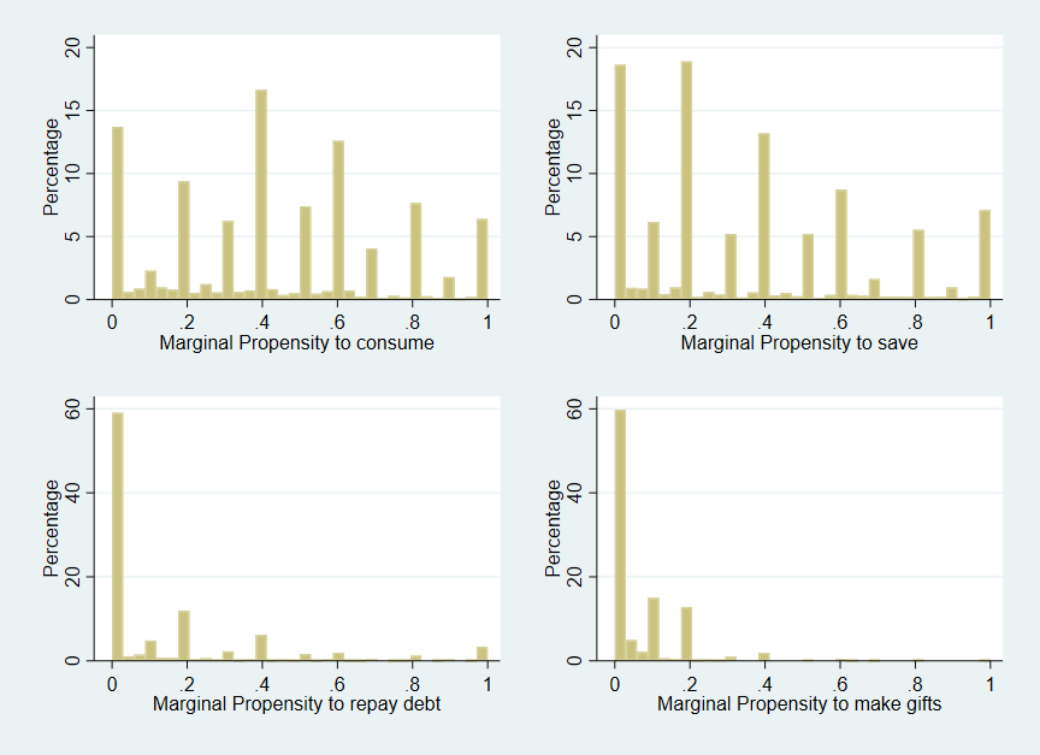

Figure B20. Subjective probability of a new lockdown (B2)

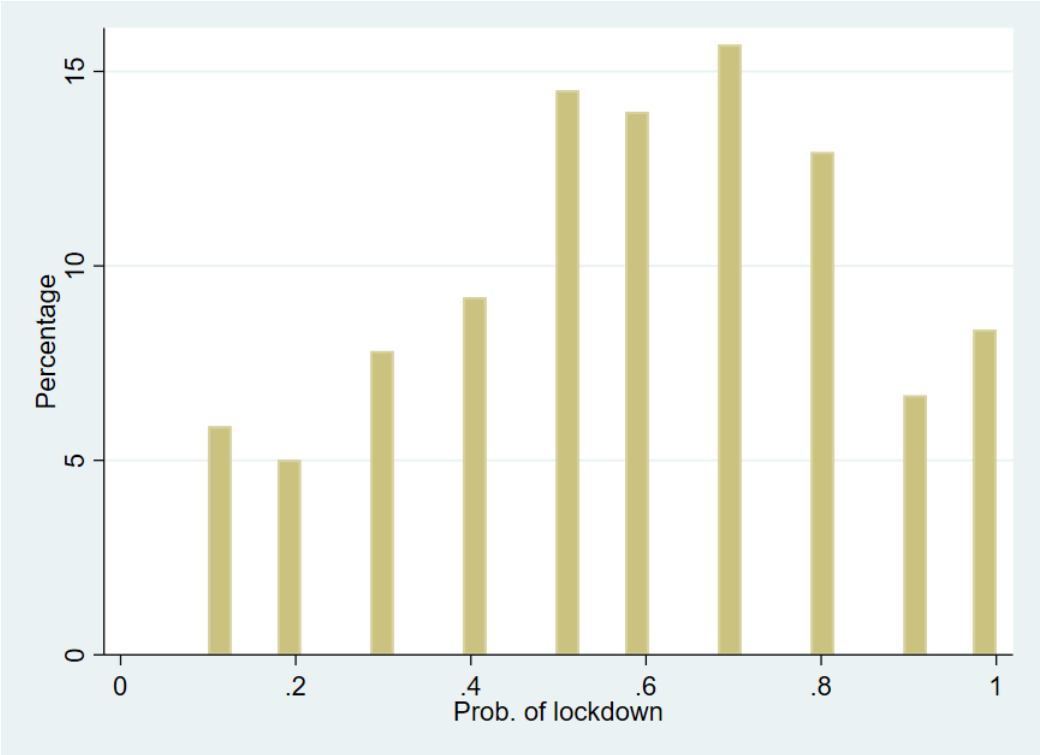

Figure B21. Ranking of concern over contracting the virus at work, when travelling, shopping or eating out, from contact with relatives or friends (questions B1_1 B1_2 B1_4)

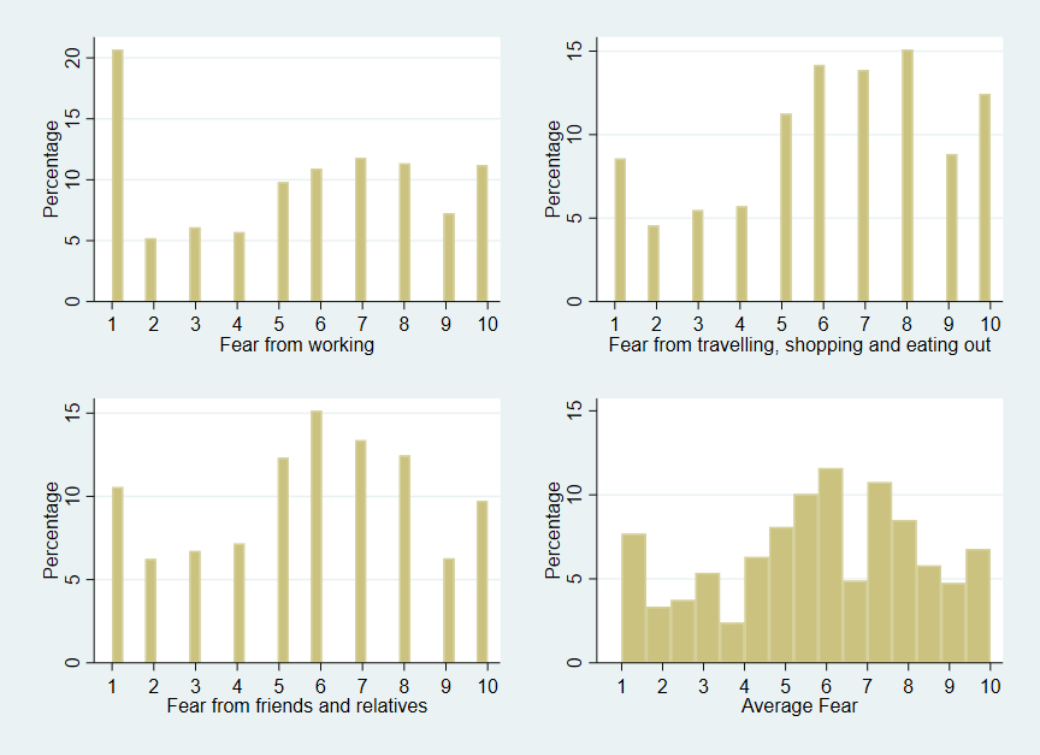

Figure B22. Hours spent leaning about COVID-19 and vaccine efficacy (question B5)

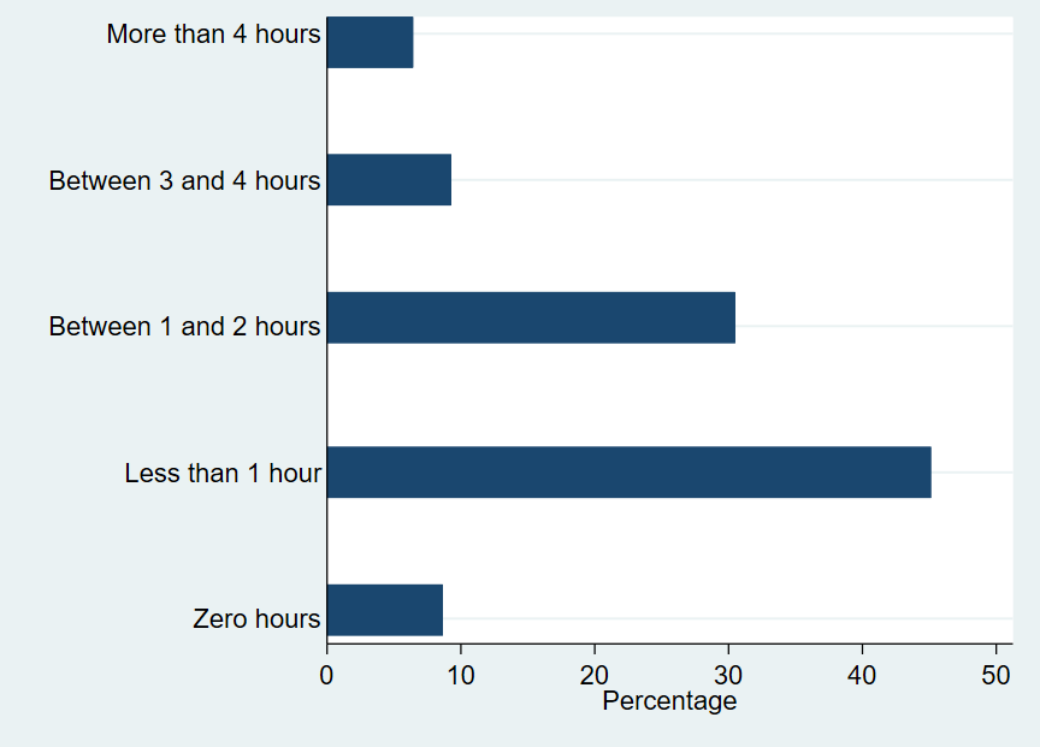

Table B1. ISEC (2021) vs SHIW (2016).

	ISEC (2021)	SHIW (2016)
Male	0.49	0.49
Female	0.51	0.51
Age		
18-34	0.24	0.24
35-44	0.17	0.19
45-54	0.23	0.22
55-64	0.24	0.18
65-over	0.12	0.16
Education		
Primary education	0.19	0.42
Secondary education	0.55	0.43
Tertiary education	0.26	0.15
Sector of activity		
Retired	0.13	0.15
Not employed	0.14	0.11
Household size		
1 member	0.09	0.14
2 members	0.28	0.24
3 members	0.30	0.25
4 members	0.26	0.26
5 or more members	0.07	0.12
Geographical Area		
North	0.46	0.45
Centre	0.20	0.19
South and Islands	0.34	0.35
N observations	3016	12116

Note: The table compares sample means of selected demographic variables in the ISEC (2021) and SHIW (2016). From SHIW we consider only household members 18+ and 75-. Means of SHIW are computed using sample weights, for ISEC weights are not necessary. Not employed includes unemployed and looking for the first job.

Table B2. Quantitative macroeconomic forecasts (question A1)

Expected GDP growth	Freq.	Percent	Cum.
Less than 2%	200	6.63	6.63
-2	102	3.38	10.01
-1	123	4.08	14.09
0	237	7.86	21.95
1	386	12.80	34.75
2	474	15.72	50.46
3	309	10.25	60.71
4	271	8.99	69.69
5	271	8.99	78.68
6	142	4.71	83.39
7	62	2.06	85.44
8	28	0.93	86.37
9	11	0.36	86.74
10	30	0.99	87.73
Above 10%	27	0.90	88.63
Don’t know	343	11.37	100.00
Total	3016	100.00	

Table B3. Qualitative forecasts (question A4)

Forecast	Freq.	Percent	Cum.
Much worse	229	7.59	7.59
Slightly worse	308	10.21	17.81
Broadly stable	783	25.96	43.77
Slightly better	1354	44.89	88.66
Much better	225	7.46	96.12
Don’t know	117	3.88	100.00
Total	3016	100.00	

Table B4. Quantitative health forecasts (question A2)

Expected third dose rate – prior (% of population)	Freq.	Percent	Cum.
0-5	98	3.25	3.25
5-10	148	4.91	8.16
10-15	178	5.90	14.06
15-20	242	8.02	22.08
20-25	209	6.93	29.01
25-30	236	7.82	36.84
30-35	232	7.69	44.53
35-40	248	8.22	52.75
40-45	196	6.50	59.25
45-50	253	8.39	67.64
Above 50%	758	25.13	92.77
Don’t know	218	7.23	100.00
Total	3016	100.00	

Table B5. Qualitative health forecast (question A5)

Health forecast	Freq.	Percent	Cum.
Much worse	153	5.07	5.07
Slightly worse	262	8.69	13.76
Broadly stable	727	24.10	37.86
Slightly better	1304	43.24	81.10
Much better	442	14.66	95.76
Don’t know	128	4.24	100.00
Total	3016	100.00	

B2. Summary Statistics

	Mean	Median	Max	Min	SD	N
Male	.493	0	1.000	0	.5	3016
Age	47.427	48	75.000	18	14.005	3016
18-34	.239	0	1.000	0	.427	3016
35-44	.169	0	1.000	0	.375	3016
45-54	.23	0	1.000	0	.421	3016
55-64	.238	0	1.000	0	.426	3016
65-75	.124	0	1.000	0	.329	3016
Fear of contracting covid:						
while working	5.372	6	10.000	1	3.083	2804
while eating out, travelling or shopping	6.202	7	10.000	1	2.683	2941
from contact with family members	4.932	5	10.000	1	2.971	2940
from contact with friends and relatives	5.715	6	10.000	1	2.707	2946
Fear of infecting others	5.454	6	10.000	1	2.903	2914
Average fear	5.783	6	10.000	1	2.475	2967
Disposable income growth	-.014	0	0.125	-.125	.043	3016
Consumption growth at home	.005	0	0.125	-.125	.043	3016
Consumption growth away from home	-.014	0	0.125	-.125	.051	3016
Online purchases growth	0	0	0.125	-.125	.043	3016
Total consumption growth	0	0	0.125	-.125	.049	3016
Wealth growth	0	0	0.125	-.125	.046	3016
S.d. income growth	.032	.031	0.125	0	.029	3016
S.d. consumption growth at home	.037	.031	0.125	0	.036	3016
S.d. consumption growth	.032	.028	0.125	0	.03	3016
S.d. online purchases growth	.03	.023	0.125	0	.03	3016
S.d. total consumption growth	.032	.03	0.125	0	.029	3016
S.d. wealth growth	.027	.015	0.125	0	.03	3016
Elementary school	.189	0	1.000	0	.392	3016
High school	.554	1	1.000	0	.497	3016

College	.257	0	1.000	0	.437	3016
Retired	.129	0	1.000	0	.336	3016
Unemployed or searching first job	.141	0	1.000	0	.348	3016
Housewife/househusband	0.142	0	1.000	0	0.349	3016
Household components	2.97	3	6.000	1	1.122	3016
1 member	.088	0	1.000	0	.284	3016
2 members	.275	0	1.000	0	.447	3016
3 members	.304	0	1.000	0	.46	3016
4 members	.26	0	1.000	0	.439	3016
5 members	.057	0	1.000	0	.232	3016
6 or more members	.016	0	1.000	0	.125	3016
Home ownership	0.761	1	1.000	0	.427	2953
North	.459	0	1.000	0	.498	3016
Centre	.198	0	1.000	0	.399	3016
South and Islands	.343	0	1.000	0	.475	3016

B3. Sample design

The survey was carried out by Doxa and includes 3,016 observations. The sample is stratified by gender, age (18-24, 25-34, 35-44, 45-54, 55-64, 64-75), and geographical area (North-West, North-East, Centre and South and Islands). The survey technique used was CAWI (Computer Assisted Web Interviewing). The survey took place between 20 November and 5 December 2021.

The overall response rate on the Doxa Panel (see below) was 71.2%, with low unit non-response for all questions. The questionnaire was constructed with the help of field experts and academic researchers. It was piloted with 100 respondents during the first two weeks of November 2021.

The Doxa Panel

The Doxa panel is a web platform designed and developed by Doxa to respond specific research needs. Doxa's proprietary panel has over 120,000 registered panellists, 50,000 of which are active (completed a survey in the previous 12 months or signed up in 2021). Average response rate was 40% and invitations to respond to the survey were sent to users, on average, 2.5 times a month. The surveys are optimized for different devices (around 33% are via mobiles).

Recruitment of panel

Doxa carries out periodic subscriber recruitment (2-3 times a year) to widen the reference base for online searchers and guarantee rotation of subscribers (10%-20% of active panel users are replaced each year). Particular attention is paid to representativeness of the panel, in both sociodemographic and behavioural terms. Recruitment considers a range of sources and recruitment methodologies. Several strategies are implemented to reduce distortion in the panel recruitment process:

- Annual offline recruiting based on responses to large surveys (and probabilistic random samples) carried out with face-to-face or telephone methods
- online recruiting using a range of tools (DEM, impressions on sites, advertising on social networks) and sources (diversification of name suppliers, different sites, different social network activity in terms of formats and channels)

Incentives for panel

Subscribers to web panels receive incentives for active participation in the proposed research. Doxa pays close attention to the type of incentive system since it could affect the decision to join the panel and result in self-selection problems, behaviour/attitudes when responding to questions and, thus, the result survey. To filter out participants interested only in the incentive, a donation to a non-profit charity is associated with payment of the personal incentive.

Fieldwork management

During the fieldwork phase, Doxa follows rigorous procedures to limit bias introduced by fast respondents or speeders. The questionnaires are administered randomly to participants; invitations are staggered across several days to try to reduce speeders; the invitation remains valid for at least a week (including a weekend) to allow participation of individuals who do not look at their email every day and helping to ensure participation of individuals who tend not to reply immediately.

B4. The questionnaire

The questionnaire was administered online. A pilot survey of 100 interviews was carried out in October 2021. The questionnaire was revised after the pilot.

The questionnaire includes 8 sections - A to H

01. Gender:
1. Male
2. Female

02. Age:
1. 18-34
2. 35-44
3. 55-75

03. Town:

04. Education:
1. PhD/Master
2. Graduated
3. University (but not graduated)
4. High school with Diploma
5. High school without Diploma
6. Middle school with Diploma
7. Middle school without Diploma
8. Elementary school

05. Job:
1. Blue collar
2. Clerk
3. School Teacher
4. White collar
5. Public officer, university teacher, lawyer
6. Self-employed
7. Entrepreneur
8. Craftsman or woman
9. Other
10. Looking for the first job
11. Unemployed
12. Housewife/househusband
13. Wealthy
14. Retired
15. Student
16. No answer

Expectations (prior and RCT)

A1. Macroeconomic forecast. In your view, how much with the Italian economy grow next year (2022)?

	Less than -2	-2	0	1	2	3	4	5	6	7	8	9	10	Above 10	Don't know
Economic growth in 2022															

A2. Health forecast. In your view, what percentage of Italians (aged over 12) will have received a booster shoot (third dose) by Jan 2022?

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Above 50	Don't know
% of people having received the booster shot												

A3. Economic and health treatments

Group 1 – 756 respondents. No information

Group 2 – 756 respondents. Economic treatment

According to the Italian Government figures, GDP will grow by 6% in 2021 and by 4.2% in 2022, returning to pre-crisis output levels

Did you read the intel?

- Yes
- No

Group 3 – 756 respondents. Health treatment

According to Italy's Protezione Civile, at the beginning of November the share of over-12s in Italy that had received two vaccinations fully vaccinated was 84%; 3.4% had received a booster.

Did you read the intel?

- Yes

- No

Group 4 – 756 respondents. Economic + Health treatment

According to the Italian Government figures, GDP will grow by 6% in 2021 and by 4.2% in 2022, returning to pre-crisis output levels

Did you read the intel?

- Yes
- No

According to Italy's Protezione Civile, at the beginning of November the share of over-12s in Italy that had received two vaccinations fully vaccinated was 84%; 3.4% had received a booster.

.

Did you read the intel?

- Yes
- No

To everyone

A4. In your opinion, in 2022, the general economic situation will be:

1. Much better
2. Slightly better
3. More or less the same
4. Slightly better
5. Much better
6. Don't know

A5. In your opinion, in 2022, the general health situation will be:

1. Much better
2. Slightly better
3. More or less the same
4. Slightly better
5. Much better
6. Don't know

Health Crisis and Covid

B1. In the context of the current health crisis, can you indicate, in a scale from 1 to 10 where 1 means "not worried at all" and 10 mean "extremely worried", how worried you are about catching or passing on Sars-Cov2 (COVID-19?

	1	2	3	4	5	6	7	8	9	10	Don't know
1. While working											
2.While shopping, eating out, travelling, etc.											
3. Contact with household members											
4. Contact with relatives and friends											
5. Fear of infecting others											

B2. On a scale from 1 to 10 (unlikely to extremely likely), rank your expected probability of a further lockdown

	1	2	3	4	5	6	7	8	9	10	Don't know
Probability of lockdown											

B3. Which at of the following items best describes your and your household's experience of covid: (you may indicate more than 1 item)

1. I was infected
2. A member of my household was infected
3. No one in the household was infected
4. Don't know
5. Prefer not to answer

B4. Which of the following best describes your experience of the vaccination programme:

1. I have received my first shot
2. I have received my second shot
3. I have received my booster shot
4. I have not been vaccinated
5. Prefer not to answer

B5. Think about the time you spend reading newspaper articles about COVID and watching news and other TV programmes about the health crisis and the vaccines. How much time do you spend every week doing this?

1. No time
2. Less than 1 hour
3. Between 1 and 2 hours
4. Between 2 and 4 hours
5. More than 4 hours

Income and Work
(Applicable if employed)

If employed

C1. What type of contract do you have?

1. Full time permanent
2. Full time fixed-term
3. Part time permanent
4. Part time fixed-term

If employed

C2. Which sector do you work in?

1. Agriculture
2. Manufacturing
3. Construction
4. Retail
5. Transportation
6. Finance
7. Real estate
8. Professional (lawyer, architect, engineer, etc.)
9. Domestic services
10. Public sector
11. Don't know

To everyone

C3. What is your household's monthly income?

1. €
2. €1,000-1,500
3. €1,500-2,000
4. €2,000-2,500
5. €2,500-3,000
6. €3,000-4,000
7. €4,000-5,000
8. €5,000-7,500
9. €7,500-10,000
10. €10,000-15,000

11. Above €15,000
12. Don't know

If 12 in C3.

C4. According to ISTAT, the average household monthly income is around €2,500. Which of the following best describes your household income?

1. Significantly below the average
2. Below the average
3. Equal to the average
4. Above than the average
5. Significantly above the average

All respondents

C5. Have you or a member of your household, received financial aid because of the crisis?

(Multiple answers available)

1. Yes, from the government
2. Yes, from my employer
3. Yes, from friends and relatives
4. No

C6. Could you indicate the type of aid you received?

	Yes	No
CIG (Cassa integrazione Guadagni)		
Assegno ordinario del Fondo di integrazione salariale (FIS)		
Fondo di solidarietà		
Indennità di disoccupazione (NASPI, disoccupazione agricola)		
Reddito di cittadinanza		
Reddito di emergenza		
Misure di sostegno agli autonomi e professionisti		
Bonus baby-sitter		
Altri sostegni, bonus e aiuti		

C7. How many hours have you spent working from home since 2020?

1. None
2. 1 day
3. 2 days
4. 3 days
5. 4 days
6. The whole working week

7. Not working

Consumption and savings

E0_A. Please indicate your average monthly household expenditure in 2021, on food, consumed at home and away from home, in cash, on a credit card, using a cheque, via an ATM?

1. €0-200
2. €200-400
3. €400-600
4. €600-800
5. €800-1,000
6. €1,200–1,400
7. €1,400–1,600
8. €1,600–1,800
9. €1,800–2,000
10. More than €2,000 €

E0_B. Indicate the household's average monthly expenditure for housing and bills (rent/mortgage, electricity, gas, telephone, internet, TV) in 2021?

1. €0-100 €
2. €100-200
3. €200-300
4. €300-400
5. €400-500
6. €500-600
7. €600-700
8. €700-800
9. €800-900
10. €900-1,000
11. More than €1,000

E1. In 2022, you expect the household disposable income, compared to 2021, to:

	%
Decrease by more than 10%	X
Decrease by between 5% and 10%	X
Decrease by between 0% and 5%	X
Be approximately the same	X
Increase by between 0% and 5%	X
Increase by between 5% and 10%	X
Increase by more than 10%	X
Total	100

E2. In 2022, your household's home food consumption, compared to 2021, will:

	%
Decrease by more than 10%	X
Decrease between 5 e 10%	X
Decrease between 0 e 5%	X
Be approximately the same	X
Increase between 0 e 5%	X
Increase between 5 e 10%	X
Increase by more than 10%	X
Total	100

E3. In 2022, your household's food consumption away from home, compared to 2021, will:

	%
Decrease by more than 10%	X
Decrease between 5 e 10%	X
Decrease between 0 e 5%	X
Be approximately the same	X
Increase between 0 e 5%	X
Increase between 5 e 10%	X
Increase by more than 10%	X
Total	100

E4. In 2022, your household's online purchases, compared to 2021, will:

	%
Decrease by more than 10%	X
Decrease between 5 e 10%	X
Decrease between 0 e 5%	X
Be approximately the same	X
Increase between 0 e 5%	X
Increase between 5 e 10%	X
Increase by more than 10%	X
Total	100

E5. In 2022, your household's total consumption, compared to 2021, will:

	%
Decrease by more than 10%	X
Decrease between 5 e 10%	X
Decrease between 0 e 5%	X
Be approximately the same	X
Increase between 0 e 5%	X
Increase between 5 e 10%	X
Increase by more than 10%	X
Total	100

E6. In 2022, do you plan to increase/decrease your household's precautionary savings:

	%
Decreases by more than 10%	X
Decrease between 5 e 10%	X
Decrease between 0 e 5%	X
Be approximately the same	X
Increase between 0 e 5%	X
Increase between 5 e 10%	X
Increase by more than 10%	X
Total	100

E10. In 2022, are you (or a member of your household) planning to buy a durable good:

	Yes	No
Car		
Bike, Scooter		
White goods		
Black durables		
Furniture		

E10bis. Is your dwelling:

1. Owned by the family
2. Rented
3. Other
4. Prefer not to answer

E11. Suppose you win €5,000 in the lottery, how would this change your consumption and saving habits in the next 12 months.

How much would you spend on:

_____ nondurables

_____ durables

gifts to relatives or friends

_____ saving

_____ repaying debts

Total = €5,000

If employed

E12. Rank the likelihood that you will be in employment in your current job in the next 12 months, from 1 extremely unlikely to 10 extremely likely?

	1	2	3	4	5	6	7	8	9	10	Don't know
Probability of keeping current job											

If looking for your first job or unemployed

E13. Rank the likelihood that you will find a job in the next 12 months, from 1 extremely unlikely to 10 extremely likely?

	1	2	3	4	5	6	7	8	9	10	Don't know
Probability of finding a job											

Household Size

What is your household size (including yourself)?

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6 or more

(If) How many members (including yourself) of your household are employed?

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6 or more
7. None

If you have children who are living in the household, can you please indicate how old they are?

1. 0–2 years
2. 2-5 years
3. 6-14 years
4. 14-18 years
5. Over 18 years
6. No children