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DEMOGRAPHICS AND CONSUMPTION: EVOLUTION AND COMPOSITION OF HOUSEHOLD EXPENDITURE IN ITALY

by Concetta Rondinelli*, Federico Tullio* and Francesca Zanichelli*

Abstract

This paper analyses the extent to which demographic changes have affected household consumption behaviour over the period 1997–2023. Using microdata from the Italian Household Budget Survey (HBS), we show that average household expenditure in real terms declined significantly over the last twenty-five years. Changes in population structure contributed to this trend: population ageing had only a limited impact, whereas the decline in average household size and in the share of couples with children played an important role. These changes, on the other hand, mitigated the decline in per-capita consumption and had only a negligible effect on equivalised consumption. The composition of household expenditure remained broadly stable over time for most expenditure categories. By contrast, the share allocated to housing and utilities increased substantially, mainly reflecting relative price dynamics and, to a lesser extent, the rising prevalence of single-person households.

JEL Classification: D12, C52, J11.

Keywords: consumption pattern, demographics, Covid-19.

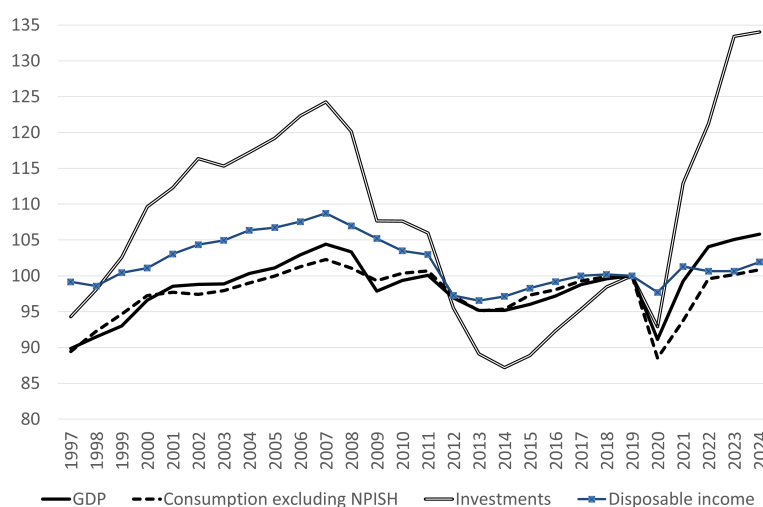
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1 Introduction¹

Over the last twenty-five years, total household consumption in Italy remained broadly unchanged in real terms (Figure 1); disposable income also exhibited a weak trend. During the same period, Italy underwent profound demographic transformations. Population ageing and, in particular, the decline in average household size and in the share of couples with children, together with increasing migration flows, reshaped family structures and led to a rise in the overall number of households.

Figure 1: GDP, consumption and income (2019=100)



Source: National Accounts, Istat. Chain-linked values with reference year 2020; consumption on the economic territory. Household gross disposable income in real terms.

This paper investigates, from a long-run perspective (1997–2023), the extent to which demographic changes have contributed to the evolution of household, individual and equivalised consumption expenditure, as well as to changes in the composition of household expenditure.²

¹The views expressed in this paper are those of the authors and do not necessarily reflect those of the Bank of Italy. The authors thank S. Fabiani, A. Rosolia, A. Neri, D. Loschiavo and M. R. Testa for helpful comments.

²The analysis focuses exclusively on the role of demographic factors in explaining expenditure patterns. Economic variables – following the traditional life-cycle and permanent-income framework (Modigliani e Brumberg, 1954; Friedman, 1957; Ando e Modigliani, 1963) – are not included because they are not consistently available in the Household Budget Survey microdata for the entire period under analysis.

The contribution of this paper is threefold. First, it quantifies the impact of demographic factors – household type, population ageing and household size – on changes in expenditure, while controlling for the socio-economic characteristics of household members, such as education, labour market status and geographical area. Second, through a counterfactual exercise, it estimates how household expenditure would have evolved had the demographic structure of the population remained unchanged since the late 1990s. Third, it analyses changes in the composition of household expenditure, with particular attention to the post-pandemic period and to those expenditure categories that had not yet returned to their 2019 levels.

The analysis relies on microdata from the Italian Household Budget Survey (HBS), which provides detailed information on consumption expenditure and the socio-demographic characteristics of resident households. Compared with other surveys, such as the Survey on Household Income and Wealth (SHIW) conducted by the Bank of Italy, the HBS offers more detailed information on expenditure categories and a more comprehensive representation of household consumption, although it does not include information on income and wealth. National Accounts (NA), by contrast, provide aggregate consumption series over a much longer time horizon but do not allow for analyses of household heterogeneity. Consumption dynamics measured in the NA and in the HBS are not directly comparable because of conceptual and methodological differences (Coli e Tartamella, 2010; Fesseau et al., 2013; Rondinelli, 2014). In the post-pandemic period, for example, National Accounts point to a recovery in aggregate consumption, whereas average household expenditure recorded in the survey remains below its pre-pandemic level (Appendix A). Our focus is not on aggregate consumption, but on three measures derived from the HBS: household consumption, which is the standard indicator used in official statistics and corresponds to the survey’s unit of observation; individual consumption, which adjusts for household size; and equivalised consumption, which additionally accounts for economies of scale within households and for differences in age composition. Comparing these three indicators allows us to isolate the role of demographic changes in the evolution of consumption expenditure.

This paper contributes to an extensive literature on Italian household consumption, while differing in both scope and methodology. Like Napoleone e Cutillo (2023), we document long-run trends in expenditure levels and composition, but focus on quantifying the contribution of demographic changes, particularly changes in household structure. Similar to Mariani (2021), we consider the role of population ageing, while extending the analysis to the effects of household composition over a longer time horizon and examining the evolution of expenditure shares across consumption categories. From a methodological perspective, we anal-

use a long period (1997–2023), reconstructing and harmonising discontinuities in the Household Budget Survey and adopting an approach consistent with Canari (1994), who assess the impact of demographic changes not only through age structure but also through household size and composition.

Our findings show that between 1997 and 2019 average household consumption expenditure declined by around 20 per cent. This trend partly reflects the reduction in average household size and the decline in the share of couples with children, which are characterised by higher levels of household expenditure. Had the demographic structure remained unchanged from its 1997 configuration, the decline in household consumption would have been about 4 percentage points smaller. Conversely, the increasing prevalence of small households, characterised by higher per-capita expenditure, almost halved the decline in average individual consumption. The composition of household expenditure remained broadly stable over time for most categories, while the share devoted to housing and utilities increased, mainly owing to relative price dynamics and, to a lesser extent, to the growing prevalence of smaller households. Finally, the increase in employment observed in the years following the pandemic may have contributed to a reallocation of expenditure from essential goods towards more discretionary consumption categories.

The remainder of the paper is organised as follows. Section 2 briefly describes the reconstruction of the HBS microdata. Section 3 documents long-run demographic and consumption trends and quantifies the impact of demographic changes on expenditure dynamics. Section 4 analyses changes in the composition of household expenditure, with a specific focus on the pandemic period. Section 5 concludes and discusses possible directions for future research.

2 Reconstructing HBS Microdata (1997–2023)

This paper uses data from the Household Budget Survey conducted by Istat between 1997 and 2023. These surveys collect detailed information on all major categories of consumption expenditure reported by households residing in Italy. The microdata also include socio-demographic information on household members and, for more recent years only, information on household income (income deciles).

In the remainder of the paper, the impact of demographic changes on household consumption behaviour is examined, with a particular focus on household size, the age class of the respondent, and household type.³

³In this paper, households are classified into the following household type categories: single-person households, couples without children, couples with children, single-parent households, and other household types.

Over the period under analysis (1997–2023), Istat’s household expenditure surveys underwent substantial changes. Consequently, in order to conduct long-run analyses, it was necessary to reconstruct historical series of comparable aggregates, both for total household expenditure and for consumption categories.

In particular, from 1997 to 2013, data were collected through the earlier versions of Istat’s *Household Budget Survey*, which was replaced in 2014 by a new version of the survey. This change involved substantial modifications throughout all stages of the data collection process, introducing a significant structural break in the series (Istat, 2015). To ensure comparability with data collected from 2014 onwards, Istat provided reconstructed average values for the main expenditure aggregates and for selected household classifications for the years 1997–2013. However, these reconstructions are not available at the microdata level. The microdata used in this paper were therefore adjusted to realign them with the official averages published by Istat.⁴

Important changes were also introduced in the classification of consumption categories. From 2014 to 2021, the survey was based on the European Classification of Individual Consumption According to Purpose (*ECOICOP*); starting in 2022, the survey adopted the more recent *COICOP 2018* classification. Istat provided reconstructions of the microdata according to the new classification only for years from 2014 onwards. For earlier years, from 1997 to 2013, the *ECOICOP* aggregates were reconstructed in this paper from the detailed expenditure items recorded in the survey.⁵

These adjustments ensure that the expenditure series are consistent and com-

⁴Given the focus on demographic developments, the microdata were rescaled to match the averages published by Istat by expenditure category and household type. Specifically, expenditure on consumption category j by household i belonging to household type k at time t (c_{ikjt}) was rescaled using a coefficient equal to R_{kjt}/C_{kjt} , where R_{kjt} denotes the average expenditure at time t for consumption category j and household type k in the reconstructed historical series published by Istat, and C_{kjt} denotes the corresponding average computed from the microdata. The same approach, over the shorter period 2005–2018, was adopted by Mariani (2021).

⁵The *ECOICOP* (*European Classification of Individual Consumption According to Purpose*) is the European harmonised version of the international COICOP classification and consists of 12 main divisions: (1) food and non-alcoholic beverages; (2) alcoholic beverages and tobacco; (3) clothing and footwear; (4) housing, water, electricity and fuels; (5) furnishings, household equipment and routine household maintenance; (6) health; (7) transport; (8) communication; (9) recreation, entertainment and culture; (10) education; (11) restaurants and accommodation services; and (12) miscellaneous goods and services.

The *COICOP 2018* classification is the updated international classification of consumption expenditure. While preserving the basic structure of *ECOICOP*, it introduces additional detail and updates to reflect evolving consumption patterns. Moreover, *COICOP 2018* comprises 13 divisions, explicitly separating financial and insurance services. The transition between the two classifications may imply some differences in the disaggregation of expenditure categories, while preserving comparability across the main expenditure divisions.

parable over time. In particular, for the long-run analysis covering 1997–2019, the paper adopts the *ECOICOP* definitions (combining the reconstruction of pre-2014 expenditure categories with the correction of microdata for the 2014 break), whereas the analysis of the more recent period (2019–2023) uses the *COICOP 2018* classification and exploits the historical reconstructions provided by Istat.⁶ These classifications are used in particular in Section 4, which describes expenditure categories.

In light of these considerations, the analyses presented in this paper are conducted separately for the periods 1997–2019 and 2019–2023. This distinction reflects both the discontinuities introduced by the different classification systems and the need to isolate, for the most recent years, the dynamics associated with the COVID-19 pandemic and the subsequent recovery phase.

3 Household Expenditure

3.1 Demographic Trends

Over the last few decades, Italy has experienced major demographic changes, broadly in line with those observed in other advanced economies. Progressive population ageing, driven by persistently low fertility rates and rising life expectancy, has taken place in a context characterised by increasing migration flows and significant economic and cultural transformations. Taken together, these factors have contributed to a profound reshaping of Italian households.⁷

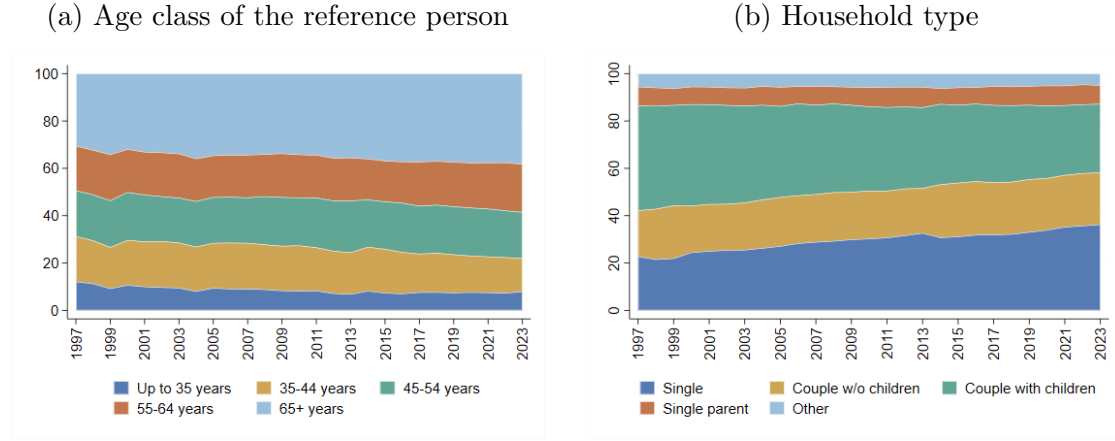
According to the Household Budget Survey, between 1997 and 2023 the share of households whose reference person was aged over 65 increased by almost 8 percentage points, from 30 to 38 per cent, largely reflecting a decline of younger households (Figure 2a). At the same time, couples with children, which accounted for more than 40 per cent of all households at the end of the 1990s, declined sharply (by 15 percentage points over the period; Figure 2b).

These developments are reflected in changes in average household size and in the number of households. Single-person households, which represented only 8 per

⁶For the years in which both definitions are available (2014–2021), total expenditure series provide very similar indications (Fig. 4).

⁷The sharp increase in international migration flows is an important factor underlying demographic changes over recent decades. However, the microdata from the Household Budget Survey used in this paper include information on the country of birth of household members only from 2014 onwards; consequently, this information cannot be exploited in the long-run analysis. Using data from the Survey on Household Income and Wealth (SHIW), it emerges that although the share of households whose household head was born abroad more than quadrupled over the last twenty-five years (from 2.1 per cent in 1998 to 8.7 per cent in 2022), their contribution to total expenditure remains relatively limited (from 0.8 per cent in 1998 to 3.1 per cent in 2022).

Figure 2: Distribution of households by age and household type
(Percentages)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The age class reported in panel (a) refers to the reference person of the surveyed household. Weighted estimates.

cent of all households in Italy at the beginning of the twentieth century, accounted for more than one-third of the total by 2023 (Figure 3a). Meanwhile, the total number of households has followed an upward trend over the period (Figure 3b).

Overall, the number of households in Italy has increased over time, while households have become, on average, smaller, older, and with fewer children. These transformations may have important implications not only for average household and individual consumption levels, but also for the composition of the household consumption basket.

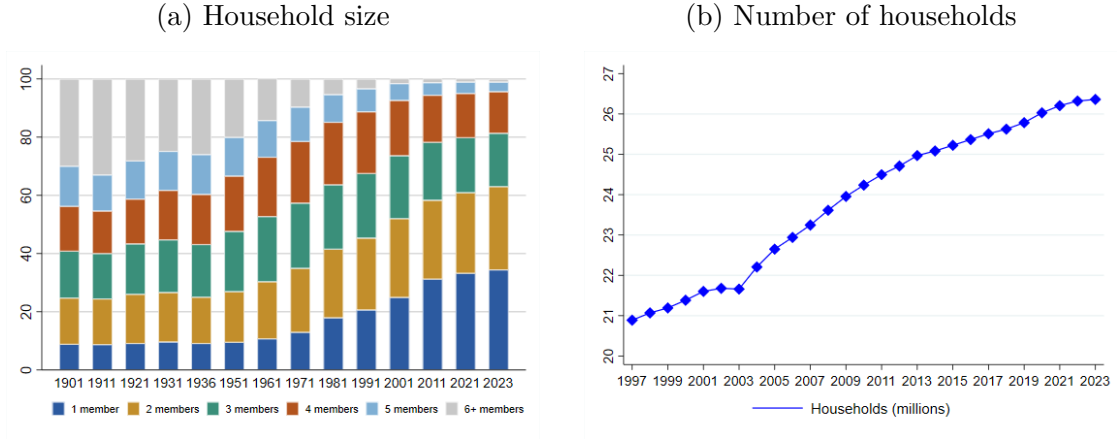
3.2 Consumption Trends

Over the last twenty-five years, average household consumption expenditure in Italy has followed a downward trend in real terms.⁸ The major macroeconomic crises that occurred during this period – the global financial crisis of 2008–09, the euro-area sovereign debt crisis of 2011–13, and, more recently, the COVID-19 pandemic in 2020 together with associated containment measures – further reinforced this downward trend.

Even excluding the pandemic episode, average household consumption expenditure declined by 20 per cent in real terms between 1997 and 2019. In 2023, it

⁸Consumption expenditure is deflated using the household consumption expenditure deflator.

Figure 3: Household size and number of households
(Percentages; millions of households)



Source: Panel (a): Ministry of Agriculture, Industry and Commerce (up to 1921); Istat Population Census (from 1931 onwards); Istat Multipurpose Survey on Households: Aspects of Daily Life (from 2012 onwards). Panel (b): authors' calculations based on Istat Household Budget Survey.

Notes: The number of households is derived from the population weights used in the Household Budget Survey.

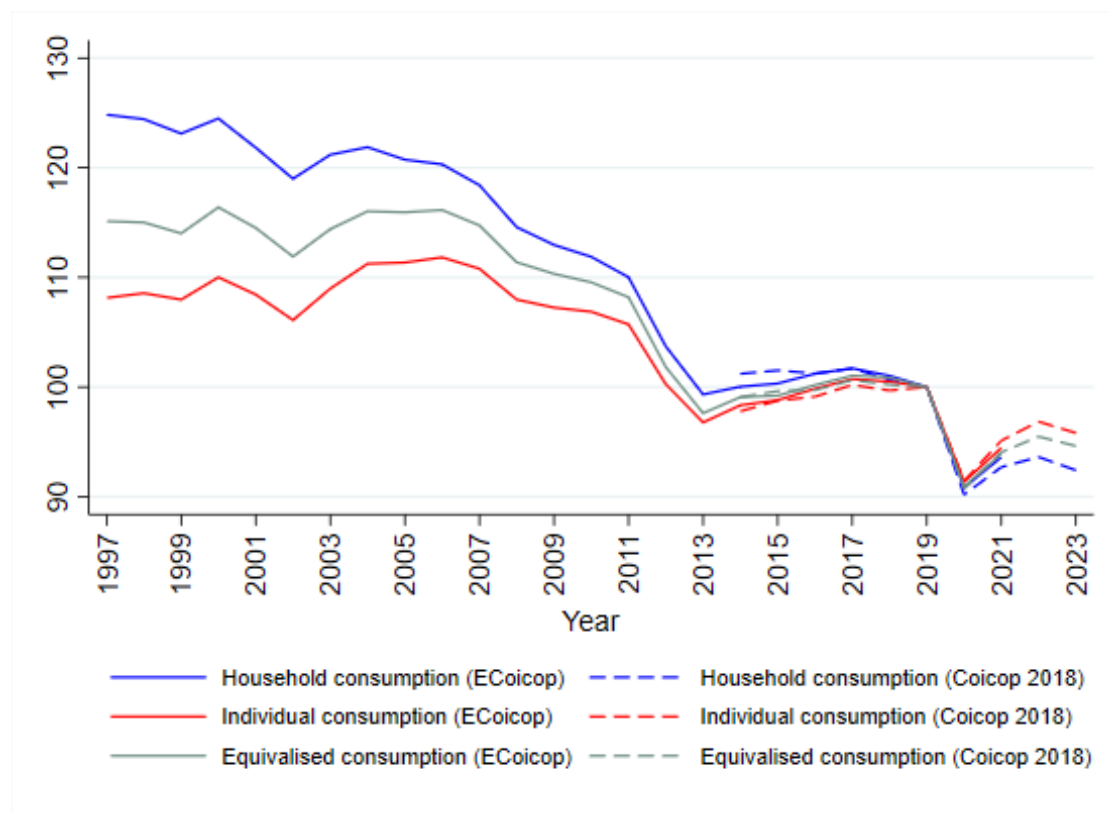
remained below its pre-pandemic level (by approximately 8 per cent; Figure 4).⁹ By construction, the decline in average household expenditure also reflects the reduction in average household size documented in Section 3.1. However, when considering individual and equivalised consumption,¹⁰ a similar downward trend emerges, although with a smaller magnitude than that observed for household expenditure.

The decline in average consumption between 1997 and 2019 affected all household groups except the oldest ones; the contraction was particularly pronounced among larger households (Table B.1). By contrast, the pandemic years and the immediate post-pandemic period were characterised by a decline in expenditure common to all household types.

⁹For a comparison with aggregate consumption expenditure measured in the National Accounts, see Appendix A.

¹⁰Equivalised consumption is obtained by dividing household consumption by the number of equivalent adults in the household. This paper adopts the modified OECD equivalence scale, which assigns a weight of 1 to the first adult household member, 0.5 to each additional household member aged 14 or over, and 0.3 to household members younger than 14. This measure takes into account both household composition in terms of the number and age of members and the possibility of exploiting economies of scale within larger households.

Figure 4: Average household, individual and equivalised consumption expenditure
(Constant prices; index numbers, 2019 = 100)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The figure reports average household, individual and equivalised consumption expenditure, the latter calculated using the modified OECD equivalence scale. Solid lines represent consumption according to the ECOICOP classification between 1997 and 2021; dashed lines are based on the new COICOP 2018 classification (available for 2022–2023 and reconstructed by Istat for 2014–2021). Weighted estimates.

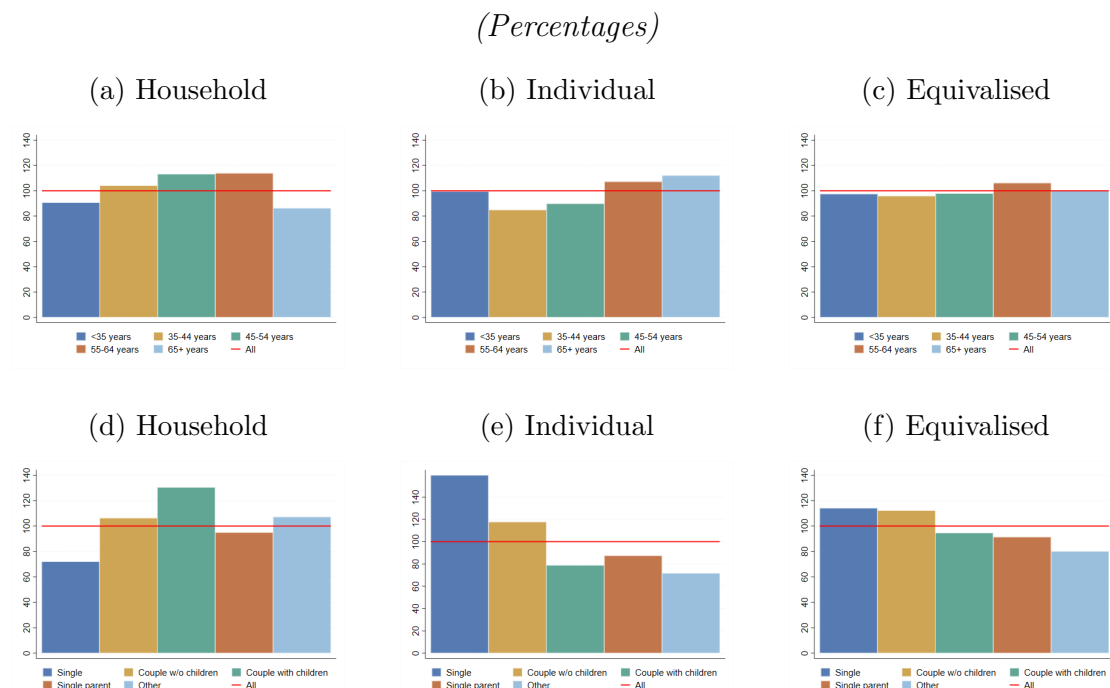
Consumption levels display substantial heterogeneity across households, reflecting differences in household size, composition and consumption needs. With respect to the age class of the respondent, average household consumption is lower among both younger and older households, while it reaches its highest levels in the middle stages of the life cycle, displaying the well-known inverted-U pattern. Average individual consumption instead follows a broadly opposite profile (Figure 5).

When household type is considered, thus accounting for the presence of a spouse and children, differences across groups become considerably more pronounced.

Average household expenditure among couples with children exceeds the overall average by more than 30 per cent, reflecting in part differences in average household size across household types. Average individual expenditure is instead markedly higher among single-person households, owing to their more limited ability to exploit economies of scale. Finally, equivalised consumption, which accounts both for economies of scale within households and for differences in age composition, exhibits more limited disparities across groups.

It is therefore evident that the changes in the structure of Italian households documented in Section 3.1 help explain, at least in part, the observed evolution of household consumption over recent decades.

Figure 5: Relative positions with respect to average consumption by age and household type



Source: Authors' calculations based on Istat data, Household Budget Survey (2023).

Notes: The figures report the ratios between the average levels of household, individual and equivalised consumption for each household group and the national average. Age classes refer to the reference person of the surveyed household. Weighted estimates.

3.3 Decomposition by Demographic Groups

To quantify the contribution of demographic changes to the overall dynamics of expenditure, we perform an Oaxaca–Blinder decomposition (Oaxaca, 1973; Blinder, 1973), which allows controlling for other important factors that may influence the evolution of aggregate household expenditure, such as additional characteristics of the respondent (including educational attainment and labour market status) and geographical location.¹¹

Suppose that consumption at time t is given by:

$$C_t = X_t' \beta_t + \varepsilon_t$$

where X is a vector of regressors including a constant term, the demographic variables of interest, and any additional controls. The difference in average consumption between two years can then be written as:

$$\begin{aligned} E(C_{t2}) - E(C_{t1}) = & \underbrace{(E[X_{t2}] - E[X_{t1}])' \beta_{t1}}_{\text{Endowment}} + \\ & + \underbrace{E[X_{t1}]' (\beta_{t2} - \beta_{t1})}_{\text{Behavior}} + \underbrace{(E[X_{t2}] - E[X_{t1}])' (\beta_{t2} - \beta_{t1})}_{\text{Interaction}} \end{aligned} \quad (1)$$

Equation (1) decomposes the difference into three components:

- **Endowment:** the share of the difference attributable to changes in the average values of the observable characteristics X between the two periods. When X includes a demographic classification variable, this component captures the effect of changes in the population structure associated with that demographic characteristic, whose contribution can be separately identified;
- **Behavior:** the share attributable to changes in the coefficients between $t1$ and $t2$, representing the “unexplained” component and reflecting changes in the mechanisms linking household characteristics to expenditure;
- **Interaction:** the residual term capturing the joint effect of changes in characteristics and changes in coefficients.

¹¹The special case in which X includes only one demographic partition variable can be interpreted as a shift-share decomposition, described in Appendix C.

If the vector of regressors X includes a set of demographic variables D and a set of additional controls Y , the endowment component of the Oaxaca–Blinder decomposition can be expressed as the sum of two distinct contributions: (i) the share attributable to changes in the demographic structure and (ii) the share attributable to changes in the average values of the remaining controls:

$$(E[X_{t2}] - E[X_{t1}])' \beta_{t1} = (E[D_{t2}] - E[D_{t1}])' \beta_{D,t1} + (E[Y_{t2}] - E[Y_{t1}])' \beta_{Y,t1} \quad (2)$$

Similarly, Equation (2) can be further decomposed in order to separately quantify the contribution of each explanatory variable included in the model. In the analysis that follows, the demographic variables D comprise household type (single-person households, couples without children, couples with children, single-parent households and other household types), the respondent’s age class (five categories), and household size. The vector Y includes additional controls, namely educational attainment, labour market status and region of residence.

Figure 6 reports the decomposition of changes in average *household*, *individual* and *equivalised* consumption expenditure between 1997 and 2019, expressed as contributions to the overall percentage variation.

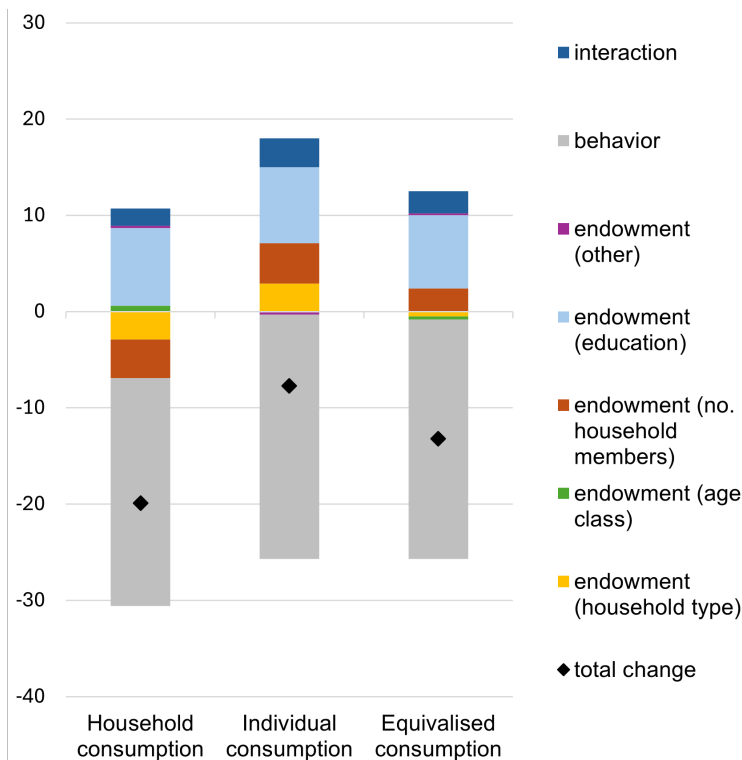
For all three indicators, the decline is mainly attributable to the “unexplained” component, reflecting changes in the coefficients associated with observable characteristics as well as residual effects not captured by the model.

In terms of *household* consumption, however, changes in the household structure account for a non-negligible share of the overall variation. Changes in household type, and in particular the decline in the share of couples with children, explain almost 3 percentage points (approximately 20 per cent of the overall decline). The reduction in household size contributes a further 4 percentage points to the decline in average household consumption, reflecting the mechanical effect of household size on household expenditure. By contrast, population ageing – approximated by changes in the distribution of households across respondent age classes – has an effect of the opposite sign and a quantitatively modest magnitude (less than 1 percentage point).

Overall, demographic changes (household type, population ageing and household size) account through the endowment channel for approximately 6 percentage points of the decline. The remaining observable characteristics have only a limited impact on the variation in average expenditure. The main exception is educational attainment: the increase in education levels over the period contributes positively to household expenditure, mitigating its overall decline and offsetting part of the effect of demographic changes. The interaction term, which reflects the joint contribution of changes in characteristics and coefficients, remains relatively small (less than 2 percentage points) and contributes positively to the evolution of household expenditure.

Figure 6: Oaxaca–Blinder decomposition: changes in average household, individual and equivalised consumption expenditure, 1997–2019

(Percentages)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The figure reports the percentage contributions to the change in average household, individual and equivalised consumption attributable to the endowment, behavior and interaction components of the Oaxaca–Blinder decomposition. The endowment component is further decomposed into the contributions of each explanatory variable included in the model. Individual characteristics refer to the household reference person. Weighted estimates.

Repeating the exercise for average *individual* consumption expenditure yields a somewhat different picture. While the contribution of other components is broadly the same, changes in the population structure – both in terms of household type and household size – have a quantitatively similar but opposite effect to that observed for average household expenditure. Demographic changes therefore appear to have mitigated the decline in average individual consumption over the period. This result reflects the fact that the increasing prevalence of smaller households is associated, on average, with higher levels of individual consumption, owing to the more limited scope for economies of scale within the household.

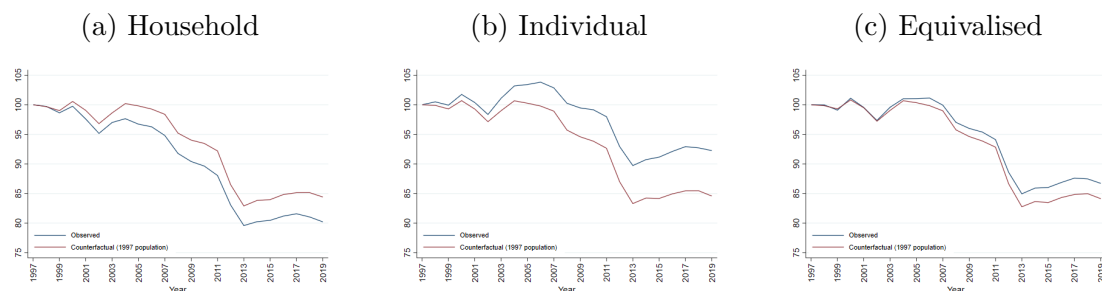
The impact of demographic changes is considerably smaller when considering average *equivalised*, consumption expenditure, consistent with the fact that this measure already incorporates an adjustment for household demographic composition.

The role of demographic changes can also be assessed through a counterfactual exercise in which population structure – in terms of household type, household size and respondent age class – is kept constant at its 1997 level.¹² The exercise shows that, in the absence of these demographic changes, the decline in average household expenditure in real terms between 1997 and 2019 would have been equal to 16 per cent, compared with the observed decline of 20 per cent (Figure 7a).¹³ Repeating the exercise for individual and equivalised consumption shows that the decline in average individual consumption would have been substantially larger in the absence of demographic change (Figure 7b), whereas the decline in average equivalised consumption would have been only slightly greater than that actually observed (Figure 7c). Net of demographic changes, the three indicators would have displayed broadly similar dynamics, pointing to a decline in expenditure of approximately 16 per cent between 1997 and 2019.

¹²For each year, the counterfactual is calculated using Equation C.1, keeping the weights of each demographic group fixed at their estimated 1997 values ($w_{j,t} = w_{j,1997}$). The demographic partition variable is defined as the interaction between household type, respondent age class (five categories) and household size. Note that the assumptions underlying the counterfactual imply a constant average household size equal to that observed in 1997, and therefore larger than the one actually observed in subsequent years. However, these assumptions do not uniquely identify the counterfactual population in terms of the number of households and/or individuals. For instance, holding the number of households fixed would imply a larger total population, whereas holding the population fixed would imply fewer households. These alternative configurations do not affect average household expenditure, which is the object of analysis, although they would have implications for aggregate consumption dynamics.

¹³The difference between the contribution of demographic changes obtained from the counterfactual exercise and that estimated through the Oaxaca–Blinder decomposition reflects, in addition to the different nature of the two exercises, the contribution of the interaction term.

Figure 7: Observed and counterfactual average consumption expenditure dynamics
(Constant prices; index numbers, 1997 = 100)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The figure reports observed and counterfactual average household, individual and equivalised consumption expenditure at constant prices, under the assumption that population structure in terms of household type, household size and respondent age class had remained unchanged at 1997 levels. Weighted estimates.

4 The Composition of the Consumption Basket

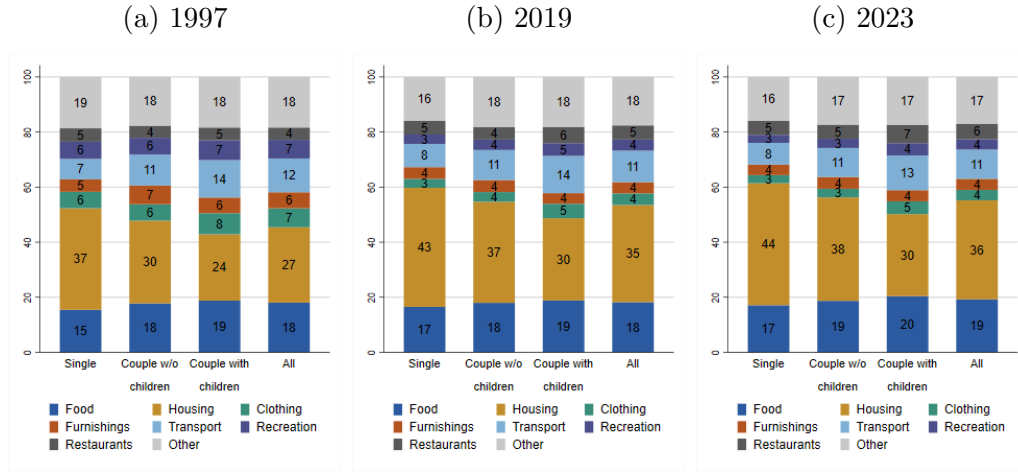
Demographic structure affects not only overall expenditure, but also the composition of the consumption basket, reflecting differences in needs, preferences and the scope for economies of scale across household types. In this section, expenditure categories are analysed using the classification of consumption expenditure by purpose according to the *ECOICOP* and *COICOP 2018* frameworks described in Section 2.¹⁴

In 2023, more than one-third of average household expenditure in Italy was devoted to housing and utilities, while almost 20 per cent was allocated to food consumption. The third largest expenditure category was transport (around 11 per cent), followed by restaurants and hotels (approximately 6 per cent; Figure 8). The composition of expenditure depends strongly on household structure. In single-person households and, more generally, in smaller households, housing, utilities and other fixed costs account for a relatively larger share of total expenditure, as these costs are spread over fewer household members. By contrast, households with children devote a larger share of expenditure to food, transport, recreation, sport and culture, and to other categories directly associated with the presence of children, whose incidence tends to increase with household size.

Between 1997 and 2023, however, all household types appear to have been affected by common long-run trends. In particular, the share of expenditure devoted

¹⁴The dynamics of expenditure levels by consumption category are reported in Appendix D.

Figure 8: Composition of the consumption basket by household type
(Percentages)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: Weighted estimates.

to housing and utilities increased steadily, while the relative weight of expenditure on clothing and footwear and on furnishings and household services declined.

Repeating the counterfactual exercise presented in Section 3.3, we estimate the composition of household expenditure under the assumption that the population structure – in terms of household type, household size and respondent age class – remained unchanged at its 1997 level (Table 1, column 3). Overall, demographic changes had a relatively limited impact on the composition of the consumption basket. The most relevant effects concern housing-related expenditure, whose share increased partly as a consequence of the growing prevalence of single-person households, for which these items account for a relatively larger proportion of expenditure. Conversely, the share devoted to transport declined partly because of the reduced incidence of households with children, among whom transport expenditure represents a particularly important component of the consumption basket.

To account for heterogeneity in price dynamics, we also estimate the composition of the consumption basket assuming that the category-specific prices remained unchanged at their 1997 levels (Table 1, column 4). The results indicate that the increase in the share of housing expenditure observed over the period is largely attributable to the rise in relative prices. In the absence of such an increase, the housing expenditure share in 2019 would have been approximately 30 per cent of total expenditure, compared with the observed 35 per cent. Symmetrically, the share devoted to information and communication would have more than doubled between 1997 and 2019 if category-specific prices had not experienced the

Table 1: Observed and counterfactual composition of the consumption basket
(Percentages)

	1997	2019	2019 (1997 pop.)	2019 (1997 prices)
	(1)	(2)	(3)	(4)
Food	18.0	18.1	18.3	18.0
Alcoholic beverages, tobacco, etc.	1.8	1.8	1.8	1.3
Clothing and footwear	6.9	4.5	4.8	4.8
Housing, water and fuel	27.4	35.0	33.4	30.0
Furnishings, household equipment, etc.	5.8	4.3	4.4	4.7
Health	4.6	4.6	4.5	5.9
Transport	12.3	11.3	11.8	10.2
Communication	3.1	2.3	2.3	6.9
Recreation and culture	6.8	5.0	5.1	6.0
Education	0.6	0.6	0.7	0.7
Restaurants and hotels	4.5	5.1	5.2	4.7
Other goods and services	8.3	7.4	7.6	6.9
All	100.0	100.0	100.0	100.0

Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: Column (3) reports the composition of the consumption basket in 2019 under the assumption that population structure in terms of household type, household size and respondent age class had remained unchanged from 1997. Column (4) reports the composition of the consumption basket in 2019 under the assumption that category-specific prices had remained at their 1997 levels (using expenditure-category-specific deflators). Weighted estimates.

substantial decline recorded over the period.

To jointly analyse the effects of demographic changes, price variation and common time shocks, we estimate the following linear regression model:¹⁵

$$q_{ijt} = \alpha_j + X'_{it}\beta_j + \gamma_{jt} + \varepsilon_{ijt}, \quad (3)$$

where q_{ijt} denotes the share of expenditure allocated by household i to good j at time t (expressed as a percentage of total expenditure), X_{it} is a vector of household characteristics (including household type, respondent age class, household size, number of employed household members, educational attainment and labour-market status of the respondent, region of residence, and expenditure quintile), and γ_{jt} captures year-specific effects for each expenditure category (including

¹⁵A structural analysis of how households reallocate expenditure across categories in response to changes in prices and income would ideally require estimating a complete demand system, such as the *Almost Ideal Demand System (AIDS)* proposed by Deaton e Muellbauer (1980). However, this approach requires detailed and consistent information on prices and quantities at a disaggregated level, which is difficult to obtain and harmonise over a long time horizon.

category-specific price developments and macroeconomic shocks)¹⁶.

As in the previous analyses, Equation (3) is estimated separately for the long-run period (1997–2019) and for the more recent period characterised by the COVID-19 pandemic and its aftermath (2019–2023).

Table 2 reports the results for the main expenditure categories. The composition of the consumption basket varies substantially across different household types. Single-person households and those with an older reference person allocate a higher share of their total expenditure to housing and utility costs, whereas couples with children devote a larger portion of their resources to food and transportation. Economic conditions also play a significant role: households with lower total expenditure allocate a greater share to essential goods, such as food, housing, and utilities, while those in the upper quintiles of the consumption distribution devote larger proportions to non-essential expenditures, such as restaurants, accommodation services, and transportation. Up to 2019, the composition of household consumption baskets was characterized by a gradual increase in the share of expenditure devoted to housing and utilities. The composition of the basket for the other main items remained broadly stable. In 2020, however, the composition of household consumption underwent a sharp reallocation due to the pandemic: restrictions on mobility and social interactions drastically reduced spending on transportation, hotels, and restaurants, while items related to essential goods, particularly food and housing, became relatively more important. In the following years, these patterns appear to have moderated, although without a complete return to the pre-pandemic structure; the only exception concerns hotels and restaurants, whose share in 2023 exceeded that observed in 2019.

¹⁶For the most recent years it is also possible to estimate the model using information on household total income quintiles. Total income is collected in the HBS through a single survey question, a measure that has proven reliable for ranking households along the income distribution (see, e.g., Tullio, 2025). The results are qualitatively similar to those obtained using expenditure quintiles (Table B.2).

Table 2: Consumption basket composition

	Food		Housing		Transport		Restaurants and hotels	
	1997-2019	2019-2023	1997-2019	2019-2023	1997-2019	2019-2023	1997-2019	2019-2023
Couple w/o children	2.941*** (0.053)	1.902*** (0.104)	-3.132*** (0.090)	-1.446*** (0.152)	2.146*** (0.054)	0.645*** (0.104)	-0.762*** (0.038)	-0.536*** (0.057)
Couple with children	4.071*** (0.084)	2.346*** (0.185)	-3.779*** (0.127)	-1.746*** (0.239)	2.208*** (0.089)	0.365* (0.188)	-1.551*** (0.059)	-0.768*** (0.096)
Single parent	2.315*** (0.074)	1.674*** (0.150)	-2.912*** (0.124)	-1.928*** (0.205)	1.767*** (0.074)	0.283** (0.144)	-1.219*** (0.049)	-0.693*** (0.076)
Other	3.418*** (0.101)	2.002*** (0.209)	-2.973*** (0.158)	-0.979*** (0.287)	2.648*** (0.103)	0.498** (0.215)	-1.471*** (0.068)	-0.888*** (0.112)
35-44 years	0.143** (0.063)	0.065 (0.147)	2.780*** (0.096)	1.560*** (0.199)	-0.990*** (0.075)	-0.556*** (0.155)	-0.718*** (0.054)	-0.420*** (0.100)
45-54 years	0.785*** (0.063)	0.459*** (0.139)	4.187*** (0.097)	3.171*** (0.191)	-1.117*** (0.074)	-0.914*** (0.146)	-1.408*** (0.053)	-1.231*** (0.093)
55-64 years	1.230*** (0.066)	0.840*** (0.138)	6.294*** (0.106)	4.675*** (0.195)	-1.744*** (0.077)	-1.383*** (0.145)	-2.121*** (0.054)	-1.909*** (0.092)
65+ years	1.069*** (0.076)	0.834*** (0.160)	11.523*** (0.125)	8.774*** (0.234)	-4.731*** (0.083)	-3.798*** (0.159)	-2.977*** (0.059)	-2.896*** (0.099)
no. hh members	1.371*** (0.029)	1.469*** (0.065)	-0.256*** (0.041)	-0.529*** (0.079)	-0.250*** (0.030)	-0.377*** (0.065)	-0.320*** (0.020)	-0.405*** (0.032)
no. employed members	-0.995*** (0.028)	-0.988*** (0.064)	-0.790*** (0.043)	-0.448*** (0.084)	1.247*** (0.033)	0.788*** (0.068)	0.618*** (0.021)	0.697*** (0.036)
2 consumption quintile	-2.182*** (0.054)	0.585*** (0.104)	-6.146*** (0.086)	-9.646*** (0.142)	1.734*** (0.037)	2.532*** (0.067)	0.986*** (0.027)	1.072*** (0.045)
3 consumption quintile	-3.550*** (0.056)	-0.063 (0.109)	-10.789*** (0.090)	-15.608*** (0.151)	2.321*** (0.043)	4.177*** (0.081)	1.870*** (0.032)	2.050*** (0.051)
4 consumption quintile	-5.431*** (0.058)	-1.731*** (0.114)	-14.756*** (0.095)	-20.850*** (0.161)	2.780*** (0.052)	6.079*** (0.102)	2.905*** (0.037)	3.194*** (0.057)
5 consumption quintile	-9.322*** (0.061)	-4.677*** (0.123)	-19.104*** (0.108)	-25.693*** (0.188)	5.596*** (0.073)	9.541*** (0.127)	3.985*** (0.044)	4.057*** (0.064)
year=1998	-0.297*** (0.096)		0.235 (0.157)		-0.124 (0.109)		-0.046 (0.074)	
year=1999	-0.630*** (0.097)		0.581*** (0.164)		-0.055 (0.111)		0.087 (0.076)	
year=2000	-0.802*** (0.094)		0.835*** (0.153)		-0.097 (0.107)		0.215*** (0.075)	
year=2001	-0.541*** (0.092)		1.790*** (0.152)		-0.328*** (0.100)		0.322*** (0.074)	
year=2002	-0.218** (0.090)		3.245*** (0.147)		-0.689*** (0.096)		0.197*** (0.069)	
year=2003	-0.293*** (0.089)		3.095*** (0.146)		-0.715*** (0.095)		0.253*** (0.069)	
year=2004	-0.722*** (0.091)		3.688*** (0.154)		-0.489*** (0.099)		0.140** (0.071)	
year=2005	-0.818*** (0.091)		4.309*** (0.153)		-0.439*** (0.098)		0.149** (0.072)	
year=2006	-0.595*** (0.093)		4.874*** (0.157)		-0.377*** (0.102)		0.079 (0.072)	
year=2007	-0.819*** (0.092)		5.081*** (0.153)		-0.380*** (0.100)		0.119* (0.071)	
year=2008	-0.535*** (0.093)		5.854*** (0.156)		-0.378*** (0.099)		0.070 (0.071)	
year=2009	-0.760*** (0.094)		7.025*** (0.158)		-0.778*** (0.102)		0.207*** (0.074)	
year=2010	-0.508*** (0.095)		6.682*** (0.160)		-0.806*** (0.102)		0.086 (0.074)	
year=2011	-0.214** (0.093)		6.819*** (0.156)		-0.512*** (0.101)		0.174** (0.072)	
year=2012	-0.130 (0.094)		7.255*** (0.156)		-0.254** (0.101)		0.116 (0.074)	
year=2013	0.206** (0.095)		7.484*** (0.159)		-0.330*** (0.102)		0.027 (0.073)	
year=2014	-0.597*** (0.106)		7.338*** (0.175)		-0.661*** (0.110)		-0.218*** (0.069)	
year=2015	-0.638*** (0.113)		7.292*** (0.188)		-0.542*** (0.117)		0.066 (0.074)	
year=2016	-0.249** (0.113)		6.198*** (0.189)		-0.330*** (0.120)		0.211*** (0.074)	
year=2017	-0.097 (0.105)		5.801*** (0.164)		0.026 (0.114)		0.339*** (0.069)	
year=2018	0.076 (0.102)		5.941*** (0.160)		0.017 (0.110)		0.277*** (0.067)	
year=2019	0.261** (0.103)	0.000 (.)	5.844*** (0.158)	0.000 (.)	0.008 (0.110)	0.000 (.)	0.300*** (0.067)	0.000 (.)
year=2020		1.895*** (0.102)		3.145*** (0.145)		-1.765*** (0.100)		-1.471*** (0.054)
year=2021		1.213*** (0.097)		2.173*** (0.141)		-1.268*** (0.098)		-0.940*** (0.055)
year=2022		0.348*** (0.097)		2.599*** (0.145)		-0.995*** (0.098)		-0.224*** (0.058)
year=2023		1.296*** (0.097)		1.034*** (0.139)		-0.798*** (0.100)		0.203*** (0.060)
Constant	21.458*** (0.136)	19.471*** (0.306)	36.465*** (0.218)	48.654*** (0.416)	6.094*** (0.133)	6.221*** (0.251)	4.923*** (0.092)	4.731*** (0.143)
Observations	489314	129590	489314	129590	489314	129590	489314	129590
R ²	0.28	0.20	0.34	0.38	0.16	0.17	0.12	0.18

Source: Authors' calculations based on Istat data, Household Budget Survey. Notes: Regressions control for the education level and employment status of the household reference person, as well as the household's region of residence. The reference categories are: single, under 35 years of age, first consumption quintile, year 1997 (for long-run regressions), and year 2019 (for short-run regressions). Individual characteristics refer to the reference person of the interviewed household. Weighted estimates.

Table 2 also shows that, as the number of employed household members increases, the composition of the consumption basket tends to shift away from essential expenditures, particularly food and housing-related expenses, toward more discretionary goods and services, such as transportation, restaurants and accommodation services. Basso et al. (2026) document that, in the years following the pandemic, the recovery in employment led to an increase in the number of households with two or more income earners, which are generally characterized by a low propensity to consume; this helps explain why such dynamics did not translate into an equally strong increase in overall expenditure. The results presented here, however, suggest that the rise in employment may have contributed to a reallocation of household consumption baskets and to the recovery of specific sectors, including, for example, restaurants and accommodation services.

5 Concluding Remarks and Future Research

This paper shows that the weakness of average household consumption expenditure over the last twenty-five years can be partly attributed to demographic changes, namely, the reduction in average household size and the decline in the share of couples with children. The same demographic developments, however, mitigated the decline in average individual consumption and had only a limited impact on equivalised consumption, which already incorporates an adjustment for household composition. These findings suggest that changes in household structure represent an important factor for understanding consumption dynamics and, more broadly, for assessing policies aimed at supporting household spending.

Our analysis focused on the effects of demographic developments on average expenditure levels. Future research could investigate the extent to which these demographic dynamics affect the entire distribution of consumption across households, following decomposition approaches for distributional analysis similar to those proposed by DiNardo et al. (1996).

A further avenue for research concerns the role of household income. For the period 2014–2023, the Household Budget Survey provides information on households’ position within the income distribution (i.e., income deciles). Although available only over a shorter time horizon, these data allow for a joint analysis

of the evolution of household income and consumption, assessing the extent to which demographic changes have influenced not only expenditure levels but also household saving behavior.

Another possible extension concerns the use of category-specific deflators, which allow for accounting for heterogeneity in price dynamics across goods and services and for decomposing changes in expenditure shares into relative-price and quantity components. Such a decomposition would provide useful evidence on the responsiveness of demand to price changes, including across different household types.

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Appendix

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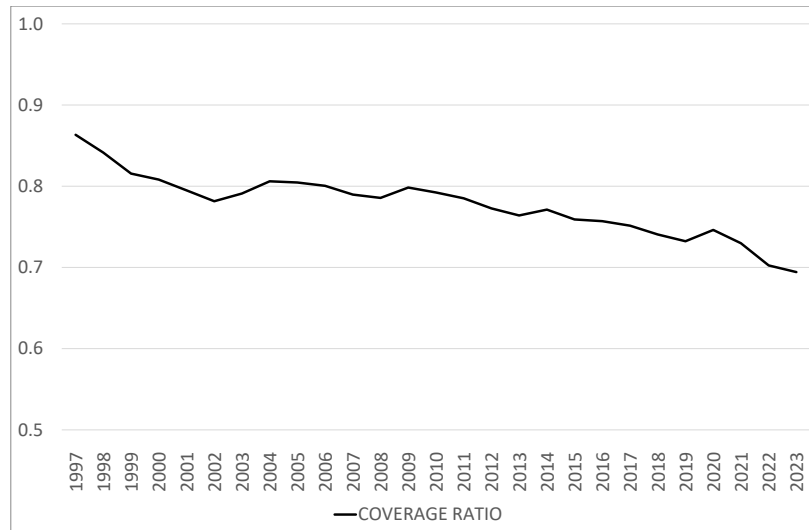
June 22, 2026

A Comparison between National Accounts and Household Budget Survey Consumption

As discussed in the literature (Coli e Tartamella, 2010; Fesseau et al., 2013; Rondinelli, 2014), consumption dynamics derived from the National Accounts are not directly comparable with those obtained from the Household Budget Survey microdata.

Although the Household Budget Survey constitutes an important source for estimating consumption expenditure in the National Accounts, it covers only part of the overall aggregate, which is reconstructed using additional sources, such as business surveys, foreign trade statistics and administrative data (Coli e Tartamella, 2010; Rondinelli, 2014). The coverage ratio, defined as the ratio of nominal expenditure recorded in the Household Budget Survey to that recorded in the National Accounts, displays a declining trend between 1997 and 2023 and averages slightly below 80 per cent over the period (Figure A.1).

Figure A.1: Ratio between HBS and National Accounts consumption



Source: Annual National Accounts, Istat. Notes: The coverage ratio is defined as the ratio between nominal consumption expenditure in the HBS and in the National Accounts (expenditure on the domestic economic territory).

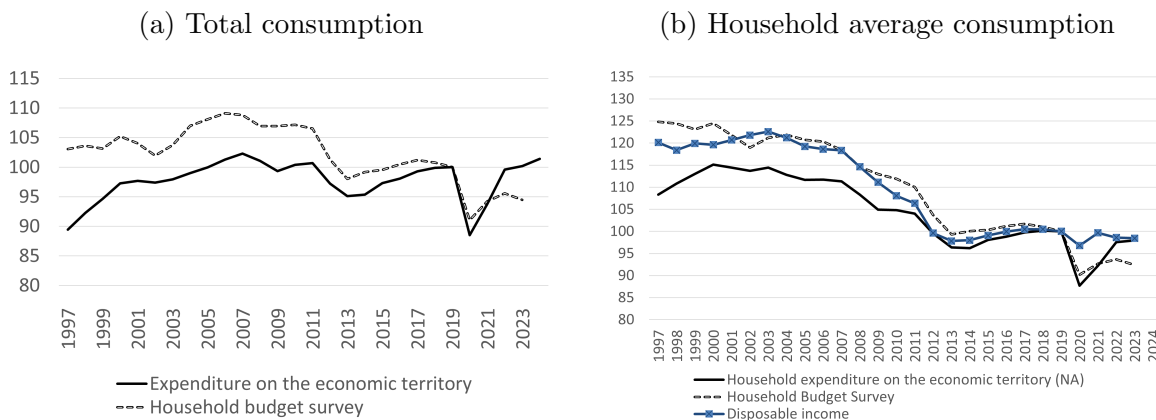
The Household Budget Survey and the National Accounts differ along several dimensions, including the reference population, the concepts and definitions of goods, and the relevant market. The survey refers to the resident population and covers

households only, whereas the National Accounts refer to the population present in the national territory and include expenditure incurred both by households and by collective households (i.e. expenditure by individuals living in communities or institutions such as convents, boarding schools, prisons, and similar establishments).

With regard to concepts and definitions: (a) the same good may be treated differently in the two datasets; this is the case, for example, of imputed rents, which in the Household Budget Survey are based on the homeowner's subjective assessment, whereas in the National Accounts they are estimated using a classification of dwellings into 42 standard housing types; (b) some expenditure items are recorded in the survey but are not included in the National Accounts, as in the case of transactions involving used motor vehicles between households; (c) in-kind income included in the National Accounts (for example, meal vouchers, which are not recorded in the survey) is estimated using independent information sources.

Between 2019 and 2023, national final consumption expenditure recorded in the National Accounts increased by 1.2 per cent. This development largely reflects the growth of expenditure by the General Government sector, while the remaining components recorded more moderate changes. Since national final consumption expenditure also includes expenditure by the General Government and Non-Profit Institutions Serving Households (NPISHs), a more appropriate comparison with the Household Budget Survey focuses on expenditure on the domestic economic territory (net of expenditure by non-residents and including expenditure abroad by residents).

Figure A.2: Comparison between National Accounts and HBS consumption

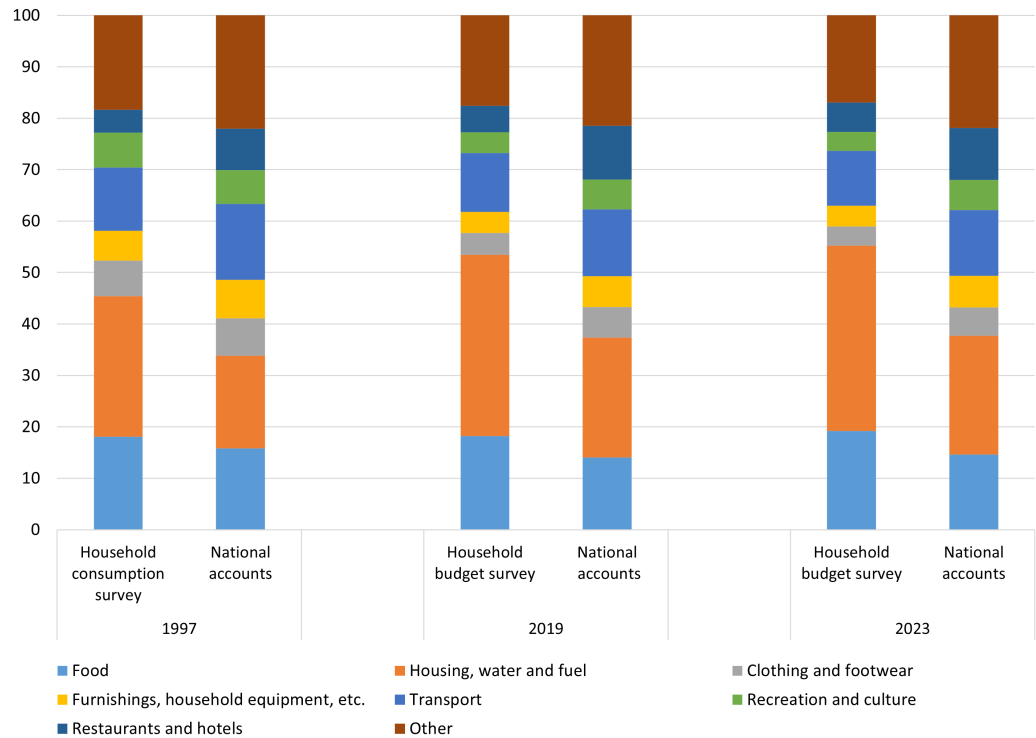


Source: National Accounts (expenditure on the domestic economic territory; chain-linked values with reference year 2020) and Household Budget Survey, Istat (deflated using the household consumption expenditure deflator). Panel (a) compares the Household Budget Survey with National Accounts aggregates using the survey expansion weights. Panel (b) compares National Accounts consumption with the Household Budget Survey by dividing aggregate expenditure by the number of households implied by the survey.

According to the National Accounts, real consumption expenditure on the domestic economic territory had broadly recovered its pre-pandemic level, increasing by about 1 per cent between 2019 and 2024 (0.2 per cent between 2019 and 2023; Figure A.2a). By contrast, information from the Household Budget Survey indicates that consumption levels in 2023 remained significantly below those observed before the health crisis.

When National Accounts data are expressed in terms of average household consumption, they also indicate expenditure levels that remained below their pre-pandemic values in 2023 (Figure A.2b). The steady increase in the number of households, combined with the decline in average household size, implies that, for a given level of aggregate expenditure, average consumption per household is lower. Once this demographic evolution is taken into account, the two sources provide a more consistent picture.

Figure A.3: Composition of the consumption basket



Source: National Accounts (September 2025 release) and Household Budget Survey.

Figure A.3 reports the percentage composition of expenditure across the main consumption categories according to the Household Budget Survey and the National Accounts for 1997, 2019 and 2023. Overall, the structure of the consumption basket appears relatively stable over time, although some differences emerge across the two sources. The Household Budget Survey assigns a relatively greater weight to food and housing expenditure, whereas the National Accounts record larger shares for other expenditure categories. In the case of housing, these differences may partly reflect methodological factors: imputed rents are based on subjective assessments in the survey, whereas they are estimated using a standard classification of housing units in the National Accounts.

In light of the differences discussed above, discrepancies between the results obtained from the Household Budget Survey and those derived from the National Accounts should be interpreted with caution, as they may reflect not only genuine differences in consumption dynamics but also divergences in definitions, reference units and measurement methodologies adopted by the two sources.

B Supplementary Tables

Table B.1: Changes in average consumption expenditure by household characteristics
(*Constant prices; percentage values*)

	Household		Individual		Equivalised	
	1997–2019	2019–2023	1997–2019	2019–2023	1997–2019	2019–2023
Household type						
Single	-2.9	-6.0	-2.9	-6.0	-2.9	-6.0
Couple w/o children	-4.1	-8.3	-4.1	-8.3	-4.1	-8.3
Couple with children	-19.7	-3.8	-18.9	-3.8	-18.8	-4.1
Single parent	-20.2	-8.3	-15.4	-9.9	-16.2	-9.3
Other	-23.7	-9.3	-23.3	-4.6	-23.3	-5.9
Age class						
< 35 anni	-24.2	-8.9	-14.0	-0.3	-18.9	-3.9
35–44 years	-29.3	-6.5	-17.8	-4.2	-22.0	-4.5
45–54 years	-27.3	-7.3	-13.6	-6.5	-16.5	-6.4
55–64 years	-17.4	-6.4	-8.0	-3.3	-11.4	-4.2
65+ years	0.8	-8.4	5.5	-5.8	2.1	-6.9
No. hh members						
1 hh member	-2.9	-6.0	-2.9	-6.0	-2.9	-6.0
2 hh members	-7.5	-8.1	-7.5	-8.1	-7.6	-8.0
3 hh members	-20.0	-4.0	-20.0	-4.0	-20.0	-4.0
4+ hh members	-20.3	-5.5	-20.2	-4.9	-19.6	-5.2
All	-19.8	-7.6	-7.8	-4.2	-13.3	-5.4

Source: Authors' calculations based on Istat data, Household Budget Survey. Notes: Age classes refer to the reference person of the surveyed household. Weighted estimates.

Table B.2: Composition of Total Expenditure

	Food		Housing		Transport		Restaurants and hotels	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Pre-Covid	Post-Covid	Pre-Covid	Post-Covid	Pre-Covid	Post-Covid	Pre-Covid	Post-Covid
Couple w/o children	2.238*** (0.118)	2.405*** (0.108)	-2.384*** (0.205)	-3.414*** (0.174)	1.226*** (0.121)	1.176*** (0.110)	-0.652*** (0.071)	-0.534*** (0.060)
Couple with children	2.819*** (0.197)	2.770*** (0.187)	-3.324*** (0.318)	-4.151*** (0.280)	1.241*** (0.207)	1.053*** (0.196)	-0.836*** (0.112)	-0.691*** (0.099)
Single parent	1.746*** (0.165)	1.935*** (0.151)	-2.870*** (0.286)	-3.622*** (0.234)	0.830*** (0.167)	0.644*** (0.149)	-0.479*** (0.094)	-0.577*** (0.078)
Other	3.074*** (0.235)	2.697*** (0.212)	-0.845** (0.375)	-2.103*** (0.334)	0.182 (0.226)	0.653*** (0.223)	-1.201*** (0.133)	-1.010*** (0.116)
35-44 years	-0.170 (0.154)	0.126 (0.148)	1.107*** (0.265)	1.213*** (0.233)	-0.679*** (0.184)	-0.430*** (0.161)	-0.058 (0.112)	-0.418*** (0.101)
45-54 years	0.352** (0.151)	0.411*** (0.140)	1.812*** (0.259)	1.937*** (0.223)	-0.834*** (0.177)	-0.393*** (0.152)	-0.921*** (0.105)	-1.142*** (0.095)
55-64 years	0.783*** (0.153)	0.738*** (0.139)	3.161*** (0.266)	2.877*** (0.224)	-1.147*** (0.180)	-0.610*** (0.150)	-1.640*** (0.106)	-1.770*** (0.094)
65+ years	1.185*** (0.178)	0.949*** (0.162)	7.071*** (0.311)	7.138*** (0.263)	-4.128*** (0.194)	-3.062*** (0.164)	-2.740*** (0.115)	-2.873*** (0.101)
No. hh members	1.120*** (0.067)	1.290*** (0.065)	-1.286*** (0.104)	-1.369*** (0.094)	0.111 (0.070)	-0.032 (0.067)	-0.313*** (0.037)	-0.276*** (0.033)
No. employed members	-0.693*** (0.073)	-0.590*** (0.068)	-1.322*** (0.122)	-0.919*** (0.105)	1.303*** (0.085)	1.085*** (0.074)	0.636*** (0.045)	0.518*** (0.039)
2 income quintile	-0.853*** (0.120)	-0.640*** (0.111)	-4.761*** (0.199)	-4.418*** (0.173)	1.554*** (0.099)	1.687*** (0.088)	0.751*** (0.057)	0.591*** (0.048)
3 income quintile	-1.971*** (0.124)	-1.695*** (0.114)	-6.912*** (0.211)	-6.467*** (0.181)	2.519*** (0.113)	2.525*** (0.101)	1.466*** (0.066)	1.405*** (0.057)
4 income quintile	-3.111*** (0.133)	-2.787*** (0.122)	-8.382*** (0.229)	-7.934*** (0.198)	2.870*** (0.128)	3.052*** (0.114)	2.131*** (0.074)	1.960*** (0.064)
5 income quintile	-4.854*** (0.145)	-4.694*** (0.135)	-9.774*** (0.251)	-9.824*** (0.220)	3.204*** (0.144)	3.403*** (0.131)	3.005*** (0.085)	2.886*** (0.074)
year=2015	-0.036 (0.117)		-0.029 (0.215)		0.113 (0.120)		0.298*** (0.072)	
year=2016	0.368*** (0.117)		-0.935*** (0.212)		0.278** (0.122)		0.432*** (0.072)	
year=2017	0.507*** (0.111)		-1.222*** (0.190)		0.611*** (0.116)		0.528*** (0.067)	
year=2018	0.672*** (0.109)		-1.045*** (0.186)		0.581*** (0.113)		0.470*** (0.064)	
year=2019	0.845*** (0.108)	0.000 (.)	-1.186*** (0.185)	0.000 (.)	0.597*** (0.113)	0.000 (.)	0.507*** (0.064)	0.000 (.)
year=2020		1.906*** (0.103)		3.125*** (0.162)		-1.756*** (0.104)		-1.475*** (0.055)
year=2021		1.225*** (0.098)		2.131*** (0.158)		-1.250*** (0.101)		-0.943*** (0.055)
year=2022		0.352*** (0.098)		2.578*** (0.160)		-0.984*** (0.101)		-0.226*** (0.058)
year=2023		1.292*** (0.098)		1.098*** (0.158)		-0.820*** (0.103)		0.199*** (0.061)
Constant	20.679*** (0.311)	19.901*** (0.310)	49.267*** (0.518)	48.709*** (0.469)	4.379*** (0.274)	5.400*** (0.258)	4.354*** (0.166)	4.873*** (0.147)
Observations	101232	129590	101232	129590	101232	129590	101232	129590
R ²	0.19	0.19	0.21	0.22	0.13	0.11	0.17	0.16

Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: Regressions control for educational attainment and labour-market status of the reference person, as well as for the household's region of residence. Reference categories are: single-person households, less than 35 years old, first consumption quintile, year 1997 (for long-run regressions), and year 2019 (for short-run regressions). Individual characteristics refer to the reference person of the surveyed household. Weighted estimates.

C Shift-share Decomposition

Given a demographic variable that partitions the population into J groups (for example, the respondent’s age class or household type), average consumption in year t ($\bar{c}_t$) can be expressed as the weighted average of mean consumption within each group:

$$\bar{c}_t = \sum_{j=1}^J w_{j,t} \cdot \bar{c}_{j,t} \quad (\text{C.1})$$

where $j \in \{1, \dots, J\}$ denotes the demographic groups, $w_{j,t}$ represents the population share of group j in year t , and $\bar{c}_{j,t}$ denotes average consumption within each group. The change in average consumption between years $t1$ and $t2$ can then be decomposed as follows:

$$\begin{aligned} \bar{c}_{t2} - \bar{c}_{t1} &= \\ &= \underbrace{\sum_{j=1}^J \bar{c}_{j,t1} (w_{j,t2} - w_{j,t1})}_{\text{Composition}} + \underbrace{\sum_{j=1}^J w_{j,t1} (\bar{c}_{j,t2} - \bar{c}_{j,t1})}_{\text{Intensity}} + \underbrace{\sum_{j=1}^J (w_{j,t2} - w_{j,t1}) (\bar{c}_{j,t2} - \bar{c}_{j,t1})}_{\text{Interaction}} \end{aligned} \quad (\text{C.2})$$

Equation (C.2) decomposes the difference into three components:

- **“Composition”**: depends on changes between $t1$ and $t2$ in the population shares of the demographic groups considered, weighted by the average level of consumption observed in each group at the initial time;
- **“Intensity”**: reflects changes in average consumption within demographic groups, weighted by each group’s population share at the initial time;
- **“Interaction”**: represents the residual component of the decomposition and captures the interaction between demographic changes and changes in average consumption within groups.

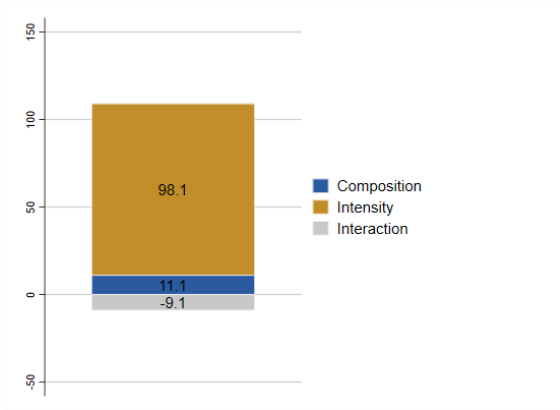
The first component (“composition”) therefore captures the impact of changes in the population structure – according to the demographic variable considered – on expenditure dynamics.

Applying the decomposition to the change in average household expenditure at constant prices between 1997 and 2019, using the *respondent’s age class* as the demographic partition variable, shows that almost the entire decline is explained by the reduction in consumption within demographic groups (the “intensity” component; Figure C.1a). Population ageing, approximated by changes in the distribution of households across the age classes of the reference person, explains only around 11 per cent of the overall variation. This limited impact reflects the offsetting contributions of different age groups. The increase in the share of older households was largely compensated by the decline in the share of younger households, which display similar expenditure

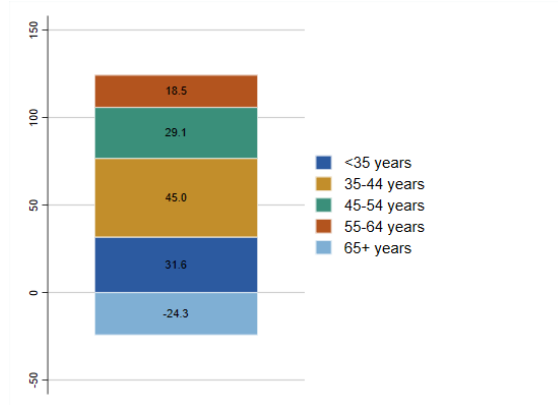
Figure C.1: Decomposition of the difference in average household consumption by age class (1997–2019)

(Percentage values)

(a) Decomposition into the three components



(b) Contributions by age group



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The left-hand panel reports the decomposition (in percentage values) of the difference in average household consumption between 1997 and 2019 into the three components defined by Equation (C.2); the right-hand panel reports the overall contributions (in percentage values) of each demographic group to the total difference in average consumption. Age classes refer to the reference person of the surveyed household. Weighted estimates.

levels, as discussed in Section 3.2. At the same time, the middle age groups, which are characterised by higher average consumption levels, remained broadly stable in terms of their population shares.

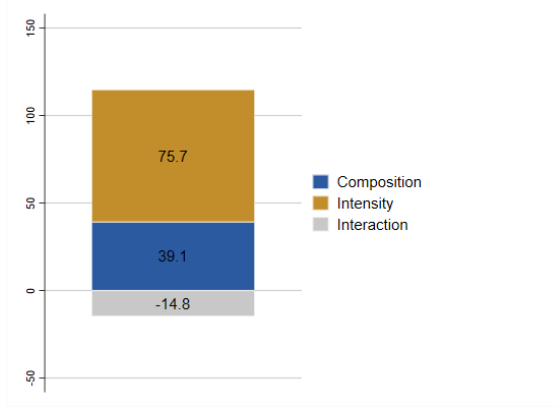
Equation (C.2) also allows us to quantify the overall contribution of each demographic group to the change in average consumption, taking into account both changes in population shares and changes in average expenditure within groups (Figure C.1b). Overall, all demographic groups contributed to the decline in average household consumption, primarily because of the reduction in expenditure within groups, with the exception of the oldest age class.

When *household type* is used as the demographic partition variable – thereby accounting for household structure and size – a different picture emerges (Figure C.2). Although the intensity effect remains the dominant component, changes in the demographic structure account for approximately 39 per cent of the total decline. In this case, the largest contribution to the difference arises from couples with children, which experienced the most pronounced decline in their population share and are characterised by above-average levels of household expenditure (Figure 5).

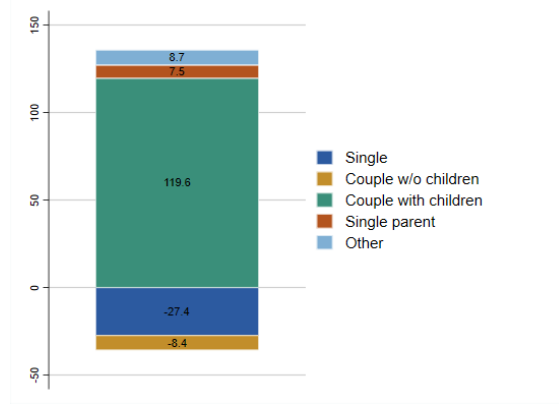
Figure C.2: Decomposition of the difference in average household consumption by household type (1997–2019)

(Percentage values)

(a) Decomposition into the three components



(b) Contributions by household type



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: The left-hand panel reports the decomposition (in percentage values) of the difference in average household consumption between 1997 and 2019 into the three components defined by Equation (C.2); the right-hand panel reports the overall contributions (in percentage values) of each demographic group to the total difference in average consumption. Weighted estimates.

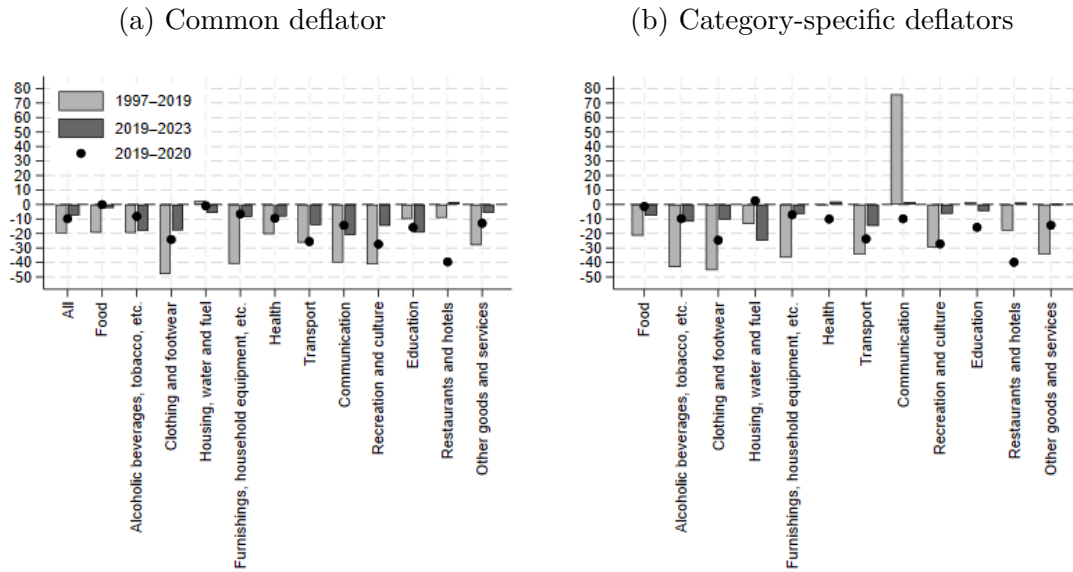
D The Dynamics of Consumption by Expenditure Category in the Long and Short Run

Between 1997 and 2019, prior to the outbreak of the COVID-19 pandemic, all major expenditure categories recorded declines in real terms, albeit with different intensities, with the only exception of housing and utilities. Among the remaining categories, the largest percentage declines were observed for clothing and footwear, furnishings and household services, transport, and recreation, sport and culture. For most categories, expenditure levels continued to decline thereafter: the pandemic shock of 2020 led to a sharp contraction in all non-essential consumption items, and by 2023 most of them had not yet returned to their pre-pandemic levels. An exception is expenditure on restaurants and accommodation services, which, after experiencing the largest contraction during the health emergency, exceeded its 2019 level by 2023 (Figure D.1a).

The evolution of category-specific prices was, however, highly heterogeneous, and this has important implications for the interpretation of the observed expenditure dynamics. When consumption expenditure is adjusted using category-specific price indices rather than a common deflator, the picture changes substantially for some expenditure categories. Expenditure on information and communication increased by almost 80 per cent over the long run, reflecting its widespread diffusion between 1997 and 2019, which was accompanied by a marked decline in relative prices. By contrast, the growth in expenditure on housing and utilities was entirely driven by the sustained increase in category-specific prices over the same period (Figure D.1b).

Weighting each expenditure category by its share in the average household con-

Figure D.1: Changes in Average Expenditure by Consumption Category
(Constant prices; percentage values)



Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: Panel (a) reports changes in average expenditure by consumption category when all categories are deflated using the same price index (the household consumption expenditure deflator derived from National Accounts published by Istat). Panel (b) reports the same changes when each expenditure category is deflated using its own category-specific deflator. Weighted estimates.

sumption basket, the decline in total expenditure observed over the last two decades can be largely attributed to reductions in expenditure on food, clothing and footwear, furnishings and household services, transport, and recreation, sport and culture (Table D.1, column 1).

Repeating, for each expenditure category, the decomposition exercise described in Section 3.3, it is possible to reconstruct the counterfactual evolution of each expenditure component under the assumption that the demographic structure of the population – in terms of household type, household size and respondent age class – had remained unchanged at its 1997 level (Table D.1, column 2).

In the absence of demographic changes, the decline in average household consumption would have been smaller for all expenditure categories. The reduction in total real expenditure would have been approximately 4 percentage points lower. This difference is mainly attributable to the smaller negative contribution of expenditure on food and transport (almost 1 percentage point each), as well as, to a lesser extent, expenditure on clothing and footwear, recreation, sport and culture, and miscellaneous goods and services (around half a percentage point for each category).

As in the main analysis, the effect of demographic change is primarily attributable to the decline in the share of households with children, which exhibit higher average levels of expenditure than other population groups across virtually all expenditure categories.

Table D.1: Contributions of Individual Expenditure Categories to the Total Change
(*Constant prices; percentage values*)

	1997-2019	1997-2019 (1997 pop.)
	(1)	(2)
Food	-3,5	-2,6
Alcoholic beverages, tobacco, etc.	-0,3	-0,3
Clothing and footwear	-3,3	-2,8
Housing, water and fuel	0,7	0,8
Furnishings, household equipment, etc.	-2,4	-2,1
Health	-0,9	-0,9
Transport	-3,2	-2,3
Communication	-1,2	-1,1
Recreation and culture	-2,8	-2,5
Education	-0,1	0,1
Restaurants and hotels	-0,4	-0,1
Other goods and services	-2,3	-1,8
All	-19,8	-15,6

Source: Authors' calculations based on Istat data, Household Budget Survey.

Notes: All expenditure categories are deflated using the same price index (the household consumption expenditure deflator derived from National Accounts published by Istat). Column (1) reports the contributions of individual expenditure categories to the change in total expenditure between 1997 and 2019. Column (2) reports the contributions of each expenditure category to the counterfactual change under the assumption that population structure in terms of household type had remained unchanged at its 1997 level. Weighted estimates.