

The Survey of Consumer Expectations – Wave I

November 2023

Abstract

The Italian Survey of Consumer Expectations (ISCE) survey conducted in October 2023, collecting information on demographic variables, income, consumption, wealth and expectations about individual and aggregate variables. This report describes the survey design, the questionnaire, and the main variables considered in the survey. Appendix A contains the questionnaire, and Appendix B presents selected statistics for some of the most important variables.

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1. Introduction

The first wave of the Italian Survey of Consumer Expectations (ISCE) was conducted in October 2023 and collected information on demographic variables, resources (income and wealth components), consumption, and expectations about individual variables such as consumption and income, and about aggregate macroeconomic variables such as inflation, nominal interest rates and GDP growth.

The ISCE aims to provide an infrastructure to:

- elicit high frequency individual expectations and behaviors;
- perform policy analysis;
- run survey experiments, data and method validations.

The survey builds upon international experiences of online, high-frequency, surveys. In particular, the Survey of Consumer Expectations (SCE) of the New York Fed, collects information on consumers' views and expectations regarding inflation, employment, income, and household finances. The Consumer Expectation Survey (CES) of the European Central Bank collects monthly data on households' expectations on about 10,000 households from the six largest euro area economies (Germany, France, Italy, Spain, the Netherlands and Belgium). Several other international experiences are also useful references, such as the Social Economic Lab at Harvard, exploring through surveys determinants of social preferences, attitudes, and perceptions.

The sample is drawn from a larger representative sample of 120,000 individuals maintained and updated regularly by Doxa. The survey aims at the population aged 18-75 residing in Italy, using CAWI method. The Pilot was administered in September 2023 (100 interviews). The first wave of the survey was completed at the end of October 2023, with 5,007 interviews. The next waves of panel interviews are scheduled in February 2024, April 2024, July 2024 (waves 2, 3 and 4), with replenishment, with random sampling, of observations that exit the sample in subsequent interviews. If the project is successful, it will be extended with waves 5 to 8 from October 2024 to July 2025

2. Survey Design

The survey was carried in October 2023 and includes 5007 observations. The sample is stratified by gender, age (18-34, 35-44, 45-54, 55-64, 65-over), and geographical area (North-West, North-East, Centre and South and Islands). The survey technique used was CAWI (Computer Assisted Web Interviewing). The questionnaire was constructed with the help of field experts and academic researchers.

2.1. The proprietary panel

The survey agency has a web platform designed and developed to respond to specific research needs. This proprietary panel has over 120,000 registered panelists, 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).

2.2. Recruitment of panelists

The survey agency 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 behavioral 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)

2.3. Panel Profiling

Panel profiles are based on several socio-economic variables, including:

- personal characteristics (gender, age, region, province, municipalities, number of inhabitants, education, employment);
- profession (type of profession, professional sector, role, department);
- income (individual and household income and earnings);
- financial wealth (real estate, financial assets, type of investments, debts, insurance);
- consumption (total, food, energy, gas, health).

2.4. Incentives

Subscribers to web panels receive incentives for active participation in the proposed research. The survey agency 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, behavior/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.

2.5. Fieldwork management

During the fieldwork phase, the survey agency 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.

2.5. Pilot

A pilot survey was conducted during the first two weeks of September 2023 to assess the effectiveness of the proposed questionnaire and identify potential challenges. The pilot survey targeted a small sample of 100 respondents. Preliminary findings indicated a high level of engagement and understanding among respondents. However, a few routing errors were

identified, triggering the need for slight revisions. These issues were promptly identified and resolved, ensuring that data processing now accurately reflects respondents' inputs.

2.6. Sample and target population

Doxa employs a system meticulously designed to target specific demographic characteristics within the population of interest. This methodological approach aims to ensure a representative sample that mirrors the diversity of the Italian population.

Table 1 compares sample means of the ISCE with the corresponding SHIW variables. Samples are well aligned in terms of gender, age, employment and region. ISCE features a higher proportion of high school and college graduates, and a lower proportion of large families.

Table 2 compares ISCE and SHIW median income, wealth and consumption, and propensity to invest in specific financial assets. There is good correspondence between individual disposable income in the two surveys. However, consumption is greatly underestimated (but consider that SHIW consumption included imputed rents). In terms of wealth the two surveys are more comparable. Also homeownership and the propensity to invest in bonds, stocks, private pensions and life insurance are broadly consistent.

3. The questionnaire

The questionnaire has two parts. A common, stable part (about 10-12 minutes), that will be repeated in each wave, and special sections of about 5-6 minutes that may change at each survey. There will be also the possibility of introducing one or more sections of "experiments", in which the overall sample is divided into 4/5 random sub-samples to allow for treatment and control designs. In wave 1, the questionnaire is divided in five sections:

- A. Demographics and employment
- B. Income
- C. Wealth
- D. Consumption
- E. Expectations
- F. Catastrophic risks (special section).

The content of each section is described briefly below. The questionnaire is reported in the Appendix A.

A. Demographics and employment

Section A has rich information about the demographic characteristics of the respondents: gender, city of residence, educational background, marital status, family size, income recipients. For education, the ISCE collects data on the type and specialization of the college degree. Additionally, it elicits employment status, distinguishing between employees and self-employment, retired, or seeking employment. For those engaged in employment, the section further explores the sector in which they are employed, providing a comprehensive snapshot of the labor force. To allow comparisons, the coding of the variables is as close as possible as that of the Bank of Italy Survey of Household Income and Wealth (SHIW).

B. Income

Income variables refer to monthly income in September 2023. Income is collected in 11 brackets, as well as with a qualitative question, indicating whether income is well below, below, about the same, above, well above the mean of Italian households. To create descriptive statistics one can use the mid-point of the intervals chosen by the respondent. Where intervals are unbounded, we use a reasonable upper and lower bound to estimate the moments of the distributions.

The survey focuses on the following income variables: household disposable income, household labor and retirement income, individual total income, individual labor and retirement income. Each of these variables is collected as “net of tax”, as in the SHIW.

In the final part of the section, respondents report whether they have received bonuses or transfers in September 2023, how long they worked at home in September 2023, the probability of losing the job (if employed) and to find a job (if unemployed).

C. Wealth

Section C attempts to construct an indicator of total wealth, and financial market participation in September 2023. Respondents report in 6 brackets financial wealth, real wealth and total debt, allowing to estimate net wealth. They also report whether they own the house in which they live. For financial wealth, they report whether they have a transaction account, and financial investments in bonds, stocks, private pensions, life insurance. Final questions refer to insurance, separately for health and casualty insurance.

D. Consumption

Section D elicits monthly consumption and consumption categories in September 2023. Respondents report total consumption (11 brackets), gas and electricity bills (6 brackets), health expenditures (6 brackets).

E. Expectations

Section E turns to expectations and intentions. It plays a key role in forecasting economic sentiment that will provide invaluable insights especially when future waves will be available.

The common strategy of this section is to elicit not only the mean of future variables (generally 12 months ahead), but also the entire distribution, by asking respondents to allocate 100 points to given intervals of the expectations. For instance, respondents report the likelihood (in percentages), that their income will decrease or increase within specified ranges (e.g., decrease by more than 8%, increase between 2 and 4%, etc.). The econometrician can therefore elicit the subjective probability density function for each respondent.

The section elicits the following distributions for expected growth in the next 12 months of individual income and expenditures: disposable income, labor income and pension income, total consumption growth, health expenditures, gas and electricity bills, price of the house they live in, nominal interest rates on their investments.

The section also asks about intentions, using a (yes/no) format, to purchase specific durable goods (cars, home appliances, furniture, electronics), intention to apply for a loan in the next 12 months, and the likelihood (on a 1 to 100 scale) that the loan will be granted.

The section elicits the distribution of expected retirement age and replacement rate, and the likelihood that specific events will have financial consequences for the household in the next 12 months (unemployment, health expenditure of more than euro 10,000, disability).

Using the same approach, the final part of Section E asks to provide forecasts over the next 12 months of four key macroeconomic variables: GDP growth, inflation, unemployment, and nominal interest rate on mortgages. These expectations can readily be compared with current forecasts of aggregate variables provided by the government, central banks, other national international agencies, and other surveys.

F. Catastrophic Risks

The final Section F focuses on 10 catastrophic risks, gauging overall risk perceptions, potential impact on the Italian economy, likelihood of impact on respondents' disposable income and on respondents' real estate.

The format of the question is similar for all elicited risks: participants evaluate the likelihood of various serious events occurring over the next five years, by assigning a probability of each event on a scale that ranges from 1 to 100.

The 10 risks are: a nuclear war, technological disruptions leading to job loss, cyber-attack, financial crisis, end of democracy, collapse of the UE and the euro, social tensions, new pandemic, natural disasters, earthquake.

4. Descriptive statistics

Appendix B reports excel files with detailed descriptive statistics by socio-demographic groups (age, gender, family size, employment status, region) for some of the most important variables. Tables are grouped in the following excel sheets:

- B. Income
- C. Wealth
- D. Consumption
- E. Expectations
- F. Catastrophic risks

5. Missing values

The limited number of missing values for variable such as income and consumption (about 10% of the sample), and a more substantial number of missing values for real and financial wealth amounts, are imputed using some variables that can explain much of the variation in the variables to be imputed.

6. Environmental data

Online surveys collected through CAWI have pro and cons. On the negative side, responses might be less accurate than with in-person interviews, especially when it comes to respond to complex questions. On the positive side, respondents are very sparse across the entire country, coming from 1954 different cities. One can therefore merge the data with georeferenced environmental risk indicators. This can allow analyzing, for instance, the relation between environmental risks and the perceived risks elicited in Section F of the questionnaire, or the relation between environmental risks and economic outcomes such as saving, wealth, and the propensity to take financial risks.

For this purpose, we rely on The GeoSafe Data Platform, an ANIA proprietary software for analyzing risks from natural disasters on the Italian territory according to different levels of granularity, up to civic or geographic coordinates. GeoSafe geo-localizes risks of natural disasters on the map of Italy, in order to measure and quantify the hazard and vulnerability to which an area may be exposed.

The tool is based on several data sources (ISPRA, ISTAT, INGV) and a proprietary model of ANIA, a non-academic partner of the GRINS project. The tool is certified by academic and institutional partners and consists of four modules: (i) hydraulic and hydrogeological risk, (ii) earthquake risk; (iii) climate risk.

The module aimed at estimating hydraulic (floods and overflows) and hydrogeological (landslides) risk defines a hazard ranking on the basis of four variables that can be selected separately or contextually such as: (i) proximity to river stretches; (ii) slope acclivity or presence of landslides; (iii) historical floods and claims occurred in the last 30 years; (iv) height of water draught.

The module aimed at estimating earthquake risk provides a representative indicator of seismic hazard (made by INGV) and allows data on building type, building height, and year of construction to be entered for a specific building. The indices provided by the INGV for the seismic risk are the ASIs. ASI stands for "Seismic Intensity Areas" and is divided into 3 classes based on the heights of buildings and their oscillation periods (pulsation). They have been divided into these 3 intervals because, in practice, they cover all types of buildings:

- ASI 1: Risk class for buildings with an oscillation period between 0.1s and 0.5s (i.e., with a number of floors ≤ 4)
- ASI 2: Risk class for buildings with an oscillation period between 0.4s and 0.8s (i.e., with a number of floors > 4 and ≤ 8)
- ASI 3: Risk class for buildings with an oscillation period between 0.7s and 1.1s (i.e., with a number of floors > 8)

Within each ASI, there are then 5 degrees of 'sub-risk' to be combined, which vary depending on the risk of the site, the category of the subsoil (Technical Regulations provide for 5 categories: A, B, C, D, and E), and topographic conditions (flat surface or presence of reliefs).

For climate risk instead, GeoSafe supplies a risk indicator developed on a specific meteorological dataset (consisting of precipitation, temperature, snow, hail potential, wind

speed, lightning) and linked to the hazard and exposure conditions of the assets being estimated.

7. Future waves

In future waves (starting in February 2024) the plan is to change the special part of the questionnaire, focusing on different topics, such as literacy (concerning energy, environmental issues, digital, financial), awareness of social policy instruments, and understanding of policy tradeoffs.

The structure of the ISCE allows us to run **survey experiments**, addressing different questions for up to 4 or 5 randomly selected sub-samples, as well as **experimenting different methods of eliciting** subjective expectations (point vs. probabilistic, sensitivity to intervals, probability density function vs. CDF, etc).

Table 1. Comparison between ISCE and SHIW: demographic variables

| | 2023 ISCE | 2020 SHIW |
|------------------------|-------------|---------------|
| | | |
| Male | 0.49 | 0.49 |
| Female | 0.51 | 0.51 |
| | | |
| Age 18-34 | 0.23 | 0.22 |
| Age 35-54 | 0.38 | 0.39 |
| Age 55-75 | 0.38 | 0.38 |
| | | |
| Family size = 1 | 0.13 | 0.13 |
| Family size = 2 | 0.31 | 0.25 |
| Family size = 3 | 0.28 | 0.27 |
| Family size = 4 | 0.21 | 0.25 |
| Family size >= 5 | 0.06 | 0.10 |
| | | |
| Primary education | 0.39 | 0.49 |
| Secondary education | 0.41 | 0.34 |
| Tertiary education | 0.22 | 0.16 |
| | | |
| Employees | 0.44 | 0.45 |
| Self-employed | 0.09 | 0.08 |
| Not in the labor force | 0.47 | 0.47 |
| | | |
| North | 0.46 | 0.45 |
| Centre | 0.19 | 0.20 |
| South and Islands | 0.34 | 0.35 |
| | | |
| Total | 5007 | 11,373 |

Note: The table compares sample means of selected demographic variables in the ISCE (2023) and in the SHIW (2020). From SHIW we consider individuals between 18 and 75 years old. Means are computed using sample weights.

Table 2. Comparison between ISCE and SHIW: income, consumption and wealth

| | ISCE 2023 | SHIW 2020 |
|------------------------|------------------|------------------|
| Disposable income | 21000 | 39757 |
| Total consumption | 15000 | 24750 |
| | | |
| Financial wealth | 26440 | 15000 |
| Real assets | 164174 | 216400 |
| Debt | 16788 | 0 |
| Total wealth | 210213 | 227000 |
| | | |
| Homeownership | 0.74 | 0.80 |
| <i>Investing in</i> | | |
| Bonds | 0.19 | 0.13 |
| Stocks | 0.19 | 0.11 |
| Private pensions | 0.20 | 0.11 |
| Life insurance | 0.24 | 0.17 |
| | | |
| Number of observations | 5007 | 5064 |

Note: The table compares sample means of selected demographic variables in the ISCE (2023) and in the SHIW (2020). From SHIW we consider individuals between 18 and 75 years old. Means are computed using sample weights.

Table 3. Variables' and tables' description

| Variables | |
|---|-----------------------------------|
| Household disposable income | y |
| Household earnings and pensions | yl |
| Individual total income | py |
| Individual earnings and pensions | pyl |
| Real assets | ar |
| Financial assets | af |
| Total debt | pf |
| Net wealth (ar+fa-pf) | w |
| Total consumption | ctot |
| Food consumption | cfood |
| Energy bill | cener |
| Gas bill | cgas |
| Health expenditures | chealth |
| Homeownership | hown |
| Expected disposable income growth | ey |
| Standard Deviation | sd _y |
| Mean of expected labor income growth | eyl |
| Standard Deviation of expected labor income growth | sd _{yl} |
| Mean of expected consumption growth | ec |
| Standard Deviation of expected consumption growth | sd _c |
| Mean of expected health expenditures | ec _{health} |
| Standard Deviation of expected health expenditures | sd _c _{health} |
| Mean of expected house price growth | ehome |
| Standard Deviation of expected house price growth | sd _{home} |
| Mean of expected GDP growth | egdp |
| Standard Deviation of expected GDP growth | sd _{gdp} |
| Mean of expected inflation | einfl |
| Standard Deviation of expected inflation | sd _{infl} |
| Mean of expected unemployment rate | eu |
| Standard Deviation of expected unemployment rate | sdu |
| Mean of expected nominal interest rate | er |
| Standard Deviation of expected nominal interest rate | sdr |
| Mean of expected nominal interest rate on mortgages | erm |
| Standard Deviation of expected nominal interest rate on mortgages | sdr _m |
| Tables | |
| tableB.xlsx | Income |
| tableC.xlsx | Wealth |
| tableD.xlsx | Consumption |
| tableE.xlsx | Expectations |