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AN ASSESSMENT OF THE MARGINAL PROPENSITY TO CONSUME IN ITALY IN THE POST-COVID RECOVERY

by Gaetano Basso*, Francesca Carta*, Concetta Rondinelli*, Federico Tullio*
and Francesca Zanichelli*

Abstract

We investigate the decoupling between consumption and income observed in the aftermath of the COVID-19 crisis, focusing on the role of improved labour market conditions. We first estimate differences in households' marginal propensities to consume (MPCs) applying a standard empirical framework to the 2016 and 2022 waves of Banca d'Italia's Survey on Household Income and Wealth, which we treat as representing the pre- and post-pandemic periods. We then assess the contribution of labour market dynamics to changes in the aggregate MPC using an Oaxaca–Blinder-type decomposition method. Finally, combining these estimates with data from Istat's Labour Force Survey, we evaluate the role of labour market developments in shaping the evolution of the aggregate MPC through 2024. Our results indicate that MPCs declined across households, on average, and that recent employment growth was concentrated among groups with relatively low MPCs, exerting significant downward pressure on the aggregate MPC.

JEL Classification: D14, E21, C52, J11, J21.

Keywords: consumption pattern, disposable income, Covid-19, demographics, employment.

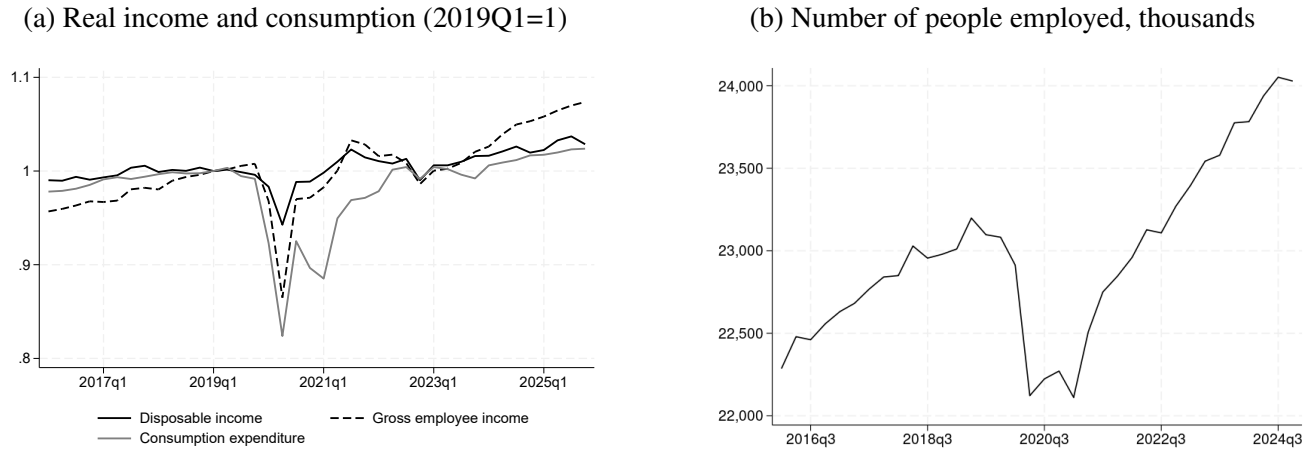
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1 Introduction¹

The post-pandemic recovery in Italy has been characterised by a decoupling between household consumption and disposable income, despite robust labour market outcomes (Figure 1). Between 2019 and 2025, in real terms, consumption expenditure increased by 2.4 per cent, compared with a 3.1 per cent rise in disposable income. Taken together, these developments point to a loosening in the relationship between variations in household spending and disposable income, consistent with a decline in the aggregate marginal propensity to consume, despite positive growth in both variables.

Figure 1: Real income, consumption and number of people employed in Italy



Source: Istat National Accounts, left panel; Istat Labour Force Survey, 2016-2024, right panel.

This paper investigates the drivers of this decoupling, focusing on the role of household heterogeneity in Marginal Propensities to Consume (MPCs) out of income and on the composition of recent employment growth. We address two main questions. First, we analyse whether the MPCs declined in the post-pandemic period. Second, we study and quantify to what extent the observed weakening in consumption reflects a broad-based behavioural change, as opposed to compositional shifts in employment and income towards households with structurally lower MPCs. By disentangling these aggregate and compositional drivers, this paper clarifies whether the current consumption slump reflects a transient behavioural shift or a structural byproduct of an evolving labour market.

To address these questions, we proceed in four steps. First, we use the Italian Labour Force Survey (LFS) to analyse employment patterns, identifying the specific demographic groups and family types that accounted for most of the labour market expansion during the recovery. Second, following the approach of [Guiso et al. \(2005\)](#) and [Paiella \(2007\)](#), we model household propensity to consume out of income as a function of wealth and a broad set of household characteristics, allowing for heterogeneous MPCs across demographic groups.² To do so, we use data from the Banca d'Italia's Survey on Household Income and

¹The views expressed herein are those of the authors and should not be attributed to Banca d'Italia or the Eurosystem. We would like to thank Federico Cingano, Fabrizio Colonna, Andrea Neri and Alfonso Rosolia for their useful comments and suggestions. We thank Francesco Vercelli for providing the data on financial asset prices and Antonio Coran, Nicola Curci, Andrea Mattia and Antonella Tomasi for their generous help with the household level income data for 2024 based on the Banca d'Italia microsimulation model.

²Recent studies employing this approach include [Arrondel et al. \(2019\)](#), [Trivin \(2021\)](#), [Garbinti et al. \(2024\)](#), and [Propst \(2025\)](#), among others.

Wealth (SHIW) for 2016 and 2022 with consumption expenditure data imputed from the Household Budget Survey (HBS). Third, since the aggregate implications of a given increase in income depend not only on its overall magnitude but also on which households along the income distribution receive it, we compute the aggregate MPC as a weighted average of subgroup-specific MPCs; the weights reflect both the relative size of each socio-demographic group and its contribution to aggregate income growth. Finally, we decompose changes in the aggregate MPC into two components: a behavioural component, capturing shifts in within-group consumption responses, and a composition-income component, reflecting changes in the distribution of income and employment across households, in particular towards groups with lower spending propensities. This decomposition highlights the role of composition effects in shaping the aggregate MPC through 2024.

Our analysis treats each year as a separate cross-section and does not exploit any panel dimension of the data. Accordingly, we do not study within-household labour market dynamics over time (e.g. whether additional household members become employed) or how a given household's MPC evolves, but instead we adopt a purely cross-sectional perspective, focusing on changes in the distribution of household types and their associated MPC across years.

We find that MPCs declined across all groups, pointing to a broad-based reduction in spending propensities. Post-pandemic employment growth, driven primarily by secondary earners, was concentrated among households with structurally lower MPCs, such as households headed by individuals aged 55 or over and those with tertiary educational attainment.³ Composition-income effects account for a substantial share of the decline in the aggregate MPC. Projections based on employment and income dynamics over the 2022-2024 period suggest that the composition-income effect may have continued to exert downward pressure on the aggregate MPC.

Existing contributions explained the post-pandemic weakness in consumption primarily through a broad-based decline in households' propensity to spend. Using both micro and macro data, this literature emphasises the role of precautionary behaviour and expectations in shaping consumption dynamics. For instance, [Guglielminetti and Rondinelli \(2024\)](#) show that precautionary motives played a key role in the sharp contraction of consumption during the pandemic; also [Neri and Tullio \(2022\)](#) document that many Italian households planned to further reduce spending in the aftermath of the crisis, sustaining the accumulation of excess saving. Subsequent developments, in particular the surge in inflation, have further contributed to dampening consumption. [Pallotti et al. \(2024\)](#) highlight the welfare losses associated with rising prices, while [Infante et al. \(2025\)](#) show that inflation partially eroded real wealth across the distribution. More broadly, heightened uncertainty — also linked to the Russian invasion of Ukraine — has been associated with weaker household consumption and stronger excess saving ([Colabella et al., 2026](#)).

A complementary driver of the decline in the aggregate MPC relates to changes in the composition of Italian households and their incomes. Both long-term demographic trends and cyclical labour market dynamics have reshaped the distribution of households and employment. In particular, population ageing, rising educational attainment and declining fertility have shifted household profiles towards groups with systematically different consumption behaviour (e.g., [Pistaferri, 2003](#); [Attanasio and Weber, 2010](#); [Jappelli and Pistaferri, 2014](#); [Mariani, 2021](#); [Rondinelli et al., 2026](#)). These structural forces have interacted with recent labour market developments ([Bovini and Viviano, 2018](#); [Ciani et al., 2025](#)), with potentially

³In the Italian Labour Force Survey, information is collected at the household level and may be provided by a single household member. When individual members are unavailable, another household member acts as a proxy respondent (the Reference Person, PR), typically the one available to provide information on other household members, in accordance with Istat survey guidelines.

distinct implications for aggregate consumption (Carta and Depalo, 2025). For instance, employment growth following the pandemic has been partly driven by marginal groups, whose higher MPC is offset by lower levels of consumption (Dachille et al., 2026),⁴ while the subsequent inflationary episode may have supported labour demand but weakened households’ income prospects and spending (Colonna et al., 2025).

Taken together, these explanations point to a generalised decline in the marginal propensity to consume (MPC) out of income in the aftermath of the pandemic. However, it remains unclear which households have driven this decline and whether it reflects a broad-based behavioural shift or compositional changes in the distribution of income and employment. This paper addresses this gap.

The paper is organised as follows. Section 2 describes the data used in the analysis and the variable definitions. Section 3 presents the model for estimating MPCs out of income. Section 4 defines the aggregate MPC as a weighted sum of the subgroups’ MPCs, and decomposes the change in the aggregate MPC between 2016 and 2022 and between 2022 and 2024. Section 5 concludes.

2 Data sources, variable definitions and descriptives

2.1 Consumption, income and wealth data

We make use of the Survey on Household Income and Wealth (SHIW), which is conducted by the Banca d’Italia since the 1960s (every two years starting from 1989). The survey collects information on demographics, income, real and financial assets, and loans for a representative sample of Italian households. For the purposes of this study, we use the 2016 and 2022 survey editions, namely the last wave before the outbreak of the COVID-19 pandemic in 2020, and the latest available wave.⁵ The two waves consist of 7,420 and 9,641 observations, respectively. In what follows, all estimates are weighted using the corresponding cross-sectional weights.⁶

The main objective of the SHIW is to measure household income and wealth; however, it also includes a limited set of questions on consumption expenditure at the household level. In particular, the survey collects information on total food consumption expenditure, expenditures related to the main residence (e.g. condominium fees and bills, among others), as well as spending on travels, rents, insurance, and durable goods. Finally, a residual question asks respondents to quantify the remaining expenditures not covered by the other items in the questionnaire. These mainly consist of non-durable, non-food consumption, including spending on clothing and footwear, education, leisure, and other expenses.

⁴Dachille et al. (2026) focus on the cyclical component of employment growth by restricting attention to households without self-employed individuals or pensioners and excluding families with members aged 58 or over already in 2019. As a result, their analysis abstracts from structural and demographic reallocation effects, which play a central role in our framework and tend to exert downward pressure on the aggregate MPC.

⁵The SHIW was conducted every two years up to 2022, except for 2018, when the survey was not carried out for non-statistical reasons.

⁶It is worth noting that, starting from 2020, significant methodological changes were introduced in the SHIW. In particular, the sample of households to be interviewed was selected based not only on traditional demographic variables but also on households’ fiscal (administrative) income classes (Loschiavo et al., 2024). The revised sampling design improves coverage of the upper tail of the fiscal income distribution, leading to more reliable survey-based estimates of income and wealth distributional outcomes. At the same time, it introduced a methodological break in the SHIW time series. To preserve comparability with earlier survey waves, weights for historical comparison were constructed and disseminated following the methodology outlined in Gambacorta and Porreca (2025). All analyses using the 2022 edition of the survey are conducted using this set of weights.

According to [Cifaldi and Neri \(2013\)](#), this data collection methodology is associated with lower measured total household expenditure in the SHIW survey than in the benchmark survey for this dimension, namely the Household Budget Survey (HBS). To overcome such limitation and enhance the reliability of the consumption expenditure distribution in the SHIW, we employ a matching strategy previously adopted by [Donatiello et al. \(2025\)](#), which is based on a nearest-neighbour distance hotdeck procedure. In brief, household total consumption expenditure from the HBS is imputed to the closest SHIW household according to a statistical distance defined over a set of harmonised variables. More details on the matching procedure are provided in Appendix A.

Importantly, SHIW measures household net wealth. It provides detailed household-level information on real assets, financial assets, and liabilities at the end of the reference survey year (e.g. values as of 31 December 2016 for the 2016 wave). We consider the following wealth components: *i*) housing wealth, including the household’s main residence and other real estate properties; *ii*) financial assets, comprising liquid assets (bank and postal deposits, and government securities), as well as illiquid assets, including bonds, shares in listed and unlisted companies, and other financial assets; and *iii*) financial liabilities to banks and other financial institutions, including mortgages and other debt. To compute household net wealth at the beginning of the period, we subtract annual household-level savings from real and financial assets, taking into account households’ portfolio composition and real estate acquisitions during the year. To net out price effects, we use price changes from the financial accounts and changes in the House Price Index (*Indice dei Prezzi delle Abitazioni* - IPAB) at the macro-area level (North-East, North-West, Centre, South and Islands).⁷ Liabilities are recomputed by adding the self-reported amount of debt service paid during the year to the reported outstanding debt at the end of the reference survey year.

Following [Arrondel et al. \(2019\)](#), we restrict the analysis to a sub-sample of households whose respondents are younger than 75 years in order to avoid potential old-age survival bias. The same age restriction is also applied to the LFS, so as to ensure consistency when mapping the MPCs estimated from the SHIW to households observed in the LFS. To limit the influence of extreme observations, we further exclude households with zero or negative income and those with a consumption-to-income ratio greater than or equal to five (i.e., households whose annual consumption exceeds five times their annual income); this affects approximately 1 per cent of households with positive income.⁸

Table B.1 in Appendix B reports descriptive statistics for the estimation sample. Due to the sample selection procedure, average income and consumption are slightly higher than in the full sample in both 2016 and 2022, while net wealth remains approximately unchanged.

2.2 Labour market trends

We leverage data from the Istat Labour Force Survey (LFS), the main source of information on employment and labour market participation in Italy, to assess changes in demographic and employment composition. As shown in Figure 2, panel (a), the share of older workers (aged 50 and over) has increased

⁷Regarding the financial account prices, we consider five asset categories: private debt securities, government debt securities, listed and unlisted shares, and investment funds.

⁸Overall, 152 observations are discarded based on these criteria. Similar sample selection procedures are adopted by studies estimating models comparable to ours. For instance, [Arrondel et al. \(2019\)](#) restrict the sample to households with income greater than 2,000 euros and exclude observations with extreme (unspecified) consumption-to-income ratios. [Garbinti et al. \(2024\)](#) exclude households in the top and bottom 1 per cent of the consumption-to-disposable-income ratio distribution. [Guiso et al. \(2005\)](#) exclude households whose capital gains or losses on real estate exceed five times annual earnings, as well as households whose capital losses on stocks are greater than twice their annual earnings.

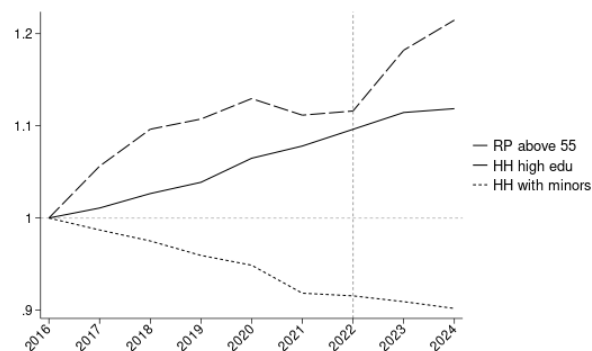
markedly over time, continuing a long-term trend in the Italian labour market (De Philippis, 2017), while panel (b) documents a broader shift in household characteristics, with a rising prevalence of older and more educated households.

Figure 2: Employment trends, labour force and household composition in Italy

(a) Share of the workforce aged 50 and over, per cent



(b) Share of households (RP 18-74), per cent



Source: Istat Labour Force Survey, 2016-2024. We consider households whose Reference Person (RP) is aged 18 and 74. “RP above 55” refers to households where the RP is aged 55 or over. “HH high edu” refers to households where the highest level of education in the family is a tertiary degree. “HH with minors” refers to households where at least one child under 18 resides.

Between 2016 and 2022 the number of employed people rose by 1.5%, and by a further 3.6% between 2022 and 2024. This growth was not evenly distributed, instead it was primarily driven by older workers (aged 55 and over) and those with at least a tertiary education; conversely, no significant disparities emerged across citizenship, gender, or macro-regions.

These individual-level trends translate into consistent patterns at the household level. Employment gains have been concentrated among households where the reference person is older than 55 and where at least one member holds a tertiary degree. The data also indicate a slightly higher contribution from households with at least one foreign-born member. In addition, employment growth has been stronger among households composed only of non-dependent adults, contributing to an increase in the share of households with at least two earners (+0.6 percentage points), alongside a decline in single-earner and no-earner households (-0.4 and -0.2 percentage points, respectively; Table 1).⁹ These results remain qualitatively consistent when extending the analysis beyond 2022.

The evolution of the household composition between 2016, 2022 and 2024 is fully outlined in Table 1. The Italian population has been shifting towards households with at least two earners, relatively older, and better educated. The following sections verify whether these households have lower MPCs or whether their average MPC has decreased between 2016 and 2022.

⁹Table B.2 shows that such dynamics are similarly observed in the SHIW data.

Table 1: Shares of family types, per cent

Family type	2016 (%)	2022 (%)	2024 (%)	Δ (2022-16)	Δ (2024-22)
1. 0 employed, low education, RP below 55	6.55	5.75	5.23	-0.79	-0.52
2. 0 employed, high education, RP below 55	0.78	0.79	0.77	0.01	-0.02
3. 0 employed, low education, RP above 55	18.14	18.55	17.42	0.41	-1.13
4. 0 employed, high education, RP above 55	2.15	2.37	2.43	0.22	0.07
5. 1 employed, low education, RP below 55	23.24	20.46	19.26	-2.78	-1.20
6. 1 employed, high education, RP below 55	6.65	7.24	7.29	0.58	0.05
7. 1 employed, low education, RP above 55	8.70	10.21	10.54	1.51	0.33
8. 1 employed, high education, RP above 55	3.34	3.63	4.17	0.29	0.54
9. 2+ employed, low education, RP below 55	14.54	12.71	12.43	-1.83	-0.28
10. 2+ employed, high education, RP below 55	8.11	9.05	10.13	0.94	1.08
11. 2+ employed, low education, RP above 55	4.53	5.19	5.60	0.66	0.41
12. 2+ employed, high education, RP above 55	3.27	4.05	4.73	0.78	0.68

Source: Labour Force Survey, 2016, 2022 and 2024. *Notes:* RP denotes the household reference person. We select households whose reference person is between 18 and 74 years old. Values are expressed as percentages. Δ indicates the change in percentage points between 2022 or 2024, and 2016 or 2022.

3 Estimating marginal propensities to consume

3.1 Empirical approach

We employ the empirical approach first adopted by [Paiella \(2007\)](#) to model the household-level propensity to consume as a function of wealth and other household characteristics, using cross-sectional data from the 2016 and 2022 waves of the SHIW. This class of empirical models is grounded in the life-cycle framework, in which individuals accumulate wealth to smooth consumption over their lifetime.

We extend their framework along two dimensions. First, we explicitly allow for heterogeneous effects across assets with different levels of liquidity, following [De Bonis et al. \(2026\)](#) who show the relevance of asset composition in explaining consumption. This extension is consistent with buffer-stock theory ([Carroll, 1997](#)), in which the propensity to consume out of current income varies with the composition of households' assets. Second, as discussed in the previous section, we extend the definition of consumption to total household expenditure. This allows us to estimate, using micro data, a consumption equation that mirrors the macro-level framework adopted by [De Bonis et al. \(2026\)](#), thereby ensuring consistency between the aggregate and household-level evidence.

The linear model relating income (y_i), consumption (c_i) and wealth (w_i) for each household i is defined by:

$$\frac{c_i}{y_i} = \alpha + \sum_j \beta_j \frac{w_i^j}{y_i} + \gamma e_i + \lambda \mathbf{z}_i + v_i, \quad i = 1, \dots, n, \quad (1)$$

where w^j indicates the j^{th} wealth component, e_i indicates the number of income earners within the household and $\mathbf{z}_i$ is the vector of all other controls (including household total income quintile and the household composition). In Equation (1), the wealth term $\sum_j \beta_j \frac{w_i^j}{y_i}$ implies that, for positive β_j 's and conditional on income, wealthier households may consume a larger share of their income. Finally, note that income shocks may affect consumption also indirectly through changes in relative wealth positions, rather than only through the direct income channel. In the remainder of the paper, however, we abstract from this additional channel and focus on the transmission of income shocks through heterogeneity in the MPCs out of income, thus assuming that the wealth-to-income ratio remains unchanged.

Recovering our main object of interest, the average partial effect of income on consumption (i.e., the marginal propensity to consume out of income) is straightforward. By multiplying by y_i both the left- and right-hand-side of equation (1) we can express c_i as a function of y_i and compute the partial effect of y_i on c_i :

$$\text{MPC} = \mathbb{E}(\partial c_i / \partial y_i) = \mathbb{E}(\alpha + \gamma e_i + \lambda \mathbf{z}_i). \quad (2)$$

Averaging this estimate conditional on a given group of households in the sample then provides a group-specific average MPC out of income. Finally, note that in Equation (1), the coefficients β_j 's represent the MPC out of wealth components. In what follows, whenever we refer to the MPC without qualification, we mean the marginal propensity to consume out of income described by Equation (2).

3.2 Estimation results

Table 2 presents the results of the estimated model, where covariates are introduced sequentially.¹⁰ Each specification is estimated cross-sectionally using data from 2016 and 2022. Following the specification in Guiso et al. (2005), we first consider a set of household demographic variables and respondents' individual characteristics. To capture life-cycle differences in expenditure and wealth, we add a second-order polynomial in the household head's age and household size. We further control for the household head's education, employment, and marital status, as well as the number of income earners and family type, to account for heterogeneity in preference parameters affecting expenditure and wealth. As in Arrondel et al. (2019), we also incorporate an indicator for credit-constrained households and respondents' income expectations. Finally, we add a self-reported proxy for household permanent income, along with binary indicators for the area of residence and municipality size.¹¹ By controlling for a wide range of observable household characteristics, we aim to provide reliable evidence on the relationship between income, consumption, and wealth and its heterogeneity across households.

Over the reference period, the average MPC out of income declines significantly, falling from approximately 0.921 to 0.875 in the specification including demographic variables and respondents' characteris-

¹⁰For a simplified specification focusing only on wealth components, which highlights the importance of considering each component separately, see Table B.3 in Appendix B. Descriptive statistics of the covariates are provided in Table B.4 in Appendix B.

¹¹Our proxy for permanent income is a categorical variable based on a survey question asking whether yearly income is in line with, below, or above the level of a *normal* year.

Table 2: Estimated linear model: full results

	(1) 2016	(2) 2022	(3) 2016	(4) 2022	(5) 2016	(6) 2022
Financial liabilities	-0.013 (0.014)	-0.006 (0.005)	-0.011 (0.014)	0.001 (0.005)	-0.009 (0.013)	0.001 (0.004)
Real assets	0.011*** (0.002)	0.003 (0.002)	0.012*** (0.002)	0.003 (0.002)	0.011*** (0.002)	0.005** (0.002)
Liquid assets	0.113*** (0.020)	0.093*** (0.018)	0.112*** (0.019)	0.090*** (0.018)	0.110*** (0.018)	0.084*** (0.018)
Illiquid assets	-0.022* (0.013)	-0.022 (0.015)	-0.017 (0.013)	-0.018 (0.013)	-0.003 (0.014)	-0.007 (0.011)
Age/10 [†]	0.112 (0.068)	0.142** (0.062)	0.113* (0.066)	0.113* (0.061)	0.071 (0.063)	0.078 (0.060)
Age ² /100 [†]	-0.022*** (0.006)	-0.022*** (0.006)	-0.022*** (0.006)	-0.019*** (0.006)	-0.014** (0.006)	-0.013** (0.006)
RP self-employed [†]	-0.082** (0.033)	-0.001 (0.027)	-0.063* (0.035)	0.016 (0.027)	-0.057* (0.031)	0.017 (0.026)
RP non-employed [†]	0.174*** (0.027)	0.160*** (0.032)	0.049* (0.030)	0.036 (0.032)	0.017 (0.028)	0.010 (0.030)
No. of HH components	-0.009 (0.008)	-0.026*** (0.010)	0.017 (0.012)	0.032*** (0.012)	0.022** (0.011)	0.037*** (0.011)
No. of earners in the HH			-0.129*** (0.015)	-0.113*** (0.012)	-0.043*** (0.016)	-0.045*** (0.013)
At least one graduate=1			-0.111*** (0.022)	-0.031 (0.019)	-0.019 (0.022)	0.037* (0.020)
At least one foreigner=1			0.113*** (0.033)	0.055* (0.029)	-0.033 (0.031)	-0.015 (0.027)
Income quintile=2					-0.316*** (0.036)	-0.248*** (0.032)
Income quintile=3					-0.473*** (0.036)	-0.332*** (0.033)
Income quintile=4					-0.550*** (0.038)	-0.379*** (0.032)
Income quintile=5					-0.688*** (0.043)	-0.508*** (0.036)
Constant	0.961*** (0.180)	0.740*** (0.145)	1.158*** (0.206)	0.889*** (0.153)	1.430*** (0.189)	1.091*** (0.154)
Additional controls			✓	✓	✓	✓
R ²	0.184	0.150	0.228	0.212	0.317	0.275
n	5,497	7,334	5,497	7,334	5,497	7,334
MPC	0.921	0.875	0.919	0.874	0.920	0.863

Notes: Own elaborations on SHIW data. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Additional controls include permanent income proxy, family type, income expectations, indicators for married respondents and credit-constrained households, geographical area and municipality size. MPCs are computed according to Equation (2).

[†] Individual characteristics (i.e., age and binary indicators for self-employed and non-employed individuals) refer to the survey respondent (the household member most informed about the household's financial condition). Baseline category is represented by employee respondents.

tics only (Table 2, columns 1 and 2).¹² Consistent with previous findings using Italian data (e.g., [Paiella, 2007](#)), in 2016 the MPC out of liquid financial wealth is higher than that of real wealth.¹³ Over the period considered, both coefficients decline sharply, falling to approximately zero and 0.093, respectively. The MPC out of illiquid assets is negative, but marginally significant only in 2016. The estimated age profile is concave, indicating a declining consumption-to-income ratio over the life cycle, partly due to older households being on average more affluent and partly consistent with precautionary behaviour and inter-generational transfers of the elderly (see, e.g., [Horioka and Ventura, 2024, 2025](#)). Household structure also matters: consumption relative to income varies significantly with family composition and is higher in larger households.

Important for this study, we add in columns 3 and 4 of Table 2 the number of income earners in the household; all else equal, one additional income earner in the household reduces the consumption-to-income ratio. Since a larger number of earners is associated with higher labour and total income, the negative coefficient partly reflects the inverse relationship between income and the consumption-to-income ratio. In other words, more affluent households tend to exhibit a lower propensity to consume. This effect is substantially reduced once household income quintiles are accounted for, as discussed below. Foreign households consume a larger share of their current income, with the effect being stronger in 2016. The opposite pattern is observed for households with at least one member holding tertiary education. These effects vanish once we control for household income quintiles. We find no statistically significant impact of the permanent income proxy, income expectations, or credit constraints. The full set of results is presented in Table B.6 in Appendix B.

In the last two columns of Table 2, we add household total income quintile indicators as additional controls.¹⁴ As expected, the propensity to consume declines with income. The gradient is less steep in 2022, and propensities to consume at all income quintiles are lower in 2022 than in 2016.¹⁵ Also in the full model, wealth effects are preserved, and a decline in the MPC out of both real and liquid financial wealth clearly emerges: the former declines from 0.011 to 0.005, while the latter falls from 0.110 to 0.084. This result reflects the fact that the excess savings accumulated during the pandemic — due to a generalized reduction in expenditures mainly caused by restrictions on economic activity — were not spent in the aftermath of the crisis ([Colabella et al., 2026](#)). Likewise, MPC out of income declines from 0.92 to 0.86. Conditional on total income quintile, household size, and composition, a higher number of income earners is still associated with a lower propensity to consume, albeit to a lower extent (-0.043 and -0.045 in 2016 and 2022, respectively). This labour income diversification effect captures

¹²While these values may appear higher than previous estimates based on Italian data, they stem directly from the imputation of consumption expenditure levels from the HBS. Indeed, when replicating the analysis using consumption expenditures as reported in the SHIW, the estimated MPC in this baseline model declines from 0.761 in 2016 to 0.729 in 2022. Moreover, we rely on total consumption expenditure rather than non-durable consumption, which is often used in the literature, and both our consumption and income measures include imputed rents. Excluding imputed rents from SHIW consumption expenditure as an additional robustness check leads to a further reduction in the estimated MPCs, to 0.725 and 0.676, respectively. For comparison, estimated MPCs in [Guiso et al. \(2005\)](#) range from 0.697 to 0.713. In what follows, note that all results hold when using original SHIW data instead of imputed HBS consumption expenditure, thereby ruling out any potential spurious effects from the imputation procedure. The estimates, however, differ in scale due to the underestimation of expenditures in the SHIW. See Table B.5 in Appendix B for this set of additional results.

¹³[Trivin \(2021\)](#) finds instead that the marginal propensity to consume out of real wealth exceeds that out of financial wealth for Spanish households.

¹⁴The MPC out of income should therefore be interpreted conditionally on being in a given income quintile; that is, the marginal increase in income does not move the individual into a different quintile.

¹⁵They range from 1.32 to 0.68 in 2016, and from 1.19 to 0.65 in 2022.

additional nonlinearity in income,¹⁶ and may reflect more forward-looking behavior among households with greater labour market participation. The partial effects of observed characteristics remained broadly stable across the two periods, and MPC out of income declined essentially for all households. Taken together, these findings point to the importance of unobserved factors shaping households' consumption behaviour, consistent with precautionary motives and heightened uncertainty about the future, which have been shown to play a prominent role in the post-crisis consumption slowdown (Guglielminetti and Rondinelli, 2024).^{17,18} Also the surge in inflation — which peaked in late 2022 and was mainly driven by increases in energy and food prices — is likely to have played a prominent role, as it eroded real wealth uniformly along the distribution (Infante et al., 2025), and it led to significant welfare losses in Italy relative to other major euro area economies (Pallotti et al., 2024). In addition, inflation concerns have been shown to be positively associated with concerns about the private financial situation of households (Jeworrek and Tonzer, 2025), thus contributing to the contraction of consumption. Moreover, household confidence was likely further undermined by the Russian invasion of Ukraine. Taken together, all these factors contributed to weaker consumption and a stronger precautionary saving motive (Colabella et al., 2026), exerting a generalised downward pressure on the propensity to consume among Italian households.

Finally, we compute average MPCs conditional on the household groups of interest. Table 3 reports MPCs for the population subgroups highlighted in Table 1, estimated using the full model specification (last two columns of Table 2). Households that experienced the largest increase in employment are characterised by lower MPCs. On average over the two years, households with at least two employed individuals exhibit MPCs that are approximately 18 percentage points lower than those of households with at most one employed individual;¹⁹ these differences (not reported) are statistically different from zero at the 1 per cent level. Furthermore, the MPC out of income declined for most groups, with the exception of households with no employed members and at least one graduate (groups 2 and 4), and households with a single employed member, at least one graduate, and a reference person older than 55 (group 8).²⁰ However, these groups account only for a small share of the total population: the weighted shares in the SHIW data are equal to 0.3, 2.0 and 3.7 per cent, respectively, consistent with Table 1. We use the classification of households reported in Tables 1 and 3 in the following sections to assess how recent labour market developments have shaped the evolution of the aggregate MPC.

¹⁶Such effect is robust to controlling for income levels rather than income quintiles.

¹⁷In light of the extremely rich set of controls included in the regression analysis, a further indication in this direction is provided by the decline in the R^2 in 2022, which suggests a more prominent role for unobserved heterogeneity, likely capturing such precautionary behaviour. However, please note that such reduction is not observable when using original SHIW expenditure data (Table B.5 in Appendix B).

¹⁸Consistently with these findings, in 2021 a substantial share of households reported intentions to reduce spending in the near future (Neri and Tullio, 2022), thereby contributing to the persistence of the saving glut.

¹⁹MPCs conditional on the marginal variables are reported in Table B.7 in Appendix B.

²⁰The mean differences reported in Table 3 are tested using a two-sided test under the assumption that the 2016 and 2022 samples are independent. The overall difference (last row of Table 3) is statistically different from zero at the 5 per cent significance level, as are the differences for groups 5 and 9. For the remaining groups, the null hypothesis cannot be rejected. However, assuming independent samples likely yields conservative standard errors for the test statistics of interest, because the covariance between the two MPC estimators (for 2016 and 2022) is likely positive, due to the substantial panel component of the samples (more than 1,500 households were interviewed in both waves). Estimating this covariance component is not straightforward in complex-design surveys with partially overlapping samples of random size (Berger and Priam, 2016), as in the present case. Since this issue is not central to the paper, we leave it for future research.

Table 3: Estimated MPCs by household type

Family Type	2016	2022	Δ (2022-16)
1. 0 employed, low education, RP below 55	1.333	1.231	-0.102
2. 0 employed, high education, RP below 55	1.150	1.307	0.157
3. 0 employed, low education, RP above 55	0.904	0.880	-0.024
4. 0 employed, high education, RP above 55	0.737	0.763	0.026
5. 1 employed, low education, RP below 55	1.094	1.018	-0.076
6. 1 employed, high education, RP below 55	0.946	0.945	-0.001
7. 1 employed, low education, RP above 55	0.847	0.833	-0.014
8. 1 employed, high education, RP above 55	0.703	0.771	0.068
9. 2+ employed, low education, RP below 55	0.861	0.789	-0.072
10. 2+ employed, high education, RP below 55	0.799	0.774	-0.025
11. 2+ employed, low education, RP above 55	0.708	0.689	-0.019
12. 2+ employed, high education, RP above 55	0.659	0.660	0.001
MPC	0.920	0.863	-0.057

Notes: Own elaborations on SHIW data. *0/1/2+ employed* indicates the number of household members aged under 75 who are employed. RP (Reference Person) denotes the survey respondent, namely the household member most informed about the household's financial condition. *Low (High) education* indicates households with no (at least one) graduate. MPCs are computed according to Equation (2), for the entire sample (last row), where the MPC is equal to the weighted sum of group-specific MPCs, with weights given by each group's share of the total population, as well as conditional on each of the twelve groups of interest.

4 From micro to macro: the aggregate MPC

To map our micro-based estimates into aggregate consumption dynamics, we define the aggregate marginal propensity to consume, MPC_{agg} , as the increase in aggregate consumption associated with a marginal increase in aggregate disposable income. Importantly, the aggregate response depends not only on the size of the income shock, but also on how the additional income is distributed across households. For example, a one-euro increase in aggregate disposable income is likely to generate a smaller rise in aggregate consumption if it accrues to a rich household than if it accrues to a poor one, since poorer households typically exhibit higher marginal propensities to consume. In the following, we are going to show that the aggregate MPC can be written as the weighted sum of subgroups' MPCs and depends on three elements: the MPC of each group, its population share, and the extent to which the income shock is concentrated in that group.

We partition the population into J mutually exclusive household groups. For each group j , let n_j denote the number of households in group j , such that $\sum_{j=1}^N n_j = N$ and N is the total number of households; y_j and c_j are, respectively, average disposable income and consumption of households in

group j . Aggregate income and consumption for group j are therefore given by $Y_j = n_j y_j$ and $C_j = n_j c_j$, while total income and consumption in the whole economy are $Y = \sum_{j=1}^J Y_j$ and $C = \sum_{j=1}^J C_j$. The aggregate MPC is defined as:

$$MPC_{agg} = \frac{\partial C}{\partial Y} = \sum_{j=1}^J \frac{\partial C_j}{\partial Y} = \sum_{j=1}^J \frac{\partial C_j}{\partial Y_j} \frac{\partial Y_j}{\partial Y}. \quad (3)$$

Using $Y_j = n_j y_j$ and the aggregate average income defined as $\bar{y} = Y/N$, we obtain:

$$MPC_{agg} = \sum_{j=1}^J \frac{\partial C_j}{\partial Y_j} \frac{n_j}{N} \frac{\partial y_j}{\partial \bar{y}}.$$

Defining $MPC_j = \partial C_j / \partial Y_j$, it follows that:

$$MPC_{agg} = \sum_{j=1}^J \underbrace{\frac{n_j}{N}}_{\omega_j} \underbrace{\frac{\partial y_j}{\partial \bar{y}}}_{\theta_j} MPC_j = \sum_{j=1}^J \phi_j MPC_j. \quad (4)$$

Equation (4) shows that the aggregate MPC depends on three elements: the population share of each group, $\omega_j = n_j/N$; the group-specific MPC, MPC_j ; the relative exposure of group j income to changes in aggregate income, $\theta_j = \partial y_j / \partial \bar{y}$. Intuitively, θ_j captures how much a marginal increase in average aggregate income is reflected in the income of group j , thereby determining how relevant that group is for aggregate consumption responses. Thus, the aggregate response of consumption depends not only on how strongly each group adjusts spending in response to additional income, but also on the size of the group and on how aggregate income growth is distributed across groups. To this end, we define $\phi_j = \omega_j \theta_j$, which represents the economic weight of group j in the aggregation of marginal propensities to consume. That is, it combines the demographic relevance of the group with its exposure to aggregate income changes, thereby capturing the overall contribution of group j to aggregate income dynamics and, ultimately, to aggregate consumption responses.

In economies with heterogeneous households, micro-level MPCs do not uniquely pin down the aggregate consumption response to an income shock. The latter crucially depends on how income gains are distributed across households with different MPCs. As emphasised by [Auclert \(2019\)](#), redistribution is itself a transmission channel, implying that aggregate consumption outcomes reflect the joint distribution of income changes and consumption elasticities.

Consistently with this insight, the remainder of this section does not aim to estimate a structural income response for each group. Rather, we conduct a simulation exercise to assess how alternative allocations of a marginal increase in aggregate income across household groups map into different aggregate MPCs. In the available data, we do not observe the marginal response of each group's average income to a change in aggregate income ($\partial y_j / \partial \bar{y}$). Instead, we only observe realized changes in group-level average incomes over time, which reflect a combination of compositional shifts, labour market transitions, and aggregate macroeconomic dynamics. As a result, identifying this object requires additional assumptions. Accordingly, we consider two polar scenarios.

First, we consider the case in which each group receives the same absolute increase in income — for instance, one extra euro — so that $\partial y_j = k = \partial \bar{y}$ for all j . This implies that $\theta_j = 1$. Under this assumption, the absolute income gap between any two household groups remains unchanged: if one

household group initially earns more than another by a given number of euros, that difference is left unaltered by the shock. At the same time, income inequality declines in relative terms, because the same absolute increase represents a larger proportional gain for poorer households and therefore reduces the income share of richer ones. We refer to this as the *lump-sum* scenario. Intuitively, because this type of shock relatively favours lower-income households, which typically display higher MPCs, it tends to be associated with a higher aggregate MPC.

Second, we consider a scenario in which the average income of each household group increases by the same percentage — for instance, by 1% for every group — so that $\partial y_j / y_j = k = \partial \bar{y} / \bar{y}$ for all j . This implies that $\theta_j = y_j / \bar{y}$. Under this assumption, relative income differences across groups remain unchanged: if one group initially has a higher average income than another by a given proportion, that proportion is preserved after the shock. As a result, relative inequality measures remain constant. However, absolute income gaps widen, because the same proportional increase translates into larger absolute gains for initially richer groups. We refer to this as the *status quo* scenario.²¹ Intuitively, because a larger absolute share of the additional income accrues to groups with higher initial income levels — which typically display lower MPCs — this scenario is associated with a lower aggregate MPC and can therefore be interpreted as a lower bound for it.

These assumptions materially affect the implied aggregate response of the economy. Based on our 2016 data, a lump-sum income shock would have been associated with an aggregate MPC of 0.920, whereas under a proportional income shock the corresponding aggregate MPC would have been lower, at 0.869. A similar ranking holds in 2022, when the aggregate MPC is equal to 0.864 under the *lump-sum* scenario and to 0.820 under the *status quo* scenario. In both cases, the lower 2022 values point to a weaker transmission of income shocks into consumption, while the difference across scenarios highlights the importance of how additional income is distributed across household groups.

4.1 Decomposition of the change in the aggregate MPC

Given the definition of aggregate MPC in Equation (4), we can express the change in the aggregate MPC between 2016 and 2022 as:

$$\Delta MPC_{agg} = \sum_{j=1}^J (\phi_{j,2022} MPC_{j,2022} - \phi_{j,2016} MPC_{j,2016}). \quad (5)$$

We can decompose the change in the aggregate MPC as:

$$\Delta MPC_{agg} = \underbrace{\sum_{j=1}^J \phi_{j,2016} \Delta MPC_j}_{\text{Group-MPC effect}} + \underbrace{\sum_{j=1}^J MPC_{j,2016} \Delta \phi_j}_{\text{Composition-income effect}} + \underbrace{\sum_{j=1}^J \Delta \phi_j \Delta MPC_j}_{\text{Interaction term}}. \quad (6)$$

We isolate three drivers for the change in the aggregate MPC: *group-MPC effect* reflects systematic changes in consumption behaviour within groups (also behavioural effect). The *composition-income* effect captures changes in the aggregate MPC driven by shifts in the economic weight of different groups,

²¹In this scenario, the MPC is approximately equal to the aggregate average propensity to consume (APC), as shown in Appendix C. If we consider the observed changes in group-specific average income relative to the change in total average income as a proxy for the corresponding derivative, this is broadly in line with the group's pre-existing share of income. Thus, it is closer to the status quo scenario.

holding group-level consumption behaviour fixed. Since group weights depend not only on population shares but also on their contribution to aggregate income, this term reflects both demographic reallocation and changes in the income distribution across groups. The *interaction term* accounts for simultaneous shifts in both weights and behaviour.

We compute the decomposition under the two different assumptions about θ_j introduced in Section 4. In the *lump-sum scenario*, the aggregate MPC does not explicitly depend on the response of groups' income since it is equal to 1 for all ($\theta_j = 1$). As a consequence, the change in the aggregate MPC is independent of group-specific income shares. The weight $\phi_{j,t} = \omega_{j,t}$ is simply the share of group j over all households and the *composition-income effect* reflects only changes in the composition of household groups due to shifts in employment and demographic trends.

The observed change in the aggregate MPC between 2016 and 2022 is -0.06 (as also reported in Table 3). Using the share of population subgroups observed in SHIW, the *composition-income effect*, which measures the contribution to aggregate MPC variations of changes in the household and employment composition — given that all subgroups have received the same amount of resources —, accounts for 42.0% of the overall decline, while the *group-MPC effect* explains 66.9%. Both components exert downward pressure on the aggregate MPC.²²

In the *status quo scenario*, changes in groups' income reflect existing income inequalities; the group weights ϕ_j reflect both population shares and relative income levels. Under this specification, the *composition-income effect* capture shifts in the joint distribution of population and income across groups, rather than pure population reallocation as in the previous case.

The observed change in the aggregate MPC between 2016 and 2022 is -0.05 (from 0.869 in 2016 to 0.820 in 2022). This decline is driven by both a sizeable *composition-income effect* (accounting for about 47.9% of the total change) — reflecting an increasing economic weight of large and relatively high-income groups with low MPCs — and a generalised decline in within-group MPCs (about 61%).²³ The interaction term is positive but quantitatively small, partially offsetting the two main components and indicating that changes in group size-income weights and consumption behaviour largely operate independently.²⁴

Overall, our results indicate that the decline in the aggregate MPC between 2016 and 2022 is primarily driven by a generalized reduction in within-group MPCs. This behavioural component represents the largest share of the observed change under all specifications (Table 4). At the same time, the composition-income channel provides a quantitatively relevant and robust contribution. While alternative assumptions on $\partial y_j / \partial \bar{y}$ affect the interpretation of this channel — ranging from pure household reallocation in the *lump sum case* to joint changes in population shares and relative income positions in the *status quo case* — they do not substantially alter its aggregate magnitude. This similarity reflects not only the limited

²²Results remain qualitatively similar when utilising LFS population shares: the *composition-income* component is negative, with a contribution of 28.0%, while the behavioural effect remains the dominant driver, accounting for 79.9% of the observed change. The aggregate MPC in 2016 is 0.934 and 0.885 in 2022.

²³Between 2016 and 2022, income levels increased across all subgroups, yet relative incomes remained broadly stable or declined for most of them (Table B.8). Note that this result may not have been driven solely by labour market dynamics (Ceci and Flaccadoro, 2025). As a result, the faster growth of average income reflects a compositional shift towards medium- and high-income households, rather than systematic improvements in their relative income position. Indeed, the increases in the economic weights ϕ_j are driven by the higher size of the population subgroups with higher MPCs rather than an improvement of their relative position.

²⁴The results are robust when using LFS-based weights: the pure demographic effect is positive (+17.8%), but is overwhelmed by the negative income distribution effect (-72.2%), resulting in a combined labour market contribution of -58.3% to the aggregate MPC decline.

changes in relative income positions across groups, but also the fact that demographic reallocations, based on SHIW shares, are not systematically aligned with the income ranking, so that income weighting adds little relative to a lump-sum allocation. As a result, the composition-income effect is driven mainly by the demographic shift across groups, rather than by differential relative income growth. Since these demographic shifts are common to both specifications, the resulting contribution of the composition channel to the aggregate MPC remains similar across scenarios (Table 4).²⁵

In this sense, the weakening transmission of income shocks into consumption reflects a robust feature of the data, driven jointly by behavioural adjustments within groups and by persistent changes in the demographic structure of the household population.

4.2 The aggregate MPC in 2024 and the decomposition of the change between 2022 and 2024

In the last part of the paper, we carry forward the aggregate MPC decomposition, outlined in equation 5, to quantify the role of the composition-income effect over the most recent period, 2022-2024. We do so by imposing the two alternative assumptions on the distribution of income introduced in Section 4. Furthermore, we hold constant the group-specific marginal propensities to consume as their micro-based estimation past 2022 is not possible with the data currently available (i.e., $MPC_{j,2024} = MPC_{j,2022}$).

Under the assumption of a uniform income response ($\partial y_j / \partial \bar{y} = 1$, *lump-sum case*), we isolate a composition-income effect of -0.008 . While this figure may appear modest in absolute terms, its magnitude is substantial: it represents 55.5% of the total composition effect observed during the 2016-2022 period, occurring in only a third of the time. This suggests an acceleration in the demographic and labour market shifts that exert downward pressure on aggregate consumption.

When allowing income shares to follow the 2024 distribution ($\theta_{j,2024} = y_{j,2024} / \bar{y}_{2024}$, *status quo case*), the composition-income effect remains negative at -0.002 . Consequently, the aggregate MPC is projected to decline further from 0.799 in 2022 to 0.797 in 2024 only due to this channel.²⁶

These projections confirm that the composition-income channel is not merely a post-pandemic relic but remains a persistent structural force. Even in the absence of further behavioural shifts (i.e., holding individual MPCs constant), the changing composition of the Italian economy continues to weigh on the recovery of aggregate demand.

5 Conclusion and policy implications

This paper explores two hypotheses that seek to explain the decoupling of consumption from disposable income in the post-Covid period: a generalised reduction in the marginal propensity to consume (MPC) and the compositional effects of employment growth and demographic shifts favouring socio-demographic groups characterised by lower MPCs. We find that recent labour market dynamics over

²⁵Although changes in population shares have very similar signs across data sources and are often larger in absolute value in the SHIW than in the LFS (Table B.2), their implications differ under the *lump sum* and *status quo* scenario. In the *status quo* scenario, group weights depend on both population shares and relative income levels. With LFS-based shares, even relatively small demographic shifts tend to occur in groups with higher relative income, so that income weighting amplifies their aggregate contribution. When SHIW shares are used, demographic reallocations — despite sometimes being larger — are less closely aligned with the income ranking, and income weighting therefore adds little relative to the *lump-sum* case.

²⁶Income data estimates for 2024 at the household level are based on the Banca d'Italia microsimulation model (BIMic; Curci et al., 2017).

Table 4: Decomposition of the change in the aggregate MPC

Case	Years	Data	Δ MPC	<i>composition-income</i>	<i>group-MPC</i>	<i>interaction</i>
1. <i>Lump sum</i> : $\frac{\partial y_j}{\partial \bar{y}} = 1$						
	2016-2022	SHIW	-0.057	-0.024 (42.0%)	-0.038 (66.9%)	0.005 (-8.9%)
	2016-2022	LFS	-0.049	-0.014 (28.0%)	-0.039 (79.9%)	0.004 (-7.9%)
	2022-2024	LFS	-0.008	-0.008		
2. <i>Status quo</i> : $\frac{\partial y_j}{\partial \bar{y}} = \frac{y_j}{\bar{y}}$						
	2016-2022	SHIW	-0.049	-0.024 (47.9%)	-0.030 (61.1%)	0.004 (-9.0%)
	2016-2022	LFS	-0.064	-0.038 (58.3%)	-0.030 (47.8%)	0.004 (-6.1%)
	2022-2024	LFS	-0.002	-0.002		

Notes: Own elaborations on SHIW and LFS data. This table summarises the results of the decompositions carried out in Section 4.1.

the period 2016-2022 acted as a structural drag on aggregate demand, benefiting households with lower MPCs. This result is microfounded by the negative composition-income effect observed in the decomposition of the aggregate MPC.

The dual nature of the decoupling between consumption and disposable income — driven by both a structural shift in household composition and income distribution and a generalised behavioural change — carries significant implications for economic and fiscal policy.

First, the evidence points towards a precautionary savings trap; since the behavioural effect explains more than half of the decline, there is a systemic increase in the desire for liquid wealth across the entire population. This suggests that the consumption-income decoupling is not merely a byproduct of labour market dynamics, but a response to macroeconomic uncertainty and the erosion of purchasing power. Consequently, policy interventions aimed solely at increasing employment may not be sufficient to restore consumption levels if the underlying behavioural shift towards precautionary savings remains unaddressed.

Second, the effectiveness of fiscal targeting is called into question. Broad-based fiscal cuts and public service provisions may yield low aggregate multipliers if the share of low-MPC households remains large. As post-pandemic demographic and employment changes have increased the weight of households with lower marginal propensities to consume, fiscal transfers intended to stimulate aggregate demand should be more precisely targeted at high-MPC groups, such as younger, lower-income, or single-earner

households, to maximise their macroeconomic impact.

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Appendix

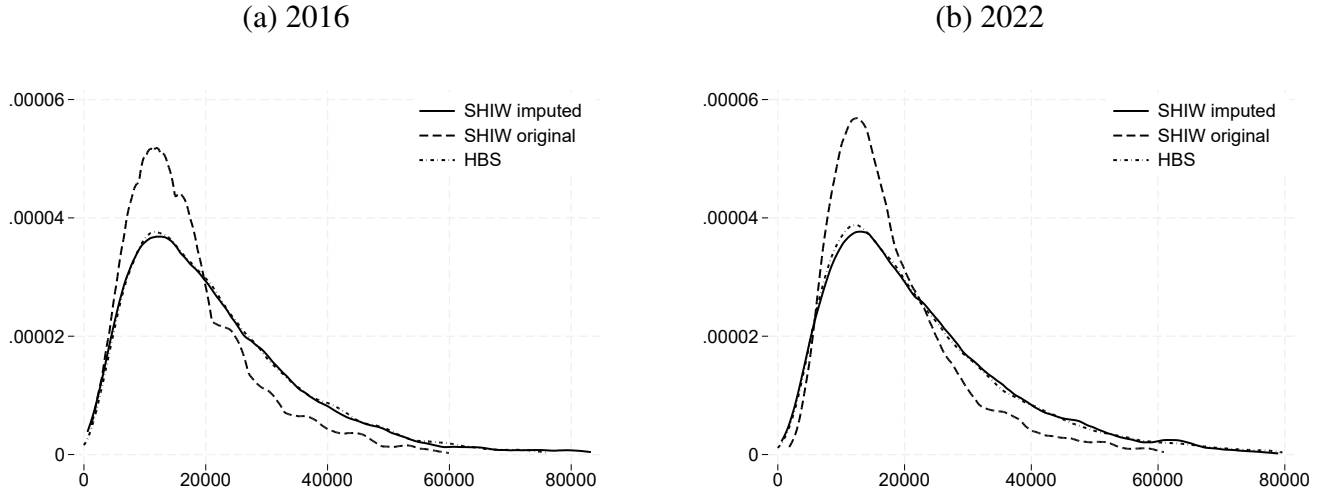
More Jobs, Less Spending? Household MPCs and the Post-Covid Recovery in Italy

Basso, Carta, Rondinelli, Tullio and Zanichelli

June 18, 2026

A SHIW-HBS Statistical Matching

Figure A.1: Imputed and original consumption expenditure distributions



Notes: Kernel density estimates of household consumption expenditure for HBS and SHIW, both original and imputed.

Distributions are truncated at the 95th percentile for graphical purposes.

In the following, we describe the procedure adopted to impute consumption expenditure from the HBS to the SHIW. The two surveys are matched using a set of common variables with similar distributions across datasets, which provides substantial explanatory power for consumption. The selection of matching variables closely follows [Donatiello et al. \(2025\)](#), and such approach—originally developed for the 2016 survey editions—proved effective for the 2022 editions as well. A key matching variable is total consumption expenditure, which is available in both surveys. The underestimation of total expenditure in the SHIW is likely driven by involuntary under-reporting, due to the reliance on a single residual question covering non-durable expenditures (excluding those items listed in Section 2). Nevertheless, it is reasonable to assume that total consumption in the SHIW still provides a reliable indication of households' relative positions along the consumption distribution (see also [Curci et al., 2020](#)). The matching relies on a nearest-neighbour hot-deck procedure. Both samples are first partitioned into 20 classes defined by the interaction between geographical area of residence (Northwest, Northeast, Centre, South, and Islands) and household size (one, two, three, or four or more members). Each class is then further stratified into 15 groups based on the percentiles of total consumption expenditure within the same cell, yielding a total of 300 strata. These strata define the donation classes (also referred to as exact matching variables), meaning that each SHIW observation can only be matched with an HBS observation belonging to the same donation class.

Within each donation class, observations are matched based on the Gower distance computed over a set of additional household and reference-person characteristics: the number of household members younger than 8 years (one, two, three, or more), ownership of the main residence (binary), age class of the reference person (below 44, 45–54, 55–64, and 65 or above), foreign citizenship (binary), and possession of at least a bachelor’s degree (binary). To further improve matching quality, household total income class (10 categories) was also included for the 2022 edition. Figure [A.1](#) illustrates the effectiveness of the matching procedure by graphically comparing the marginal distributions of consumption expenditures in SHIW (original and imputed) and HBS.

B Additional tables and results

Table B.1: Descriptive statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Imputed consumption expenditure	Original consumption expenditure	Income	Real assets	Financial assets	Liabilities	Net wealth	N. of households
Selected sample mean values								
2016	29,496	24,380	32,627	173,341	27,750	13,085	188,005	5,497
2022	31,525	26,499	38,258	197,809	41,667	16,847	222,629	7,334
Ratio to entire sample mean values								
2016	1.050	1.044	1.062	1.004	0.990	1.235	0.989	0.741
2022	1.060	1.052	1.054	1.022	0.888	1.249	0.981	0.761

Notes: Own elaborations on SHIW data. Net wealth is equal to the sum of real and financial assets, net of liabilities. Consumption expenditure reported in column (1) is imputed from the HBS using the matching procedure described in Section 2 and Appendix A.

Table B.2: Comparison of Changes in Family Shares: LFS vs. SHIW (2022-2016)

Family Type	Δ Share LFS	Δ Share SHIW
	(p.p.)	(p.p.)
1. 0 employed, low education, PR below 55	-0.79	-0.20
2. 0 employed, high education, PR below 55	0.01	0.01
3. 0 employed, low education, PR above 55	0.41	1.61
4. 0 employed, high education, PR above 55	0.22	0.00
5. 1 employed, low education, PR below 55	-2.78	-6.68
6. 1 employed, high education, PR below 55	0.58	-0.61
7. 1 employed, low education, PR above 55	1.51	0.68
8. 1 employed, high education, PR above 55	0.29	0.88
9. 2+ employed, low education, PR below 55	-1.83	-0.66
10. 2+ employed, high education, PR below 55	0.94	2.24
11. 2+ employed, low education, PR above 55	0.66	1.10
12. 2+ employed, high education, PR above 55	0.78	1.65

Note: PR denotes the household reference person. Values are expressed as percentage point (p.p.) changes between 2016 and 2022. LFS and SHIW refer to Labour Force Survey and Survey on Household Income and Wealth, respectively.

Table B.3: Estimated linear model: baseline results

	(1) 2016	(2) 2022	(3) 2016	(4) 2022	(5) 2016	(6) 2022
Net wealth	0.014*** (0.003)	0.008*** (0.002)				
Real assets			0.008*** (0.003)	0.001 (0.003)	0.009*** (0.003)	0.001 (0.003)
Financial assets			0.062*** (0.012)	0.048*** (0.008)		
Financial liabilities			-0.001 (0.015)	0.003 (0.004)	-0.005 (0.014)	-0.003 (0.005)
Liquid assets					0.118*** (0.020)	0.092*** (0.018)
Illiquid assets					-0.031** (0.013)	-0.031* (0.016)
Constant	0.956*** (0.015)	0.900*** (0.014)	0.948*** (0.016)	0.891*** (0.014)	0.928*** (0.016)	0.883*** (0.016)
R ²	0.037	0.011	0.060	0.039	0.095	0.083
<i>n</i>	5,497	7,334	5,497	7,334	5,497	7,334
MPC	0.956	0.900	0.948	0.891	0.928	0.883

Notes: Own elaborations on SHIW data. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. MPCs are computed according to Equation (2), for the entire sample (last row) and conditional on each of the twelve groups of interest.

Table B.4: Summary statistics of the explanatory variables in model (1)

	2016		2022	
	mean	s.d.	mean	s.d.
Age/10 [†]	5.21	1.26	5.37	1.24
Age ² /100 [†]	28.74	13.02	30.42	13.04
Married [†]	0.58	0.49	0.58	0.49
Employee [†]	0.50	0.50	0.50	0.50
Self-employed [†]	0.12	0.32	0.14	0.35
Non-employed [†]	0.39	0.49	0.36	0.48
North	0.48	0.50	0.47	0.50
Centre	0.20	0.40	0.21	0.41
South	0.32	0.46	0.32	0.47
Single	0.28	0.45	0.27	0.44
Couple/no children	0.18	0.39	0.18	0.39
Couple w/children	0.41	0.49	0.42	0.49
Single parent w/children	0.09	0.29	0.09	0.29
Other hh	0.04	0.19	0.03	0.18
No. of components	2.54	1.33	2.55	1.29
No. of earners	1.11	0.83	1.19	0.89
At least one graduate	0.23	0.42	0.28	0.45
At least one foreigner	0.14	0.34	0.14	0.34
Income above normal year	0.01	0.12	0.03	0.16
Income in line with normal year	0.83	0.37	0.79	0.41
Income below normal year	0.11	0.31	0.15	0.36
Income and normal year: don't know	0.04	0.19	0.02	0.15
Real income expectations: decrease	0.41	0.49	0.70	0.46
Real income expectations: stable	0.45	0.50	0.22	0.41
Real income expectations: increase	0.07	0.26	0.04	0.21
Real income expectations: don't know	0.07	0.26	0.04	0.19
Credit constraint hh	0.01	0.12	0.01	0.11

Notes: Own elaborations on SHIW data. [†] Individual characteristics (i.e., age and binary indicators for employed, self-employed and non-employed individuals) refer to the survey respondent (the household member most informed about the household's financial condition).

Table B.5: Estimated linear model: full results using SHIW consumption expenditure

	(1) 2016	(2) 2022	(3) 2016	(4) 2022	(5) 2016	(6) 2022
Net wealth	0.014*** (0.002)	0.009*** (0.002)				
Real assets			0.011*** (0.002)	0.006** (0.003)	0.012*** (0.002)	0.009*** (0.002)
Financial assets			0.036*** (0.008)	0.032*** (0.006)		
Financial liabilities			-0.007 (0.013)	0.002 (0.004)	-0.008 (0.011)	0.005 (0.003)
Liquid assets					0.070*** (0.012)	0.055*** (0.013)
Illiquid assets					-0.005 (0.009)	-0.006 (0.008)
Income quintile=2					-0.312*** (0.027)	-0.291*** (0.024)
Income quintile=3					-0.417*** (0.028)	-0.373*** (0.025)
Income quintile=4					-0.493*** (0.030)	-0.429*** (0.024)
Income quintile=5					-0.591*** (0.033)	-0.526*** (0.028)
Age/10					0.115*** (0.044)	0.076* (0.045)
Age ² /100					-0.016*** (0.004)	-0.012*** (0.005)
At least one graduate=1					-0.024 (0.015)	0.020 (0.015)
No. of components					0.008 (0.008)	0.022*** (0.008)
At least one foreigner=1					-0.002 (0.022)	-0.000 (0.021)
No. of earners					-0.039*** (0.012)	-0.041*** (0.010)
Constant	0.782*** (0.012)	0.761*** (0.013)	0.778*** (0.013)	0.753*** (0.013)	1.016*** (0.118)	1.047*** (0.116)
Additional controls					✓	✓
R ²	0.062	0.022	0.070	0.036	0.365	0.373
<i>n</i>	5496	7333	5496	7333	5496	7333
MPC	0.782	0.761	0.778	0.753	0.761	0.729

Note: Own elaborations on SHIW data. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Additional controls include permanent income proxy, family type, income expectations, indicators for married respondents and credit-constrained households, geographical area and municipality size. Individual characteristics refer to the survey respondent (the household member most informed about the household's financial condition).

Table B.6: Estimated linear model: full results

	(1) 2016	(2) 2022	(3) 2016	(4) 2022	(5) 2016	(6) 2022
Financial liabilities	-0.013 (0.014)	-0.006 (0.005)	-0.011 (0.014)	0.001 (0.005)	-0.009 (0.013)	0.001 (0.004)
Real assets	0.011*** (0.002)	0.003 (0.002)	0.012*** (0.002)	0.003 (0.002)	0.011*** (0.002)	0.005** (0.002)
Liquid assets	0.113*** (0.020)	0.093*** (0.018)	0.112*** (0.019)	0.090*** (0.018)	0.110*** (0.018)	0.084*** (0.018)
Illiquid assets	-0.022* (0.013)	-0.022 (0.015)	-0.017 (0.013)	-0.018 (0.013)	-0.003 (0.014)	-0.007 (0.011)
Age/10	0.112 (0.068)	0.142** (0.062)	0.113* (0.066)	0.113* (0.061)	0.071 (0.063)	0.078 (0.060)
Age ² /100	-0.022*** (0.006)	-0.022*** (0.006)	-0.022*** (0.006)	-0.019*** (0.006)	-0.014** (0.006)	-0.013** (0.006)
Married	-0.069*** (0.021)	-0.054** (0.023)	-0.070* (0.038)	0.052 (0.037)	-0.067* (0.037)	0.055 (0.034)
Self-employed	-0.082** (0.033)	-0.001 (0.027)	-0.063* (0.035)	0.016 (0.027)	-0.057* (0.031)	0.017 (0.026)
Non-employed	0.174*** (0.027)	0.160*** (0.032)	0.049* (0.030)	0.036 (0.032)	0.017 (0.028)	0.010 (0.030)
No. of components	-0.009 (0.008)	-0.026*** (0.010)	0.017 (0.012)	0.032*** (0.012)	0.022** (0.011)	0.037*** (0.011)
At least one graduate=1			-0.111*** (0.022)	-0.031 (0.019)	-0.019 (0.022)	0.037* (0.020)
Couple/no children			-0.023 (0.045)	-0.167*** (0.041)	0.121*** (0.043)	-0.058 (0.037)
Couple w/children			0.038 (0.054)	-0.190*** (0.051)	0.171*** (0.051)	-0.099** (0.046)
Single parent w/children			0.023 (0.041)	-0.030 (0.042)	0.052 (0.038)	-0.006 (0.039)
Other household			-0.211*** (0.048)	-0.251*** (0.045)	-0.059 (0.045)	-0.152*** (0.044)
At least one foreigner=1			0.113*** (0.033)	0.055* (0.029)	-0.033 (0.031)	-0.015 (0.027)
No. of earners			-0.129*** (0.015)	-0.113*** (0.012)	-0.043*** (0.016)	-0.045*** (0.013)
Income quintile=2					-0.316*** (0.036)	-0.248*** (0.032)
Income quintile=3					-0.473*** (0.036)	-0.332*** (0.033)
Income quintile=4					-0.550*** (0.038)	-0.379*** (0.032)
Income quintile=5					-0.688*** (0.043)	-0.508*** (0.036)
Constant	0.961*** (0.180)	0.740*** (0.145)	1.158*** (0.206)	0.889*** (0.153)	1.430*** (0.189)	1.091*** (0.154)
R ²	0.184	0.150	0.228	0.212	0.317	0.275
<i>n</i>	5497	7334	5497	7334	5497	7334
MPC	0.921	0.875	0.919	0.874	0.920	0.863

Note: Own elaborations. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Additional controls include geographical area (N/C/S) and municipality size. Individual characteristics refer to the survey respondent (the household member most informed about the household's financial condition). MPCs are computed according to Equation (2).

Table B.7: MPCs for subgroups of households

	Estimated MPCs		
	2016	2022	Δ (2022-2016)
At least one graduate			
Yes	0.805	0.795	-0.010
No	0.955	0.890	-0.065
R.P. below 55			
Yes	0.992	0.919	-0.073
No	0.818	0.803	-0.015
N. of income earners			
0	0.954	0.922	-0.032
1	0.984	0.926	-0.057
2 or more	0.792	0.745	-0.047

Notes: Own elaborations on SHIW data. N. of income earners indicates the number of household members aged under 75 who are employed. R.P. (Reference Person) denotes the survey respondent, namely the household member most informed about the household's financial condition.

Table B.8: Relative average income ($y_j/\bar{y}$) and total income ($\phi_j = n_j y_j/Y$) by household type

Family Type	2016	2022	$\Delta(y_j/\bar{y})$	$\Delta\phi_j$
1. 0 employed, low education, RP below 55	0.347	0.348	0.002	-0.01
2. 0 employed, high education, RP below 55	0.589	0.366	-0.223	-0.07
3. 0 employed, low education, RP above 55	0.723	0.681	-0.042	0.33
4. 0 employed, high education, RP above 55	1.145	1.260	0.115	0.25
5. 1 employed, low education, RP below 55	0.643	0.618	-0.025	-4.80
6. 1 employed, high education, RP below 55	1.098	0.941	-0.156	-1.58
7. 1 employed, low education, RP above 55	0.901	0.832	-0.069	-0.33
8. 1 employed, high education, RP above 55	1.564	1.420	-0.144	0.74
9. 2+ employed, low education, RP below 55	1.251	1.168	-0.083	-1.80
10. 2+ employed, high education, RP below 55	1.680	1.654	-0.026	3.48
11. 2+ employed, low education, RP above 55	1.446	1.308	-0.138	0.63
12. 2+ employed, high education, RP above 55	2.010	1.985	-0.025	3.14

Notes: Own elaborations on SHIW data. Relative income is $y_j/\bar{y}$; j is the household type, $\bar{y}$ is the average family income across all Italian households. The weight $n_j y_j/Y$ is the ratio between total incomes in group h and total income of Italian households; this equals ϕ_j in the *status quo* scenario in Section 4. *0/1/2+ employed* indicates the number of household members aged under 75 who are employed. RP (Reference Person) denotes the survey respondent, namely the household member most informed about the household's financial condition. *Low (High) education* indicates households with no (at least one) graduate.

C The definition of Aggregate Propensity to Consume (APC)

While the MPC decomposition focuses on the marginal response of consumption to income changes, it does not fully characterize how these compositional forces translate into consumption levels relative to income. To assess whether the same mechanisms also operate at the level of average consumption behaviour, we next turn to a decomposition of the aggregate average propensity to consume (APC).

As above, households are partitioned into J mutually exclusive groups indexed by j , defined by employment status, age of the household reference person, and highest educational attainment.

For each group j and year $t \in \{2016, 2022\}$, let: $n_{j,t}$ denote the number of households in group j at time t ; $N_t = \sum_{j=1}^J n_{j,t}$ the total number of households in the country; $y_{j,t}$ average disposable income of group j ; $c_{j,t}$ average consumption expenditure of group j .

Aggregate income and consumption satisfy the accounting identities:

$$Y_t = \sum_{j=1}^J n_{j,t} y_{j,t}, \quad C_t = \sum_{j=1}^J n_{j,t} c_{j,t}. \quad (\text{C.1})$$

The aggregate average propensity to consume (APC) can be written as:

$$APC_t = \frac{C_t}{Y_t} = \sum_{j=1}^J \underbrace{\frac{n_{j,t}}{N_t} \frac{y_{j,t}}{Y_t/N_t}}_{\text{group income share}} \underbrace{\frac{c_{j,t}}{y_{j,t}}}_{\text{pure APC}} = \eta_{j,t} APC_{j,t}. \quad (\text{C.2})$$

APC depends on the relative economic weight of the groups, which is equal to the group's size multiplied by its income share, and on the proportion of income spent on consumption by the different groups.

The fundamental difference between the aggregate marginal and average propensities lies in the weighting mechanism:

- **APC Weights:** Depend on the *current state* of inequality. A large population share with very low relative income ($y_i/\bar{y}$) has little impact on APC_{agg} .
- **MPC Weights:** Depend on *policy distribution*. If an income increase is distributed equally per capita ($\partial y_j = \partial \bar{y}$), the weights simplify to population shares, and MPC_{agg} becomes the simple population-weighted average of individual propensities.