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Spanish households' marginal propensity to consume between 2017 and 2022

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Rationale

Since 2019 consumption in Spain has increased less than income and the saving rate has risen. This article analyses households' marginal propensity to consume and its potential contribution to the change in the saving rate.

Takeaways

- Marginal propensity to consume (MPC) is estimated in the Survey of Financial Competences (ECF by its Spanish initials) and the Spanish Survey of Household Finances (EFF by its Spanish initials) by the response to the following question: "What percentage of a lottery prize equal to one month's income would you spend over the following 12 months?".
- Compared with its pre-pandemic levels, MPC has fallen in Spain in recent years. According to the EFF, this decline is considerable among higher income households, renter households and those whose liquid assets have increased more.
- The estimated changes in MPC account for close to 2 percentage points of the rise in the aggregate saving rate between 2017 and 2022 (50% of the increase in this period).

Keywords

Saving rate, marginal propensity to consume, Spanish Survey of Household Finances, Survey of Financial Competences.

JEL classification

D11, E01, E21.

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SPANISH HOUSEHOLDS' MARGINAL PROPENSITY TO CONSUME BETWEEN 2017 AND 2022

Introduction

According to the latest national accounts data, in recent quarters aggregate household consumption has grown quarter-on-quarter by close to 1%. However, since the pandemic private consumption has grown less than GDP and than some of its main determinants, such as gross disposable income (GDI) and employment (see Chart 1.a).[1] As a result, the aggregate saving rate has remained considerably higher than its pre-pandemic average (see Chart 1.b). Given this situation, it is worth investigating the main factors behind the increase in the saving rate.

Changes in the aggregate saving rate may be attributable to various factors. The main determinants include:

1 Changes in the demographic and socioeconomic structure of the population that alter the population share of the various types of households, which have different saving rates.

2 Fluctuations in total income in the economy, which may alter the percentage earmarked for consumption.

3 Other changes affecting households, such as the amount of assets they wish to hold, restrictions on access to credit, their wealth or their consumption preferences.

Factors 1 and 2 may have contributed to the rise in the saving rate in recent years. First, the population share of households whose reference person is a foreign national has increased by over 4 percentage points (pp) since 2019. These households have, on average, a 1.2 pp higher saving rate than households whose reference person holds Spanish nationality only (even when comparing similar households in other dimensions that also determine the saving rate). Second, in the period 2021-23 GDP stood below its potential level, i.e. the output gap was negative. Given the historical relationship between the two variables, this would entail a greater marginal propensity to save. However, in this period marginal propensities to save held above their historical average, even when factoring in the phase of the business cycle.[2]

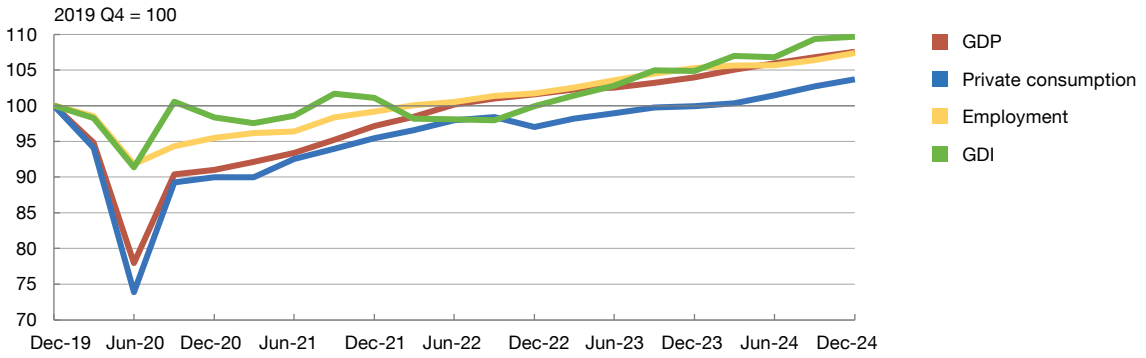
In addition, changes in consumption patterns and preferences, or changes in households' desired level of asset holdings, may also explain the rise in the saving rate in the post-pandemic years. To identify possible changes in saving and consumption preferences, this article analyses changes in MPC in response to changes in income, measured in both the ECF and the EFF.

1 Martínez-Carrascal (2025).
2 Gavilán González (2024).

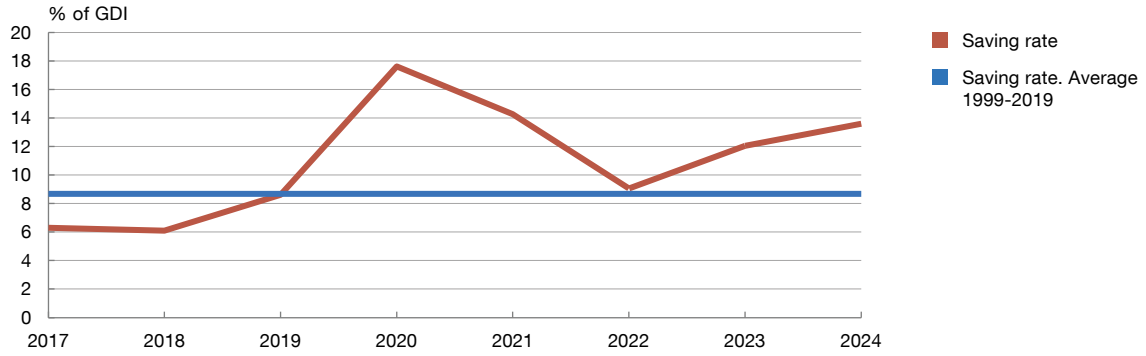
Chart 1

GDP, consumption, employment, GDI and saving rates

1.a GDP, private consumption, employment and income (a)



1.b Saving rate



SOURCES: INE and Banco de España.

a Employment: Number of persons.

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Specifically, both surveys ask households the following question:

"Imagine that in a raffle (for example, the Christmas lottery) you won an amount of money equal to your household's monthly income. What percentage would you spend in the following twelve months, rather than saving it or using it to repay debts?".

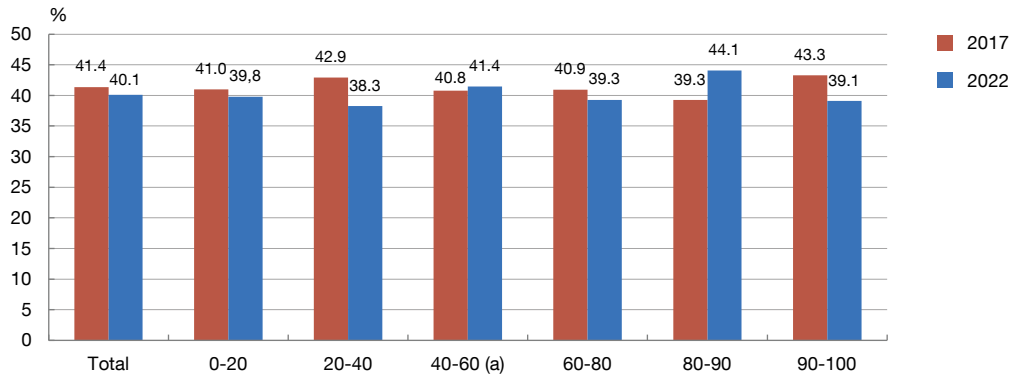
The responses to this question allow us to calculate hypothetical MPCs for the entire surveyed population, given that they are based on a hypothetical increase in income. Conversely, other ways of measuring MPC, such as by comparing the change in spending by households whose income has changed with that of those whose income has not, require that the size and nature of such changes be identified. This restricts the sample of households for which MPC can be estimated.[3]

3 Spending responses to changes in income depend, among other factors, on whether these changes are expected and whether they are temporary or permanent. See Jappeli and Pistaferri (2014; 2020), Christelis, Georgarakos, Jappelli, Pistaferri and Van Rooij (2019) and Albacete, Fessler and Pekanov (2024).

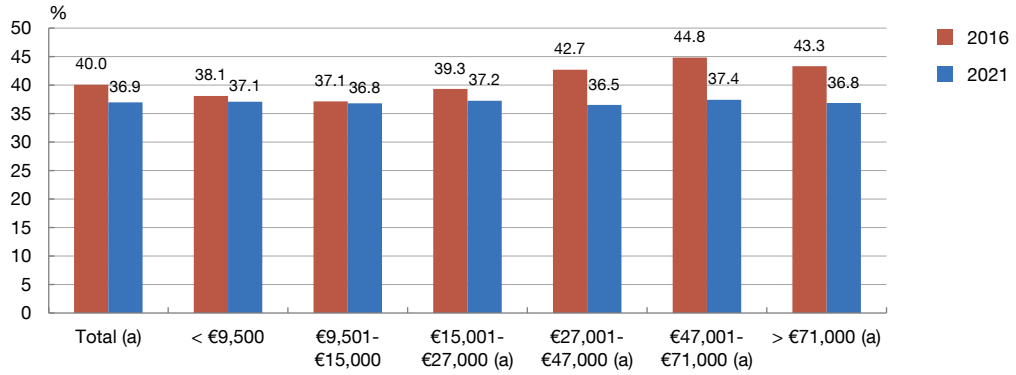
Chart 2

MPC, by income percentiles and levels

2.a MPC, by income percentiles. EFF



2.b MPC, by income levels. ECF



SOURCES: ECF and EFF.

a The difference between the years is significant at 10%.

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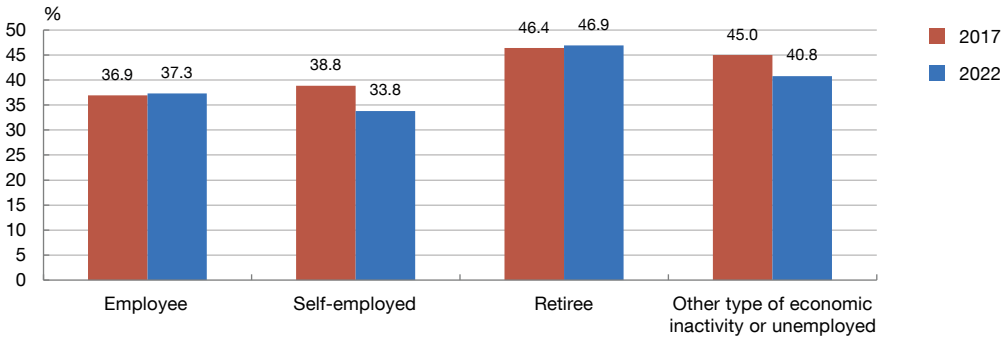
Changes in marginal propensity to consume in recent years

First we analyse the change in the average MPC of different groups of households in two editions of the two above-mentioned surveys (pre- and post-pandemic). The results show that MPCs in Spain fell between end-2016 and end-2021 (ECF) and between end-2017 and end-2022 (EFF), mainly among households at the higher end of the income distribution. According to the ECF, the average MPC fell from 40% to 36.9% between 2016 and 2021, while in the EFF it declined from 41.3% to 40.1% between 2017 and 2022 (see Chart 2). The changes in MPCs observed in the ECF are statistically significant with a level of significance of 10% for the overall average and for households with income over €15,000. The changes in the EFF are qualitatively similar, although the degree of accuracy is somewhat lower.

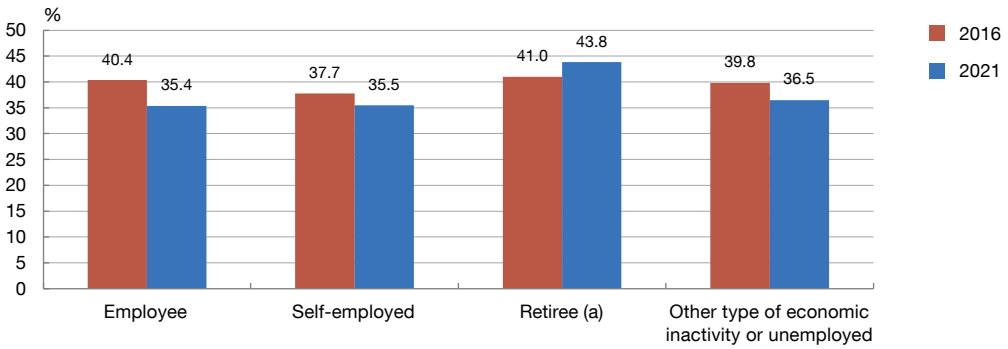
Moreover, the decline in MPCs varies depending on households' employment status. The EFF data show that between 2017 and 2022 MPCs fell among the self-employed and among the

Chart 3
MPC, by employment status of the household reference person

3.a EFF



3.b ECF



SOURCES: ECF and EFF.

a The difference between the years is significant at 10%.

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economically inactive or unemployed. By contrast, in 2022 employees' and retirees' MPCs were similar to their pre-pandemic levels. The ECF results are similar, although MPCs fall across all groups, except for retirees (see Chart 3).

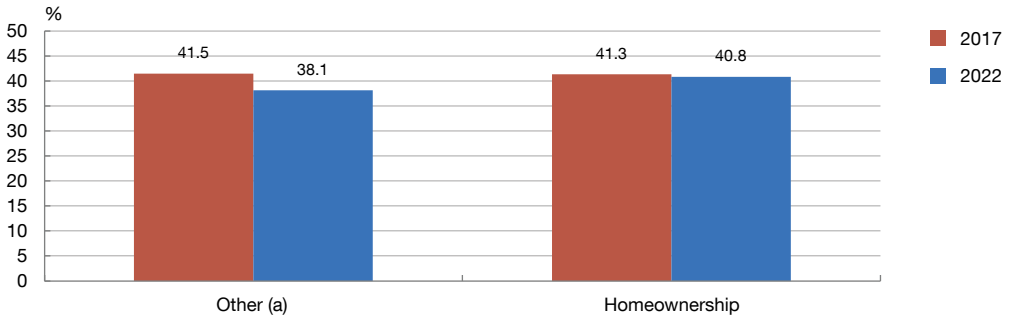
When analysing the differences by homeownership, we see that the declines in MPCs are statistically significant among non-homeowners (see Chart 4). As regards age, apart from middle-aged households (aged 45 to 64), no similar pattern of changes in MPC was identified across age groups in the two surveys[4] (see Chart 5).

Are these changes in pre- and post-pandemic MPCs specific to Spain? The Household Finance and Consumption Survey (HFCS), which includes a similar question on the percentage of a lottery prize that households would be willing to spend, allows us to analyse changes in MPCs in other European countries over the same period. This shows that the decline in MPCs since the pandemic has been the norm across the euro area (see Chart 6).

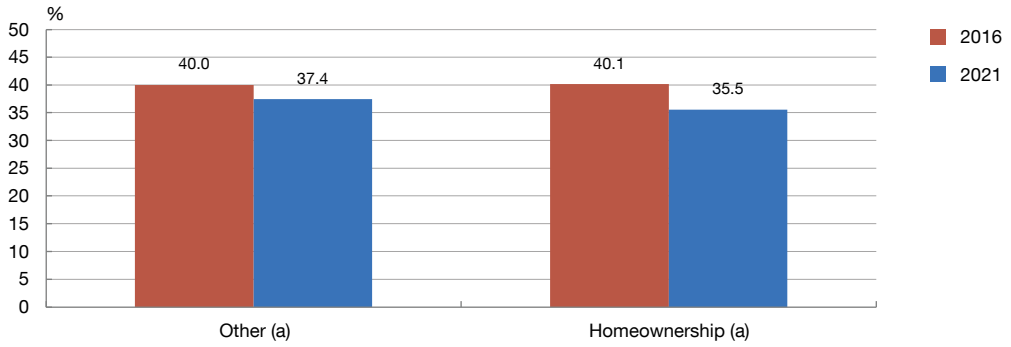
4 The age range of the respondents differs between these surveys. While there is no age cap in the EFF, the ECF surveys individuals aged 18-79.

Chart 4
MPC, by homeownership

4.a EFF



4.b ECF



SOURCES: ECF and EFF.

a The difference between the years is significant at 10%.

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Marginal propensity to consume and the characteristics of households in the Spanish Survey of Household Finances panel

This section uses the longitudinal component of the EFF data to calculate changes in MPC between 2017 and 2022 for each household that remained in the sample in that period. In this analysis the change in MPC is calculated for each household between the two editions of the survey (pre- and post-pandemic), directly matching these changes to household characteristics. We thus avoid comparing averages between groups, preventing possible contamination of the results due to potential changes in the composition of those groups between waves.[5] The results are presented in Table 1.

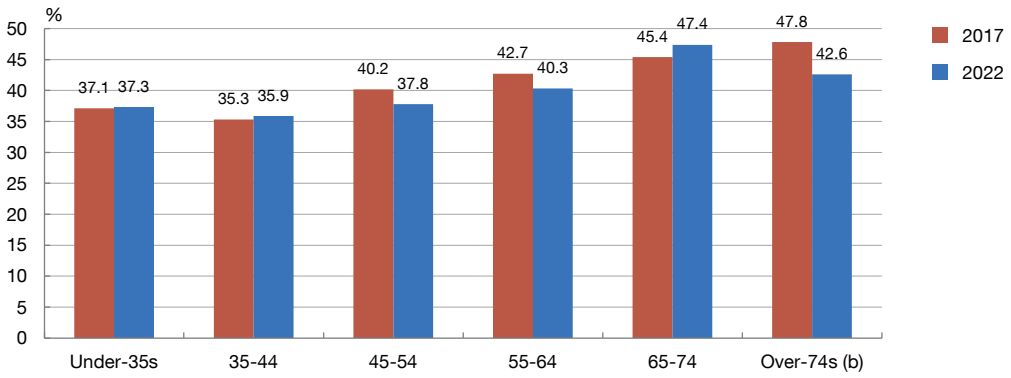
The decline in MPCs was particularly pronounced among households whose income was in the top 10% of the distribution (-6 pp) in 2017 (column (1) of Table 1). In addition, MPC increased by

5 The regression model is defined as $\Delta MPC_{i,22/17} = \alpha + \beta X_i + \varepsilon_i$, where $\Delta MPC_{i,22/17}$ is the change in MPC and X_i the characteristics of household i. For this type of analysis we need longitudinal data, with information from the 2017 and 2022 editions for the same households.

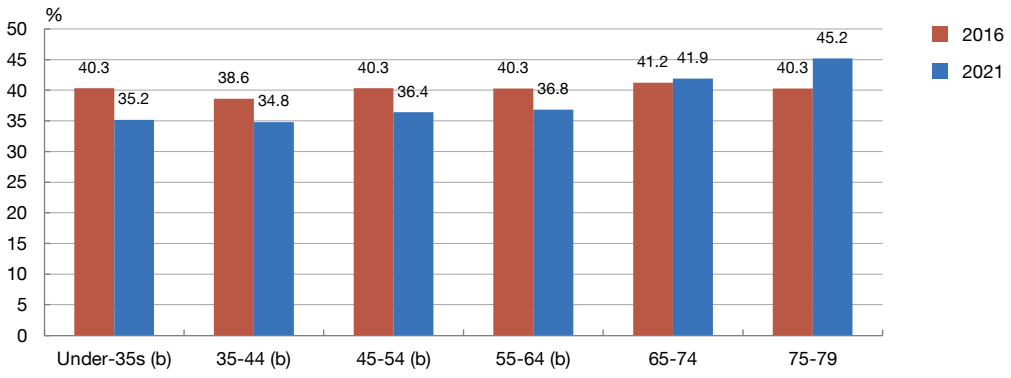
Chart 5

MPC, by age group (a)

5.a EFF



5.b ECF



SOURCES: ECF and EFF.

a The age brackets of the respondents differ between these surveys. While in the EFF there is no age cap, the ECF surveys individuals aged 18-79.
b The difference between the years is significant at 10%.

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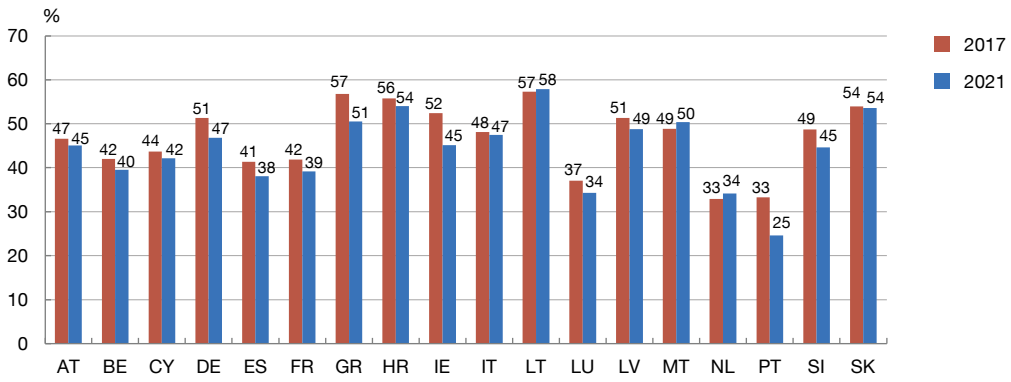
Chart 6

MPC across the Eurosystem. HFCS



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SOURCE: HFCS.

Table 1
Changes in MPC, by household characteristics (2017-2022) (a)

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.44	-3.47	-0.59	-0.47	-3.85	-0.99
	(0.767)	(0.06)	(0.717)	(0.754)	(0.062)	(0.615)
Income > p90 (2017)	-6.45					
	(0.128)					
Financial assets < p50 (2017)		4.67			6.00	
		(0.096)			(0.047)	
Difference in liquid assets > p75 (2022-2017)			-6.73			
			(0.039)			
Affected by COVID-19				-5.05		
				(0.184)		
Self-employed (2017)					2.9	
					(0.516)	
Non-homeowner (2017)						2.00
						(0.625)
Difference in income > p75 (2022-2017)						0.597
						(0.883)
(Self-employed) * (Financial assets < p50)					-14.64	
					(0.126)	
(Non-homeowner in 2017) * (Difference in income > p75)						-11.84
						(0.134)

SOURCE: EFF (2017 and 2022).

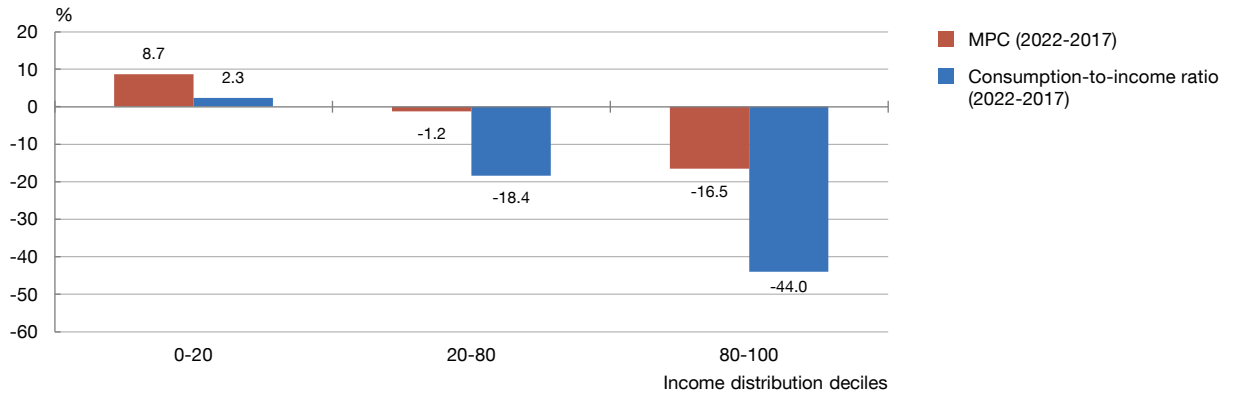
a The estimated parameters are shown in the top of each cell. Their respective p-values are reported in brackets.

4.7 pp among the households that held fewer financial assets – an amount of financial assets below the median – in 2017 (column (2) of Table 1). Insofar as the lack of financial assets reflects greater difficulties in accessing credit or a higher liquidity preference, this suggests that the sensitivity of spending to income increased more among financially constrained households or those with a higher liquidity preference.

In addition, MPC declined significantly (-6.7 pp) among those households that accumulated more liquid wealth between 2017 and 2022 (column (3) of Table 1). This suggests that the fall in MPC in this period resulted in greater saving. Moreover, the MPC of households exposed to job or income losses during the pandemic decreased by 5.1 pp, although this estimation is imprecise (column (4) of Table 1).

Among households with less wealth in 2017, the MPC of the self-employed and those that saw a greater increase in their income over the five-year period fell significantly (columns (5) and (6) of Table 1). This may suggest a greater propensity to save among the self-employed. Lastly, among households that were not homeowners in 2017 and whose income rose, MPCs decreased significantly (by around 12 pp). This may indicate the intention to save for a down payment on a house purchase (column (6) of Table 1).

Chart 7
Changes in MPC and the consumption-to-income ratio. EFF



SOURCE: EFF.

Marginal propensity to consume and changes in the aggregate saving rate

The larger decline in MPCs among households with higher income in 2017 may have overall implications. An extra month's income in the top decile of the income distribution is, in euro terms, up to four times more than the average for the distribution. As the aggregate saving rate can be expressed as an average of the saving rates of each household weighted by its income share, higher income households account for a larger share in the aggregate saving rate than other households.[6] This means that a decline in MPC at the higher end of the income distribution would have greater effects on the saving rate than a fall in other parts of the distribution.

The change in the aggregate saving rate associated with changes in MPCs between 2017 and 2022 can be approximated by combining the following aggregates: the population shares of each household in the distribution, each household's weight in the income distribution, the change in MPC between 2017 and 2022 and, lastly, the change in income between 2017 and 2022 (see Annex).

The contribution of the fall in each household's MPC to the change in the aggregate saving rate can thus be quantified using the following hypothetical: given the changes in income between 2017 and 2022, how much would the aggregate saving rate have changed had each household's MPC been the same (relatively high) rate as in 2017? Similarly, how much would the aggregate saving rate have changed had the MPC been the same (relatively low) rate as in 2022? The difference between the two is the change in the saving rate due to changes in MPCs. Thus, using EFF data we estimate that the aggregate saving rate increased by 2 pp between 2017 and 2022 due to changes in MPC. The average saving rate in this five-year period was approximately 4 pp

6 Anghel, Barceló and Villanueva (2019).

higher than its initial level in 2017 (see Chart 1.b). Therefore, the change due to the change in MPC accounts for 50% of the increase observed.[7]

Note that this approach focuses on changes in MPCs, rather than on analysing changes in the consumption-to-income ratio of each household. To verify the extent to which changes in MPC presage changes in the saving rate, it is useful to compare the average change in MPCs with the change in the consumption-to-income ratio between 2017 and 2022 for different groups of households across the income distribution. Chart 7 suggests that among the groups of households whose MPCs declined between 2017 and 2022, there was also a significant drop in the consumption-to-income ratio. Therefore, the measures of MPC are ultimately correlated with effective changes in household saving and consumption.

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7 Although the estimated contribution is significant, it is important to highlight that it rests on various assumptions detailed in the Annex. Accordingly, the exact figure should be taken with caution.

Annex

The change in the aggregate saving rate between 2017 and 2022 due to the change in MPCs can be approximated by the answer to the following question: given the changes in income between 2017 and 2022, how much would the aggregate saving rate have changed had each household's MPC been the same (relatively high) rate as in 2017? Similarly, how much would the aggregate saving rate have changed had the MPC been the same (relatively low) rate as in 2022? The difference between the two is the change in the saving rate due to changes in MPCs. More formally, this change can be expressed as:

$$\Delta S_{22,17} = \sum_i \frac{\pi_i \Delta y_{i,22,17}(1-MPC_{i,22})}{(y_{i,22}+y_{i,17})/2} - \sum_i \frac{\pi_i \Delta y_{i,22,17}(1-MPC_{i,17})}{(y_{i,22}+y_{i,17})/2}$$

In the above expression, each household's weight (π_i) corresponds to the product of its sample weight and its weight in the income distribution. The change in the level of spending between 2017 and 2022 is proxied by the product of the marginal propensity to save in each wave and the change in income $\Delta y_{i,22,17}$. Lastly, the income of each household is proxied by average real income $(y_{i,22} + y_{i,17})/2$.

As shown, the product of growth in income and the percentage of one month's income that is saved is used as a proxy for growth in a household's spending between two waves. This approximation rests on two mechanical assumptions. The first is that the MPC reported by households resembles the total change in their spending in response to a change in their income. However, while the question on MPC refers to a hypothetical temporary change in income, actual changes in income can either be temporary (such as that mentioned in the question) or permanent (for instance a raise linked to a promotion at work). In the latter case, if households actually perceive the change in income as permanent, according to the permanent income hypothesis their saving rate would not change. The approximation would therefore overestimate the change in saving. The second mechanical assumption is that MPC would be the same in response to smaller or larger increases in income than that mentioned in the question determining MPC and even in response to declines.

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