



The Struggle of Being Poor and Claimant: Evidence on the Non-Take-Up of Social Policies in Italy

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Abstract

Social policies aim to alleviate poverty and income inequality, providing cash benefits and services to households facing economic difficulties. Nonetheless, it is well known that a relevant portion of eligible households do not claim such policies. Through an original methodology based on ISEE (*Indicatore della Situazione Economica Equivalente*) administrative records, this paper offers initial empirical evidence on the non-take-up of social policies in Italy. We show that roughly 1.1 million of poor households did not file the ISEE declaration in 2018, a necessary step to claim most means-tested cash benefits and services. Based on Logit regressions, results show that younger and larger households are more inclined to claim social policies. In contrast, households headed by a female or migrant tend to report severe levels of non-take-up, as do those living in the islands.

Keywords Non-take-up · Social policies · Poverty · Administrative records · Welfare system

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1 Introduction

Claiming social benefits may not be as easy as one might at first imagine. In fact, although these types of policies aim to alleviate poverty and income inequality by providing cash benefits and services to households facing economic difficulties, claiming such benefits requires a large amount of time, knowledge of policies, and the ability to deal with bureaucracy.

These requirements are, however, particularly difficult to achieve by poor households as they generally have low literacy levels, language difficulties, a lack of internet access, and a higher propensity to procrastinate (Currie 2004; Bertrand et al. 2006; Eurofound 2015; Bruckmeier and Wiemers 2017; Daigneault and Macé, 2020). Moreover, poor households may decide not to claim social policies because they may be forced to report in-depth information on household incomes and members, exposing themselves to further inspections or tax assessments. Some of these households may indeed be characterized by tax evasion behaviours (e.g. undeclared assets or income from work) or by children experiencing poor health and education conditions (Smith 2005; Ferguson et al. 2007; Gupta et al. 2007; Williams and Round 2010; Albarea et al. 2015; Hamad and Rehkopf 2016). Sen (1995) even underscores a potential loss of individual privacy and autonomy due to extensive disclosures requested in claiming procedures for means-tested social policies. In addition, claiming social benefits generally requires dealing with the ‘red tape’, thus a number of organizational rules, procedures, and regulations (Hall 1963; Bozeman 1993). According to Kaufman (1977) and Bozeman and Scott (1996), the red tape involves several constraints, frustration, and holds negative connotations for applicants, along with an overall slow-down and stiffening of public administration work. Finally, households may not claim social benefits despite being eligible because of ‘psychological frictions’ related to such benefits, such as stigma, inadequate information, cultural processes, low program awareness, or distrust of institutions (Lamont et al. 2014; Bhargava and Manoli 2015; Eurofound 2015; Frazier and Marlier 2016; Li and Walker 2017). Regarding the low program awareness, De Angelis and Van Wolleghem (2022) recently find that this is particularly relevant among the most vulnerable groups of the population in Italy.

As a consequence, the analysis of non-take-up (NTU) of social policies has become increasingly important and widespread. With the exception of the United Kingdom, where the NTU issue was identified in the 1930s (Warin 2014), this phenomenon was generally neglected until the early 1990s (van Oorschot 1991). A first theoretical model for the analysis of factors underlying NTU was proposed by Kerr (1982), according to which the reasons why people do not claim benefits are related to several ‘individual beliefs’ such as the perceived need, feelings regarding the application procedure, and basic knowledge. However, this model was criticised for its exceedingly ‘client-oriented’ structure and for not considering the role played by local administration (e.g. quality of communication, political background, labour market conditions) and policy design (e.g. benefit generosity, conditionality, red tape) in NTU (van Oorschot 1991). As a result, recent studies on the NTU of social policies have adopted a multilevel

framework like the one put forward by van Oorschot (1996), where the determinants of this phenomenon rely on three levels: (i) the client level; (ii) the local administration level; and (iii) the policy design level.

Several studies have provided both qualitative and quantitative evidence on the NTU of social policies over the last two decades, with a particular emphasis on developed countries (see, amongst others, Currie 2004; Hernanz et al. 2004; Matsaganis et al. 2014; Ferrarini et al. 2015; Figlio et al. 2015). In most cases, the NTU of social policies was found to be related to red tape or other administrative barriers, such as the request for additional (out-of-context) information or administrative delays (Hernanz et al. 2004; Frazier and Marlier 2016; Daigneault and Macé, 2020). Another important source of NTU lies in social stigma (Moffit 1983; Hancock et al. 2004; Baumberg 2016). The NTU of social policies also tends to depend on information and awareness among potentially eligible individuals (Matsaganis et al. 2010; Bhargava and Manoli 2015; Figlio et al. 2015), as well as on the expected amount and duration of benefits (Riphahn 2001; Bruckmeier and Wiemers 2012). In addition to low-educated individuals (Currie 2004; Hernanz et al. 2004; Fuchs 2009), several studies have pointed out that females (generally with children) and migrants present the highest rates of NTU, probably due to stigma and language barriers, respectively (Sohrab 1994; Currie and Grogger 2002; Grogger and Michalopoulos 2003).

Only a few papers, however, present evidence on the NTU of social policies using administrative records. Combining household surveys—where benefit eligibility is simulated through a tax-benefit model—with datasets collecting information on the recipients of two means-tested retirement benefits in Greece and Spain, Matsaganis et al. (2010) found that a large number of intended beneficiaries fail to claim these programmes and that NTU rates are higher among married females. Adopting a similar methodology, Bargain et al. (2012) highlighted that roughly half of the eligible population claimed the Finnish social assistance scheme. According to the authors, important and stable determinants of claiming behaviours are education level, expected unemployment duration, and benefit amounts, as well as variables associated with stigma. Finally, using a large-scale administrative dataset, Vinck et al. (2019) showed that the claiming of supplemental benefits for disabled children in Belgium significantly depends on the disability type (children with autism spectrum disorders report higher NTU rates).

The present study provides initial empirical evidence on which categories of the poor report a greater level of NTU of social policies in Italy. This country represents an interesting case study because of the peculiar bureaucratic procedure that characterises access to its welfare system. The means-testing of the great majority of social benefits and services in Italy is based on the value of a particular definition of household economic well-being called ISEE (*Indicatore della Situazione Economica Equivalente*). This is a complex indicator of equalised economic conditions considering both income and wealth information, and it requires the submission of a specific declaration. In other words, the claiming of social benefits supporting poor households in Italy relies on a two-step bureaucratic procedure: (i) filing the ISEE declaration; and (ii) filing the application form for the required benefit. While this procedure may represent a complication, it should imply a fair treatment in the access to the welfare system, which has been a longstanding objective of policymakers. Moreover, people

can use the same ISEE declaration for multiple benefit claims, and that may be a simplification. The described procedure allows us to draw relevant conclusions on the overall NTU of social policies in Italy by looking at ISEE records. With respect to existing literature, a further novelty of our study consists in analysing the NTU of the whole welfare system rather than focusing on a single benefit.

To define the level of NTU, our analysis relies on an original methodology based on the comparison of sample survey data and administrative records. On one hand, we use data on the whole population of households that filed the ISEE declaration in 2018. Specifically, we focus on households reporting an ISEE value below 6000 euros to ensure we only consider those facing severe poverty conditions and who are thus in need of a social benefit. By using this ISEE threshold, which coincides with the ISEE eligibility threshold of the universal (but selective) national minimum income scheme,¹ we also make sure that poor households not filing the ISEE declaration are excluded from the welfare system.

On the other hand, using the 2017 European Union Statistics on Income and Living Conditions (EU-SILC) survey for Italy (hereafter IT-SILC), we identify the total number of households whose ISEE value would have been below 6,000 euros if they had filed the ISEE declaration. In other words, the IT-SILC survey data allows us to identify poor households that did not declare their ISEE, despite being entitled to cash benefits and services. We exploit differences in the absolute frequencies of specific household types between the two datasets so as to weight administrative records accordingly to sample survey data. We proxy the risk of being excluded from the overall welfare system (and, more in general, the extent of NTU) by categorising the derived weights into three groups. As a final step in our methodology, we employ weighted administrative records to shed light on NTU determinants by means of multinomial regression analysis.

The remainder of the paper is organised as follows. Section 2 describes the two datasets employed. Section 3 presents the methodology adopted. Section 4 shows the results of the econometric analysis. The last section concludes and discusses policy implications stemming from the analysis.

2 Data

Our analysis relies on two different datasets: 2017 IT-SILC survey data and ISEE records for the year 2018. Despite interviews and declarations refer to different years, the income reference year of these two datasets is the same. In fact, reported incomes refer to the year before the interview in the IT-SILC data, and the ISEE indicator is derived from household-level income and wealth data referring to two years before the moment of declaration.

The IT-SILC dataset represents the Italian component of the European Union Statistics on Income and Living Conditions (EU-SILC) survey, which contains detailed

¹ This measure presents also other eligibility criteria (see Gallo 2021), but the existence of several cash benefits and services in the Italian welfare system that only look at the ISEE value (with much higher thresholds) strengthens our beliefs. A more detailed discussion on this aspect is provided in Sect. 2.

micro-data on income, labour, and socio-demographic characteristics at both the individual and household level. The dataset is provided by the Italian National Institute of Statistics (ISTAT) and comprises information on 48,819 individuals living in 22,226 households and is representative of the whole population.

As for ISEE records, they are part of a large-scale administrative dataset collected by the Italian Social Security Institute (INPS). It gathers all declarations filed by Italian households claiming social benefits. In fact, most of means-tested cash benefits and services in Italy require this further bureaucratic procedure since income eligibility criteria are generally based on the ISEE value.² To develop our analysis, we decided to focus on households reporting an ISEE value below 6000 euros to ensure we only consider those facing conditions of poverty and thus in need of any social benefits. Our final ISEE dataset counts 1,948,256 households, for a total of 5,630,807 individuals.

The definition of a ‘poverty threshold’ equal to 6,000 euros in ISEE values relies on the fact that this coincides with the income eligibility criterion for the minimum income scheme operating in Italy in 2018 (i.e. the *Reddito di Inclusione* or REI). As the REI aimed to combat poverty and social exclusion, we can therefore argue that households having an ISEE value below this threshold are very likely to be poor. In addition, the REI follows the European principle of ‘selective universalism’ (Raitano et al. 2018), which means that poor households satisfying the income eligibility criteria are potential recipients. This feature makes the REI the last safety net of the poor and ensures that the so-defined poor households in Italy were (almost) surely eligible for at least one social policy for which they were required to file the ISEE declaration. Moreover, it has to be noted that a considerable number of benefits and access to specific services require the ISEE declaration in the Italian welfare system (e.g. minimum income schemes, new-born benefits, exemption or reduction of tuition fees, university scholarships, access to homecare support, essential services, and others).³

As is usual for this type of administrative records (Connelly et al. 2016), ISEE data are not collected for research purposes and only contain information needed to carry out administrative assessments of eligibility. For this reason, they do not include relevant information that may have represented important variables for our analysis, such as educational level, marital status, or individual incomes. On the other hand, ISEE records contain information on gender, age, citizenship, disability status, employment status, and the municipality of birth and residence for each household member. As far as income and wealth information are concerned, ISEE data do not provide values at the individual level but contain detailed information on the overall ISEE level, total household income (standard or equivalised), and household financial wealth and real estate assets. Furthermore, it collects data on household tenure status and mortgage indebtedness.

² Each household can file more than one ISEE declaration in the same year. We thus avoided double counts by focusing solely on the latest declaration filed in 2018.

³ Raitano et al. (2020) provide further details on the access to essential services by low-income people in Italy.

2.1 Representativeness Issues of ISEE Records

Table 1 shows that half of individuals living in households with an ISEE value lower than 6,000 euros in 2018 are female, 77% hold Italian citizenship, and 11% are aged 61 or over, while underage children represent 30% of the ISEE population studied. The majority of individuals in ISEE records (about 56%) live in southern and insular areas. This comes as no surprise since income poverty is more widespread in these areas (Acciari and Mocetti 2012). As for household characteristics, Table 1 indicates a U-shaped distribution with increasing household size. In fact, 26% of households consist of single persons; the share decreases to 18% for two-member households and then grows to 35% for households with four or more members. The high frequency of large households in administrative records helps explain why family units with at least one underage child represent 50% of the ISEE population.

To preliminarily assess potential representativeness issues of ISEE records, in Table 1 we provide a comparison with 2017 IT-SILC survey data. Household income information collected in this dataset allows us to focus specifically on poor households, allowing for a more consistent comparison with the ISEE records.

Since ISEE values are not collected by the IT-SILC survey questionnaire, we estimated them by means of a tax-benefit microsimulation model that partially draws on Boscolo (2019; 2021) and Gallo (2021).⁴ Once the ISEE values were calculated for the whole sample population, we selected observations with an ISEE value lower than 6000 euros to match the ISEE population—4450 individuals living in 2079 households. Table 1 reports the composition of the selected 2017 IT-SILC sample by individual and household characteristics. Observations were scaled to the country population (e.g. 2079 households in the sample count as 3,045,031 households in the total population) through sample weights provided by ISTAT.

As expected, the number of households reporting an ISEE value lower than 6000 euros is found to be substantially greater than the actual number we observe in administrative data (Table 1). Specifically, about 1.95 (5.63) million households (individuals) present a condition of economic need according to ISEE records, whereas this should amount to roughly 3.05 (7.36) million according to our simulations based on IT-SILC data. This means that more than one million Italian households do not file the ISEE declaration despite facing poverty conditions and thus probably being eligible for some social benefit. The implicit assumption in the estimation of ISEE values on 2017 IT-SILC data is that all households file the declaration and thus deal with the required bureaucratic procedures. Consequently, the observed (absolute) gap between such a hypothetical scenario (i.e. all the poor population claiming social benefits) and administrative data provides evidence on the existence and possible extent of NTU of social policies, which is likely to be the main driver of representativeness issues of ISEE records.

⁴ Such models simulate the tax-benefit system of one or more countries for a given year. This enables one to assess the redistributive impact of current and alternative policy scenarios and sheds light on work incentives induced by policy changes (see, for example, Sutherland and Figari 2013; Li et al. 2014). The microsimulation model employed in this study represents an authors' recent update of the MAPP© model developed by the Center for the Analysis of Public Policies (CAPP) at the University of Modena and Reggio Emilia (Baldini et al. 2015).

Table 1 Comparison of characteristics between ISEE records and IT-SILC survey data

Individual characteristic	ISEE records		2017 IT-SILC data		Difference		Take-up rate (%)
	Obs	%	Obs	%	In obs	In shares	
Male	2,672,519	47.5	3,563,935	48.4	891,416	1.0	75.0
Female	2,958,288	52.5	3,796,401	51.6	838,113	- 1.0	77.9
Italian	4,332,910	76.9	5,589,853	76.0	1,256,943	- 1.0	77.5
Foreign	1,297,897	23.1	1,770,483	24.1	472,586	1.0	73.3
Aged 0–17	1,708,057	30.3	1,875,166	25.5	167,109	- 4.9*	91.1
Aged 18–40	1,828,669	32.5	2,234,408	30.4	405,739	- 2.1*	81.8
Aged 41–60	1,483,058	26.3	2,207,647	30.0	724,589	3.7*	67.2
Aged 61 or over	611,023	10.9	1,043,115	14.2	432,092	3.3*	58.6
North–West	1,000,125	17.8	1,344,215	18.3	344,090	0.5	74.4
North–East	593,525	10.5	622,393	8.5	28,868	- 2.1	95.4
Centre	893,467	15.9	1,126,533	15.3	233,066	- 0.6	79.3
South	2,040,440	36.2	2,680,841	36.4	640,401	0.2	76.1
Islands	1,103,250	19.6	1,586,354	21.6	483,104	2.0*	69.5
Total	5,630,807	100.0	7,360,336	100.0	1,729,529		76.5
Household characteristic	ISEE records		2017 IT-SILC data		Difference		Take-up rate (%)
	Obs	%	Obs	%	In obs	In shares	
1 member	506,696	26.0	1,112,563	36.5	605,867	10.5*	45.5
2 members	342,073	17.6	652,441	21.4	310,368	3.9*	52.4
3 members	411,827	21.1	532,838	17.5	121,011	- 3.6*	77.3
4 or more members	687,660	35.3	747,189	24.5	59,529	- 10.8*	92.0
No underage children	975,645	50.1	1,927,024	63.3	951,379	13.2*	50.6
Presence of underage children	972,611	49.9	1,118,007	36.7	145,396	- 13.2*	87.0
No self-employed members	1,824,659	93.7	2,513,968	82.6	689,309	- 11.1*	72.6
Presence of self-employed	123,597	6.3	531,063	17.4	407,466	11.1*	23.3
Total	1,948,256	100.0	3,045,031	100.0	1,096,775		64.0

*Difference in shares is significant at the 1 percent level. Source: Elaboration of the authors on ISEE administrative records for the year 2018 and 2017 IT-SILC survey data

Differences in population shares between ISEE records and IT-SILC data highlight that, due to different NTU behaviours across the poor population, administrative data are hardly representative with regard to the age structure of individuals (see Table 1). Underage children in ISEE records represent a much greater relative share of the total population with respect to IT-SILC data, while people aged 61 or over are underrepresented. Still according to ISEE records, there are significantly fewer individuals in poverty conditions in the insular areas (i.e. 19.6% rather than 21.6% of total population reporting an ISEE value lower than 6,000 euros). No significant differences in population shares are reported by gender and citizenship. With regard to household characteristics, the ISEE population differs substantially from the hypothetical scenario. In fact, households with a low ISEE value should consist of single persons or report the presence of underage children only in about 37% of cases, whereas they amount to 26% and 50% of the ISEE population, respectively. Also, looking at the occupational status of household members, Table 1 highlights that having at least one self-employed member within the household represents a strong disincentive to file an ISEE declaration, since they are only 6.3% of total population in ISEE records (17.4% in IT-SILC data).

Information provided in Table 1 also allows calculating a sort of ‘take-up rate’ through the ratio between the observations on ISEE records and the IT-SILC ones. That is not a standard take-up measure because it does not refer to a specific social benefit, but it tells something about the share of poor individuals and households which are likely to claim at least one of the benefits provided by the Italian welfare system. Table 1 shows that the take-up rate is equal to 64.0% for the total population of poor households, but it is 50.6% for households without underage children or with few members and greater than 90.0% for the households with at least four members. The very low NTU of households with many members or underage children may be explained by the fact that, as described in the Introduction, the same ISEE declaration can be used for multiple benefit claims (e.g. school fees, essential services, minimum income scheme), which is a typical situation for these households. Since the numerous households report the highest rates, the take-up is greater and equal to 76.5% when looking at individuals. In this case, two categories of poor individuals present a rather high take-up rate: those aged 17 or lower (91.1%) and those living in the North-East of Italy (95.4%).

In conclusion, as the comparison between administrative and IT-SILC data is made ‘at parity of poverty conditions’ of households, estimated differences in observations (absolute terms) and in population characteristics (relative terms) provide some insight into the representativeness issues of administrative records and, more generally, into the level of NTU. In particular, we show that the elderly and people living alone tend to be underrepresented in administrative data (i.e. they are probably more scared of red tape), while the opposite occurs for households with children in economic need. This evidence on ISEE records is probably driven by the historical feature of the Italian welfare system of being particularly categorical (Saraceno 2006; Natili 2019). The under-representation of the elderly is of particular interest given the broad extent of coverage provided them so far (Baldini et al. 2016), emphasising the difficulties that this category encounters in the access to the welfare system.

3 Methodology

The weighting procedure proposed here relies on the comparison between IT-SILC data for the year 2017,⁵ which are deemed to ensure the overall representativeness of our population of interest, and administrative records for the year 2018.

As for the choice of the variables included in the weighting procedure, we defined a series of socio-demographic and economic dimensions that we believe are among the predictors that best explain the phenomenon of NTU of social benefits in the Italian context. Among many, given the data availability constraint in ISEE records, we identified the following list of variables at the householder level: i) Italian citizenship (binary); presence of underage children (binary); number of household members (categorical, 4 groups: 1 member; 2 members; 3 members; 4 or more members); age class (categorical, 3 groups: aged 18–40; aged 41–60; aged 61 or over); macro-area of residence (categorical, 5 groups: North-West; North-East; Centre; South; Islands); income class as measured by the ISEE indicator (categorical, 4 groups: 0 euros; 1–2000 euros; 2001–4000 euros; 4001–6000 euros). In IT-SILC data, the head of household is defined as the individual responsible for the accommodation and is the person filing the ISEE declaration for administrative records. It is worth stressing that the choice of variables was also driven by data comparability between the two data sources employed.

We then divided both datasets into 840 different household types based on the categorisation described above (keeping in mind that there are no single-member households where the individual is underage in our datasets). For each of these types, we weighted households in administrative records such that their absolute frequencies equal the corresponding (weighted) IT-SILC frequencies.⁶ As a result, the derived weights can be conceptually separated into four categories:

$$w_{A,i} = af_{IT-SILC,i} / af_{A,i} \tag{1}$$

$$\text{with } w_{A,i} \text{ being alternatively } \left\{ \begin{array}{l} \text{missing} \\ 0 \\ (0; 1] \\ > 1 \end{array} \right\}$$

where $af_{IT-SILC,i}$ is the absolute IT-SILC frequency of the i -th household type and $af_{A,i}$ is the corresponding one in administrative records. When $w_{A,i}$ is *missing*, this means that the i -th household type is not recorded in either of the two samples; with

⁵ To develop this analysis, we had access to an advanced version of IT-SILC 2017 data which adds variables linked to extra questions collected by the Italian National Institute of Statistics (ISTAT) to those related to the EU-SILC questionnaire. Amongst the others, for example, this IT-SILC dataset contains information on the receipt of specific social transfers existing in the Italian welfare system, the value of the main residence (or first house), and the ownership of second houses.

⁶ The econometric results of our analysis are robust to different weighting strategies. In particular, we tested the generalised raking procedure put forward by Deville and Särndal (1992). We opted for a simple stratified approach rather than raking methods for a twofold reason: i) it allows us to identify hard-to-survey households; ii) it provides higher accuracy in the weighting of specific population subgroups. More details are available upon request to the authors.

$w_{A,i}$ equal to zero, the selected household type is not included among the households interviewed for the IT-SILC survey, while the opposite ($af_{A,i} = 0$ and $af_{IT-SILC,i} \neq 0$) is never true; as for $w_{A,i}$ being in the interval $(0; 1]$, this indicates that the i -th household type is underrepresented in the IT-SILC data compared to administrative records; finally, $w_{A,i} > 1$ indicates overrepresentation.

We believe that these calibration weights represent a helpful, novel and reliable tool to analyse the extent and characteristics of the NTU of social policies in Italy. Nonetheless, given the methodology adopted, some measurement errors might stand. On the one hand, despite individual labour incomes and household financial wealth as simulated by the microsimulation model are aligned to known population totals, the ISEE value estimation can present some imperfection due to data availability constraints (e.g. degrees of disability conditions, values of household housing wealth).⁷ On the other hand, assuming a closer-to-true income declared in anonymous interview (Fiorio and D'Amuri 2006), a share of individuals may under- or mis-report some income sources in the ISEE declaration while these are adequately reported on average in the IT-SILC data.

Note that the case in which $w_{A,i}$ is zero is of particular relevance for our study. Sample surveys have been shown to lack representativeness when it comes to hard-to-survey populations (Tourangeau et al. 2014; United Nations Economic Commission for Europe 2019).⁸ Given that we are dealing with severely poor households, we assumed that zero-weight household types cover the whole hard-to-survey population, thereby excluding from such a population household types that are found to be misrepresented ($w_{A,i} \neq 0$). Consistent with this view of identifying hard-to-survey populations, we excluded from administrative records those units with $w_{A,i} = 0$.⁹ More details on the analysis of the characteristics of hard-to-survey households are provided in Appendix.

⁷ Specifically, we attribute the different degrees of disability conditions according to the receipt of specific disability allowances existing in the Italian welfare system. Second houses market and cadastral values are imputed in the microsimulation model applying multipliers on the value of IT-SILC imputed rents specific for second houses. This imputation procedure takes as population reference both the 2016 SHIW (Bank of Italy's Survey on Household Income and Wealth) data and the values provided by the Income Revenue Authority. As regards the alignment of individual labour income, we calibrate total amounts of employment income and self-employment income reported by IT-SILC interviewed individuals with the ones derived from aggregate tax return statistics. From this comparison, in line with Albarea et al. (2015), we observe the need of decreasing by about 30% self-employed incomes reported in survey interviews only. Finally, as for the financial wealth of households, following the methodology suggested in Boscolo (2019) and Gallo (2021), we correct them in IT-SILC data using SHIW data and the 2018 national financial accounts provided by the Bank of Italy as a reference.

⁸ It is also important recalling that the ISEE records refer to the total resident population, whereas the IT-SILC reference population comprises all individuals living in households, and then excludes people living in institutions (e.g. hospitals, nursing homes). While the latter may indeed be excluded by the survey design, these individuals may decide filing the ISEE declaration to receive a bill reduction.

⁹ As a robustness check, we replicated the econometric analysis including zero-weight households. The resulting estimates overall confirm the robustness of our findings. More details are available upon request to the authors.

3.1 Modelling the Extent of NTU

As a result of the weighting procedure and its conceptual implications, we proxied the extent of NTU by means of a categorical variable that takes on the following modalities:

$$NTU = \left\{ \begin{array}{l} 1 : 0 < w_A \leq 1 \\ 2 : 1 < w_A \leq \text{median}(w_A > 1) \\ 3 : \text{median}(w_A > 1) < w_A < \text{max}(w_A > 1) \end{array} \right\} \quad (2)$$

The first category of our dependent variable comprises households that show, on average, low or very low levels of NTU—we label them as ‘*inclined to claim*’; the second category contains households that are ‘*mildly reluctant to claim*’ on average, the weights of which are between the unit and the median weight (i.e. 1.76) as computed on the units with $w_A > 1$; and finally, the third category is made up of households that are ‘*severely reluctant to claim*’ on average, which are the units that present the highest weights (therefore the highest ratios between IT-SILC absolute frequencies and administrative ones, and strictly higher than the median weight).

Out of the 840 household types considered, 2 are observed neither in ISEE records nor in IT-SILC data, while 396 typologies are represented in ISEE records but not in IT-SILC data, for a non-weighted total of 186,585 households (9.6% of ISEE records); the latter are what we refer to as hard-to-survey populations or zero-weight households (more details in Appendix). As for the remaining types, 104 are categorised as inclined to claim social policies, for a total of 600,600 households; 101 fall into the category of mildly reluctant to claim, corresponding to 582,752 households; the severely reluctant to claim are identified by 237 types, amounting to 578,319 households.

To assess the effect of demographic and socio-economic characteristics on the probability of being mildly or severely reluctant to claim social benefits, we estimate a multinomial logit model (MLM) for the three defined NTU levels (inclined to claim, mildly reluctant, severely reluctant). In the model we include all characteristics we used to weight administrative records (citizenship, age, household size, presence of underage children, macro-area of residence, ISEE class) and additional covariates that may be relevant in explaining the NTU levels (gender, employment status of household members, tenure status, logarithmic transformation of household financial wealth).¹⁰ The base outcome in the multinomial logit model is the first NTU category (i.e. households inclined to claim social policies). All estimates are based on weighted administrative records. In the case where w_A is strictly higher than zero and lower than the unit, we preserved the representativeness of the household by imputing a value equal to the unit ($w_A = 1$).

As a sensitivity analysis, we also estimated the probability of being excluded from social benefits, using a binary version of NTU equal to 1 if the weight $w_A > 1$ and 0 otherwise. Results of this test, illustrated in Appendix (Table A2), confirm the robustness of our findings.

¹⁰ For the sake of clarity, estimates including only characteristics we used to weight administrative records are provided in Appendix (Table A1).

4 Results

As preliminary evidence, Fig. 1 illustrates the distribution of weight values by groups of poor households. The horizontal red line represents our ‘neutral threshold’ of NTU ($w_A = 1$). If weight values tend to concentrate below 1, then that specific group of households is characterized by a lower level of NTU. In contrast, the more weight values tend to be higher than the unit, the more that group of households turns out to be reluctant to claim social benefits, as shown by its underrepresentation in ISEE records.

Figure 1 highlights that older and smaller households are, on average, less inclined to claim social benefits. Interestingly, in the latter case, households with two members appear to have an even greater level of NTU than single persons. In line with the higher propensity to claim social benefits reported by larger households, those with underage children are more inclined to file the ISEE declaration. No relevant difference is found when looking at the citizenship of the head of household or at the macro-area of residence. However, migrant households and those living in the central regions of Italy seem to show greater variability in their weight distributions.

Finally, Fig. 1 points to a positive relationship between household income and the NTU. This evidence may on the one hand be related to a higher propensity to claim income support when severe economic conditions emerge and, on the other hand, to the expectancy of lower benefit amounts by those with higher ISEE values, which may discourage households from bearing the related administrative costs.

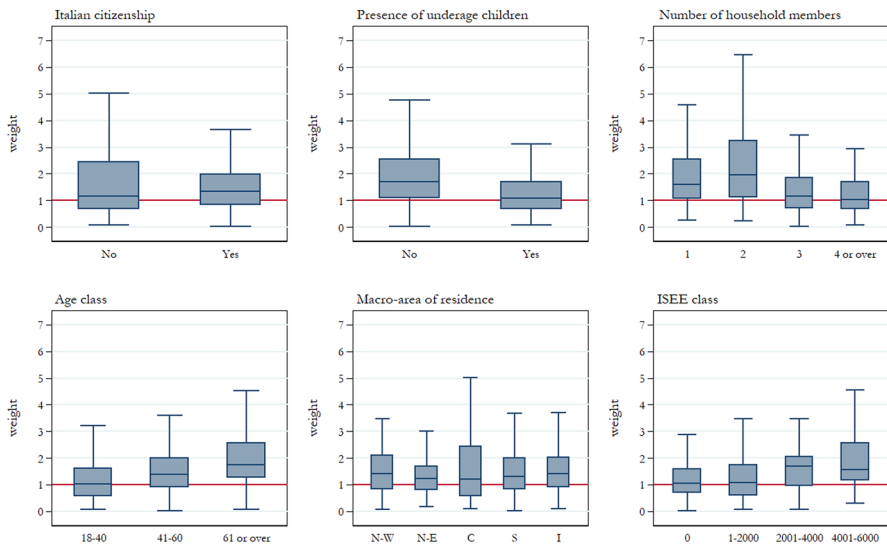


Fig. 1 Box plots of the relationship between derived weights and variables included in the weighting procedure. Note: The figure excludes outside values, as well as zero-weight households. Source: Elaborations on ISEE administrative records for the year 2018

4.1 Econometric Analysis

Table 2 shows the results of our analysis based on a multinomial logit model, confirming the preliminary evidence reported in Fig. 1. Households with a head of household aged 41 or over and those with an ISEE value higher than 2000 euros report, *ceteris*

Table 2 Marginal effects with additional covariates (multinomial logit model)

Variables	Inclined to claim	Mildly reluctant to claim	Severely reluctant to claim
Foreign	− 0.018***	− 0.231***	0.249***
Aged 41–60	− 0.065***	0.020***	0.045***
Aged 61 or over	− 0.058***	0.041***	0.016***
2 members	− 0.013***	− 0.084***	0.097***
3 members	0.101***	0.007***	− 0.109***
4 or more members	0.186***	0.101***	− 0.286***
Presence of at least one underage member	0.091***	0.051***	− 0.142***
North–East	0.140***	0.012***	− 0.152***
Centre	0.081***	− 0.070***	− 0.011***
South	0.030***	− 0.027***	− 0.003**
Islands	− 0.023***	− 0.069***	0.092***
ISEE = 1–2000 euros	− 0.063***	− 0.081***	0.144***
ISEE = 2001–4000 euros	− 0.248***	− 0.085***	0.333***
ISEE = 4001–6000 euros	− 0.275***	− 0.093***	0.368***
Female	− 0.006***	0.002***	0.004***
Presence of at least one employee	0.019***	− 0.027***	0.008***
Presence of at least one self-employed worker	0.007***	− 0.022***	0.015***
Presence of at least one unemployed member	0.005***	− 0.015***	0.010***
Presence of at least one disabled member	− 0.004***	0.011***	− 0.008***
Rent house	0.002**	0.016***	− 0.017***
Other tenure status	0.016***	− 0.004***	− 0.013***
Log(household financial wealth)	− 0.002***	− 0.000	0.002***
Observations	1,761,671	1,761,671	1,761,671
Sum of weights	3,282,968	3,282,968	3,282,968
Pseudo <i>R</i> -squared	0.181	0.181	0.181
Log likelihood	− 2,621,000	− 2,621,000	− 2,621,000

Robust standard errors and calibration weights are considered

****p* < 0.01, ***p* < 0.05, **p* < 0.1

paribus, a significantly greater probability of being severely reluctant to claim social benefits, whereas the opposite holds for households with many members or underage children.

Foreign households show peculiar behaviour in our estimates regarding the NTU. With respect to Italian ones, they are more likely to have a high level of NTU, but not to have an average one (i.e. mildly reluctant to claim social benefits). Moreover, despite the marginal effect being statistically significant at the 1 percent level, households with a foreign head report only a 1.4% lower probability of being inclined to claim. This kind of ‘asymmetric U-shaped’ NTU reported by migrant households is probably related to the within heterogeneity characteristic of this population group and can be explained by looking at their different social networks of reference (Currie 2004). A similar shape of NTU is found for two-member households (with respect to single persons), households living in the islands (with respect to those living in the North-West of Italy) and—to a smaller extent, however—for those with ISEE values between 1 and 2000 euros (with respect to households with an ISEE equal to 0). It must be noted that the reasons behind this specific NTU behaviour may differ for each group.

Looking at the additional covariates, we shed light on further determinants of NTU. First, in line with the existing literature for the Anglo-Saxon countries, Belgium and the Netherlands (Sohrab 1994; Currie and Grogger 2002; Grogger and Michalopoulos 2003), households headed by a female overall show a greater probability of being reluctant to claim social benefits with respect to those with a male head of household.

Second, NTU seems to be related to the occupational status of household members, but less than expected. The presence of at least one employed, self-employed, or unemployed member in the household leads to similar effects on our dependent variable. Interestingly, despite the less severe economic needs of these households,¹¹ when at least one member is an employee the probability of being inclined to claim is greater than the households with no employees and the level of NTU is overall lower. This may be due to higher literacy/skill levels. To be noted, the presence of at least one self-employed worker or unemployed member within the household leads to a (lower) higher probability of being inclined/severely reluctant (mildly reluctant) to claim but to a different extent with respect to the presence of at least one employee. The comparison of effects may suggest a stronger reluctance of self-employed and unemployed households to be subject to the authorities’ scrutiny out of fear that their fraudulent behaviours related to tax evasion and tax avoidance might be exposed.¹² In contrast to the above results, households with at least one member with a disability appear, all other things being equal, both less inclined to claim and less severely reluctant to claim social benefits. This is probably due to the fact that economic needs, possible stigma, and skill-based drivers work differently in this category of households.

¹¹ Further elaborations of the authors highlight that households with at least one employee report the highest mean ISEE (i.e. €3418), followed by those with at least one self-employed member (i.e. €3112), those with at least one member with a disability (i.e. €2931), and those with at least one unemployed member (i.e. €2257). The mean ISEE value for the whole sample is €2,709.

¹² The 65% of evaded income in Italy is attributable to self-employment income (Albarea et al. 2015), despite the latter being on aggregate less than one-fourth of total employment income. As for unemployed households, we refer to the case of unemployed members who engage in undeclared work activities for a variety of reasons (e.g. urgent economic need, partial or total benefit withdrawal when engaging in declared work activities).

Finally, homeowner households (with respect to those living in a rented house or other tenure status) tend to be more severely reluctant to claim social benefits, and the same applies to those with high levels of financial wealth. The latter evidence appears in line with finding reported by Brandolini et al. (2010) which highlight the importance of assessing the actual poverty status of households also looking at their real and financial asset holdings.

4.2 An in-Depth Look at Life Cycle NTU Patterns

With the aim to better investigate the effect of the householder's age on life cycle NTU patterns, Figure A1 in Appendix provides marginal effects by interacting age class with household typology. For the sake of simplicity, we employ the same logistic analysis provided in Table A2 (where the dependent variable is 1 if reluctant to claim and 0 if inclined to claim). The model specification is the same adopted in Model 3 of Table A2 except for the fact that variables on household size and the presence of at least one underage member are replaced with a set of binary variables combining householder age groups (i.e. 18–40, 41–60 and aged 61 or over) with different household typologies (i.e. single persons, households without underage children, households with underage children). The base category is represented by the single persons aged 18–40.

All categories are more inclined to claim with respect to the base category except for households without minors headed by 18–40 years old individuals, in line with the evidence in Tables 2 and A2. To be noted, differences between coefficients are always statistically significant at 5 percent level, even if confidence intervals are not reported in Figure A1. On a more general level, single-member units and households without underage children have rather similar behaviours. The reluctance to claim benefits first decreases for both household typologies whose head is between 41 and 60 years old and then slightly increases back for those headed by elderly members; the latter are still less reluctant than the young-age category. This intra-typology NTU behaviour is somewhat contrary to what one might expect based on life cycle income patterns. However, it appears in line with findings by Matsaganis et al. (2010). As for households with minors, we observe a significantly larger inclination to claim for the youngest households with respect to all categories. A plausible explanation is that, along with the greater economic vulnerability of the youth in Italy, households with minors are known to be the primary target of social benefits in the country (Baldini et al. 2016). Reluctance increases for households headed by 41–60 years old individuals (even if it stays below the average level) and reaches its minimum for the oldest category (but still significantly above single persons aged 18–40). The latter evidence, which involves a limited share of households with minors (11% of the household category), is probably due to a higher reluctance or to the lower need of multi-generational households for income support.

5 Conclusions

Thanks to the two-step procedure that characterises access to the Italian welfare system, this paper draws new and empirically based conclusions on the overall non-take-up (NTU) of social policies in a European country. In particular, we shed light on which categories of the poor population report a greater level of NTU by comparing administrative records (i.e. ISEE declarations for the year 2018) to sample survey data (i.e. IT-SILC 2017).

By means of tax-benefit microsimulation techniques, which we employ to estimate ISEE values for the whole IT-SILC 2017 sample population, we highlight two important preliminary findings. First, the number of households that would report an ISEE value lower than 6000 euros (i.e. those who are very likely to be experiencing severe poverty conditions and thus are eligible for at least one social benefit) is found to be 1.1 million greater than the actual number we observe in administrative data. Second, administrative data appear to be hardly representative of the (hypothetical) poor population, especially with regard to age structure and household composition (e.g. the presence of at least one underage member).

Under the assumption that NTU among the poor and ISEE representativeness issues are strictly related to each other, we analyse the level of NTU of the Italian welfare system by calibrating administrative records to our population of interest. Our descriptive results show that younger and larger households tend to be more inclined to claim social benefits, while the opposite holds for older households, those with underage children, and those who are 'less poor' among the poor. The econometric analysis, based on the estimation of logit models, confirms that and highlights further interesting results. First, migrant households and those living in the islands report a peculiar 'asymmetric U-shaped' NTU, which may be due to the within heterogeneity characteristic of these population groups. Second, households headed by a female overall reveal a greater probability of being reluctant to claim social benefits with respect to those headed by a male. Third, households with underage children are generally less reluctant with respect to households without, and for the former group inclination to claim is greater among households headed by young individuals. Fourth, NTU seems to be linked to the occupational status of household members, as well as the households' tenure status and financial wealth.

The results are in line with the existing literature, in which researchers have analysed NTU looking at the UK (Sohrab 1994), US (Currie and Grogger 2002; Grogger and Michalopoulos 2003), and several European countries (Matsaganis et al. 2010; Bargain et al. 2012; Vinck et al. 2019) at different moments in time. We can therefore draw one important conclusion regarding the analysed phenomenon: it is revealed to be spread further across developed countries and enduring over time, especially among specific categories of the poor population.

We believe that the results of our analysis have relevant policy implications and can serve as the starting point for a more informed discussion about how to reduce NTU among the poor. In general, our findings suggest that a relevant portion of the poor ends up not having access to the welfare system despite being entitled to its benefits. A feasible solution would be to make the receipt of social transfers as automatic

as possible (e.g. sending a notification/mail when a household is potentially eligible, as determined by its tax declarations or other administrative records), or at least simplifying the claim procedures. This is particularly crucial in Italy, where red-tape bureaucracy is often considered more common and complex than necessary, and the strategies implemented by national institutions to deal with this issue appear ambiguous.¹³ An automatism of claiming procedures would (at least partially) solve also issues related to stigma and lack of information about benefits and services provided by the welfare system.

As well known, Italy reported for the first time the introduction of a universal social benefit for the whole population of poor households (i.e. the REI scheme) in 2018 only (Raitano et al. 2018), thus the same year we refer to in this analysis. Thanks to the REI, the representativeness issues of administrative records are likely to have been partially reduced in the analysed year with respect to the previous ones, although residual effects of the past categorical welfare system clearly stand yet.¹⁴ The introduction of the Citizenship income (*Reddito di Cittadinanza* or RdC) in 2019—which has replaced the REI and is currently the national minimum income scheme in force—is expected to have further reduced the representativeness issues of ISEE records. Beyond having a much larger eligible population (Jessoula et al. 2019), RdC is indeed a more generous measure with respect to the REI and is likely to have incentivised households to sustain the bureaucratic effort needed to compile the ISEE declaration. In particular, we expect that the RdC introduction may have represented a relevant incentive for filing the ISEE declaration for those categories of population who gained the most in relative terms from the replacement of national minimum income scheme, thus the elderly and the households reporting slightly higher income and wealth values (Gallo and Luppi 2019). On a similar note, the introduction of a universal and more generous scheme for the support of parental responsibilities (*Assegno unico e universale*) in 2022 may have played a role in the activation of those households that were previously excluded from income support or to which inadequate support was granted, especially the households having self-employed members and those who are non-poor based on the ISEE value.

It must be recalled, however, that a portion of the poor population will always remain excluded because of involvement in the shadow/black economy and greater reluctance to be subject to tax inspection. In particular, our results emphasise the importance of improving the quality of policymakers' communication (e.g. simple language and policy design, clear eligibility criteria, multi-channel advertisement) when introducing

¹³ On this regard, the National Social Security Institute (*Istituto Nazionale della Previdenza Sociale*, INPS) has interrupted the notification service offered to pension recipients in 2013. Eligibility for a series of social benefits (e.g. increases to inability, old-age/seniority and survivor pensions; increases to the social allowance) is therefore no longer notified to potential recipients. However, INPS is committed to play a proactive role in reducing the non-take-up of social benefits (INPS 2019).

¹⁴ In its first stage (January–June 2018), the REI was a categorical scheme focusing on households with underage children, elderly and old-age unemployed members only. The measure became universal – but selective on the poor—from July 2018 onwards. Moreover, despite a doubling in the number of eligible households thanks to the removal of categorical requirements, the increase of REI recipients was rather slight following the policy design change (Inapp 2019). This was probably due to the small attractiveness of the REI in terms of benefit amount. For this reason, we believe that the role of REI in reducing the ISEE representativeness issues has been significant but limited. Additional analyses of the authors on available data highlighted that being eligible to the universal REI had no significant effect on the probability of filing the ISEE declaration, *ceteris paribus*. More details are available upon request to the authors.

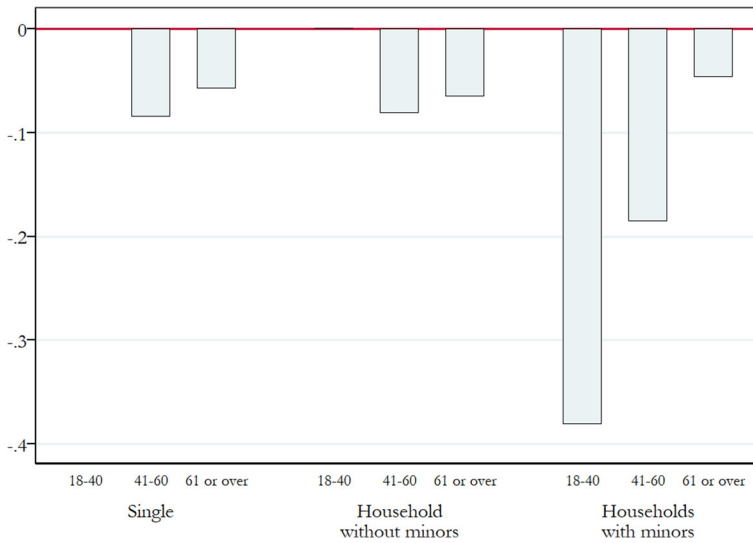


Figure A1 Marginal effects interacting age class with household typology on the level of non-take-up (logit model). Note: Marginal effects were obtained using an alternative specification of Model 3 in Table A2. The number of household members and the presence of underage children were excluded among the regressors and replaced by a nine-category variable that classify households into three different typologies by three age classes of the householder. The base category is ‘Single aged 18–40’. Source: Elaboration of the authors on ISEE administrative records for the year 2018

a new measure, especially when aiming to combat poverty conditions or focusing on specific categories with high levels of economic vulnerability (e.g. migrant households or the elderly). To be noted, it is likely that our results partly reflect the imperfect targeting of social benefits of the poor population, thus a condition which is quite known and actual for Italy and all the other EU countries (Matsaganis et al. 2014; Ferrarini et al. 2015; Causa and Hermansen 2019; Raitano et al. 2021).

Furthermore, the social distancing and lockdown measures introduced to limit the spread of COVID-19 pandemic were indeed expected to result in a dramatic drop in household incomes because of the negative effects on the labour market (Almeida et al. 2021; Gallo and Raitano 2023). The increase in economic needs may have reduced the level of NTU among poor households (the shadow economy has probably been one of the most affected). Nonetheless, the pandemic has reveal new categories of poor, such as employees in non-essential sectors or those performing manual labour for which working from home is hardly possible (Aina et al. 2021). In both cases—‘previous poor’ and ‘new poor’ households—a simplification of claiming procedures would have facilitated the take-up of redistributive policies and boosted the speed of access to benefits for households facing severe economic difficulties.

Data availability Data sharing is not applicable to this article as no new data were created. The research relies on already existing administrative records which cannot be shared for privacy restrictions.

Appendix

Appendix A. Additional results

Table A1 Marginal effects on the level of non-take-up (multinomial logit model)

Variables	Inclined to claim	Mildly reluctant to claim	Severely reluctant to claim
Foreign	− 0.014***	− 0.232***	0.247***
Aged 41–60	− 0.067***	0.021***	0.045***
Aged 61 or over	− 0.065***	0.056***	0.009***
2 members	− 0.015***	− 0.087***	0.102***
3 members	0.100***	0.000	− 0.100***
4 or more members	0.186***	0.091***	− 0.277***
Presence of at least one underage member	0.091***	0.051***	− 0.142***
North–East	0.139***	0.013***	− 0.152***
Centre	0.082***	− 0.073***	− 0.009***
South	0.032***	− 0.032***	− 0.001
Islands	− 0.020***	− 0.074***	0.094***
ISEE = 1–2000 euros	− 0.064***	− 0.083***	0.147***
ISEE = 2001–4000 euros	− 0.248***	− 0.089***	0.337***
ISEE = 4001–6000 euros	− 0.274***	− 0.099***	0.373***
Observations	1,761,671	1,761,671	1,761,671
Sum of weights	3,282,968	3,282,968	3,282,968
Pseudo <i>R</i> -squared	0.180	0.180	0.180
Log likelihood	− 2,624,000	− 2,624,000	− 2,624,000

Robust standard errors and calibration weights are considered

****p* < 0.01, ***p* < 0.05, **p* < 0.1

Table A2 Marginal effects on the level of non-take-up (logit model)

Variables	Model 1	Model 2	Model 3
Foreign	0.028***	0.031***	0.031***
Aged 41–60	0.066***	0.065***	0.065***
Aged 61 or over	0.063***	0.056***	0.057***
2 members	0.015***	0.013***	0.014***
3 members	– 0.101***	– 0.103***	– 0.101***
4 or more members	– 0.185***	– 0.185***	– 0.182***
Presence of at least one underage member	– 0.092***	– 0.092***	– 0.092***
North– East	– 0.142***	– 0.143***	
Centre	– 0.079***	– 0.078***	
South	– 0.028***	– 0.026***	
Islands	0.020***	0.023***	
ISEE = 1–2000 euros	0.071***	0.070***	0.069***
ISEE = 2001–4000 euros	0.255***	0.254***	0.253***
ISEE = 4001–6000 euros	0.280***	0.281***	0.280***
Female		0.007***	0.008***
Presence of at least one employee		– 0.020***	– 0.020***
Presence of at least one self-employed worker		– 0.008***	– 0.009***
Presence of at least one unemployed member		– 0.004***	– 0.005***
Presence of at least one disabled member		0.003***	0.003***
Rent house		0.001	0.001
Other tenure status		– 0.015***	– 0.015***
Log (household financial wealth)		0.002***	0.002***
NUTS-3 region fixed effects	No	No	Yes
Observations	1,761,671	1,761,671	1,761,671
Sum of weights	3,282,968	3,282,968	3,282,968
Pseudo R-squared	0.214	0.215	0.217
Log likelihood	– 1,228,000	– 1,226,000	– 1,224,000

Robust standard errors and calibration weights are considered

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Appendix B. Analysis of Hard-to-Survey Households

As was made clear in Sect. 3, the present study relies on a weighting procedure that allows the identification of hard-to-survey households. Figure B1 focuses on the socio-demographic characteristics of this group of zero-weight households (i.e. 186,585 households) in comparison with non-zero-weight households (i.e. 1,761,671 households). Not surprisingly, the two groups differ substantially in several respects. Foreign households appear to be more common among hard-to-survey households, although their frequency remains lower with respect to that of Italian households. In addition, remarkable differences emerge in the distribution of households by the

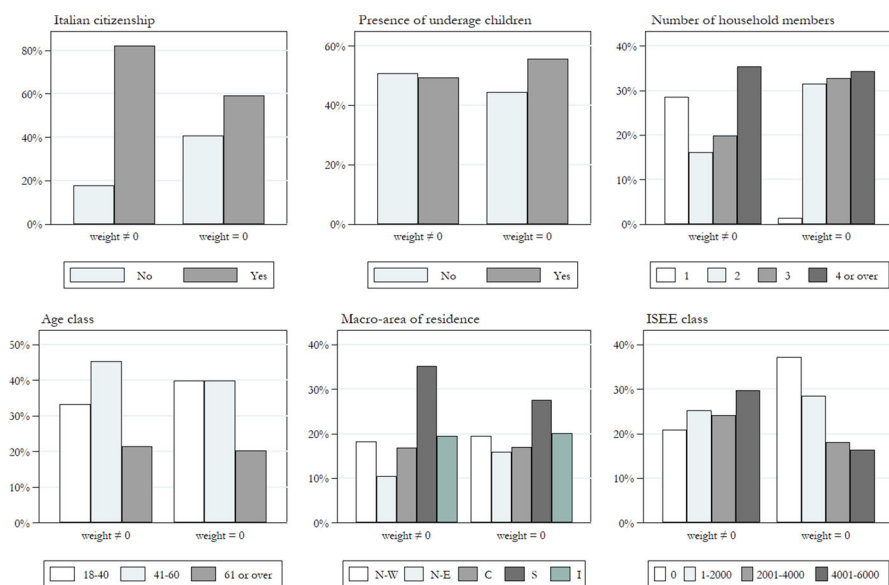


Figure B1 Comparison of characteristics between non-zero-weight households and hard-to-survey households. Source: Elaborations on ISEE administrative records for the year 2018

number of members. Single-member units represent roughly 30% of non-zero-weight households, while they fall to 2% for the hard-to-survey households, followed by an increase in two- and three-member units. To conclude, the comparison shows non-negligible differences also in the distribution of households by ISEE class. Hard-to-survey households decrease their concentration with increasing ISEE class, and the opposite holds for non-zero-weight households.

As a robustness check, we replicated the econometric analysis including zero-weight households. The resulting estimates overall confirm the robustness of our findings. However, given the unclear role that hard-to-survey households may play in the weighting procedure of our administrative sample, and thus on our understanding of NTU determinants, we opted for the exclusion of zero-weight households from our analysis. More details are available upon request to the authors.

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