

## Consumption and saving patterns after retirement

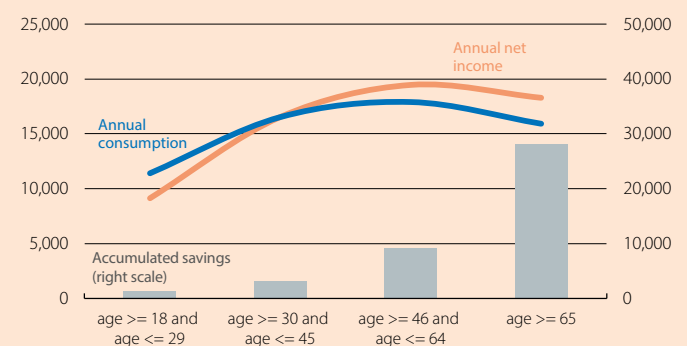
The life cycle theory of consumption,<sup>1</sup> developed, among others, by the economics Nobel laureates Franco Modigliani and Milton Friedman in the 1950s, lays out the basis of people's behaviour in terms of consumption and saving. The theory points out that a person's saving patterns vary over the course of their lifetime following an inverted U-shape. That is, those who save the least are the young and the elderly, and those who save the most are middle-aged people. The reason behind this pattern is the desire to maintain a relatively stable quality of life and level of consumption over time. To achieve this, people must save more at those ages when they earn the highest income and use those savings to improve their quality of life at those ages when their income flow is lower.

Do we observe this saving and consumption pattern during people's lifecycle in practice? Abundant empirical evidence shows that consumption after retirement reduces significantly, and this goes against the life cycle theory and has led to the so-called retirement-consumption puzzle.<sup>2</sup> This apparent puzzle can be explained by the fact that the savings people have accumulated are insufficient in order to maintain their level of consumption after retirement, as a result of multiple factors (uncertainty, financial constraints, cognitive biases, etc.). Part of the answer has also been found by analysing the breakdown in the type of consumption: it does not decrease across all expenditure categories, but rather it is concentrated in certain categories such as those related to work (e.g. transport) or leisure.<sup>3</sup> So the issue remains open.

In this article, we will use internal CaixaBank data, duly anonymised, to carry out an exploratory analysis on how consumption patterns change after retirement for the case of Spain. The use of these data allows us to identify individuals' income, consumption and savings with precision, as well as to identify the moment of retirement.

In a first exploration,<sup>4</sup> we can identify differences in saving and consumption patterns between different age groups (see first chart). Income volatility across the different age groups is higher than that of consumption, indicating that households seek to maintain a relatively stable level of consumption throughout their lifetimes. Only in the 18 to 29-year-old age group does consumption exceed annual net income; some possible explanations for this include that they have other sources of income (for example, help from parents in the case of the youngest cohorts) or that they borrow to finance their consumption. As for the older group, there is a reduction in their income compared to the group between 46 and 64 years of age, albeit a rather slight one. This moderate reduction can be achieved in part thanks to the current public pension system, with its relatively high replacement rates that allow people to maintain an average income level that is not too dissimilar from what they received before retirement. This limited contraction in income, together with the accumulated savings cushion, help to explain why the reduction in consumption among those aged 65 and over compared to those aged 46 to 64 is relatively small.

**Spain: consumption and savings by age group**  
Median (euros)



**Notes:** Includes all CaixaBank customers who in 2022 had at least one payroll, unemployment benefit or pension payment deposited into their account and made at least one purchase from it. Consumption is defined as any expense which materialises as a cash withdrawal, card payment, bizum transfer, direct debit charge or a transfer made to a company. Savings include deposits and other investments (stocks, pension plans, etc.). The income is net, after taxes and social security contributions. The data are aggregated at the contract level.

**Source:** CaixaBank Research, based on internal CaixaBank data.

1. This basic theoretical framework has served to cement the foundations of an extensive economic literature that has enriched the analysis regarding the behaviour of economic agents in decision-making. For example, an element of uncertainty was incorporated into the model with which agents may tend to save more as a precautionary measure, or other factors which limit or modify household decisions, such as taxes or restrictions on access to the financial system.

2. For further details, see J. Banks, R. Blundell and S. Tanner (1998). «Is there a retirement-savings puzzle?» *American Economic Review*, vol. 88, nº 4, 769-788.

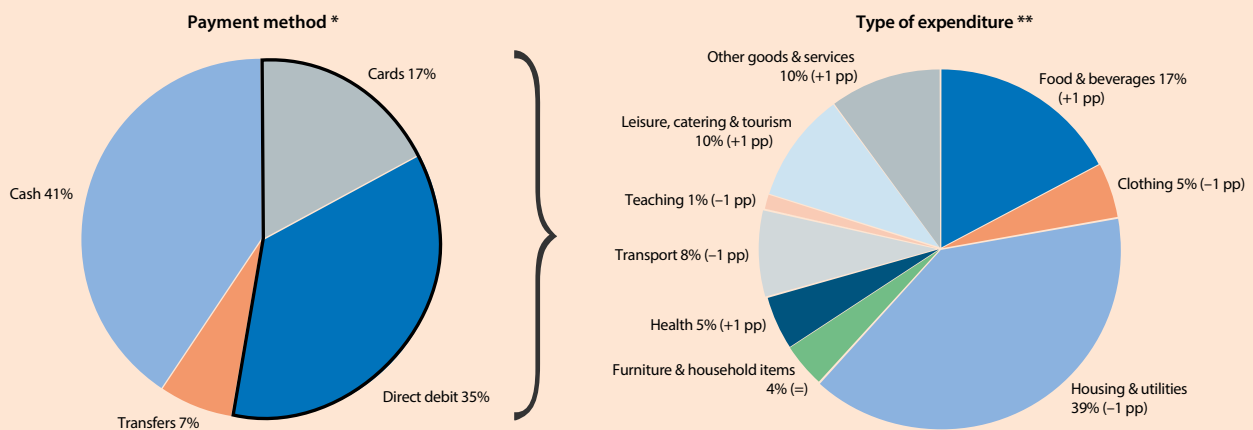
3. See E. Aguilá, O. Attanasio and C. Meghir (2011). «Changes in consumption at retirement: evidence from panel data». *Review of Economics and Statistics*, 93(3), 1094-1099.

4. The sample includes all CaixaBank customers who in 2022 had at least one payroll, unemployment benefit or pension payment deposited into their account and made at least one purchase from it, whether via cash withdrawal, card payment, bizum transfers, direct debit charges or transfers to companies. The income is net, after taxes and social security contributions. Savings include all financial assets held with the bank (deposits, stocks, pension plans, etc.). The data are aggregated at the contract level and therefore do not correspond to the household level. This differs from the data from the Survey of Household Finances (Bank of Spain), which correspond to the household level and where the income variable is at the gross level (before taxes and social security contributions). As for consumption, the levels are more similar to those of the Household Budget Survey (National Statistics Institute) at the individual level. However, there are some differences in the definition. For example, self-consumption, wages in kind, or rent allocated to property under ownership are not included, and the expenses are recorded when the payment is made rather than at the time of purchase.

In order to take a close look at changes in consumption after retirement, next we focused on a sample of customers who were between 60 and 68 years of age and who were previously employed and then retired between June 2014 and February 2018.<sup>5</sup> At the aggregate level, we continue to see a reduction in consumption in real terms in the post-retirement years. Specifically, after one year of retirement, consumption falls, on average, by 1.2% compared to the year before retirement. This trend continues in the following years, and in the fifth year of retirement consumption decreases, on average, by 6.4% compared to the year prior to retirement. In addition, it is observed that the distribution of consumption by type of expenditure also changes. In particular, compared to the year before retirement, expenditure on food, leisure, catering and tourism and health increase, while other items such as housing and utilities, transport and education reduce. Expenditure in the year after retirement is concentrated in housing and utilities (40%), followed by food (17%) and then leisure, catering and tourism (10%).<sup>6</sup>

**Spain: consumption by payment method and type of expenditure after the first year of retirement**

*Distribution of the average annual consumption (%)*



**Notes:** \* «Transfers» to companies, «direct debit» includes account payments; «cash» includes cash withdrawals from ATMs or bank branches. Bizum transfers are not included as use of this payment method was very residual in the period analysed. \*\* The type of expenditure is only available for card payments and direct debit charges. The figures in brackets indicate the change relative to the year prior to retirement.  
**Source:** CaixaBank Research, based on internal data.

In addition to the changes in consumption habits, it is observed that the variations in consumption after retirement depend on the available resources, in terms of both income and accumulated savings. To analyse this relationship, we segmented the sample into quartiles according to occupational income before retirement, and for each quartile the observations are once again divided into quartiles based on the level of accumulated savings. For individuals with incomes below the median (1<sup>st</sup> and 2<sup>nd</sup> quartiles), the level of consumption increases slightly in the first year after retirement (a median increase of +3% for the first income quartile and of +1% for the second quartile, see third chart).<sup>7</sup> However, it should be noted that the level of consumption is lower than in the case of individuals with higher incomes. For this latter group, the level of consumption reduces compared to the year prior to retirement (-3% for the third income quartile and -6% for the fourth quartile),<sup>7</sup> although it remains high.

In addition, the savings accumulated over the course of one’s lifetime play a decisive role in maintaining a relatively stable level of consumption after retiring. For those starting with low income levels before retirement, we observe (see third chart) that individuals with higher savings (third and fourth quartiles) increase their consumption to a greater degree after retiring. Among those with high incomes before retirement, the individuals with higher savings reduce their post-retirement consumption to a lesser degree. In other words, the savings cushion allows them to maintain a higher level of expenditure after retiring.<sup>7</sup>

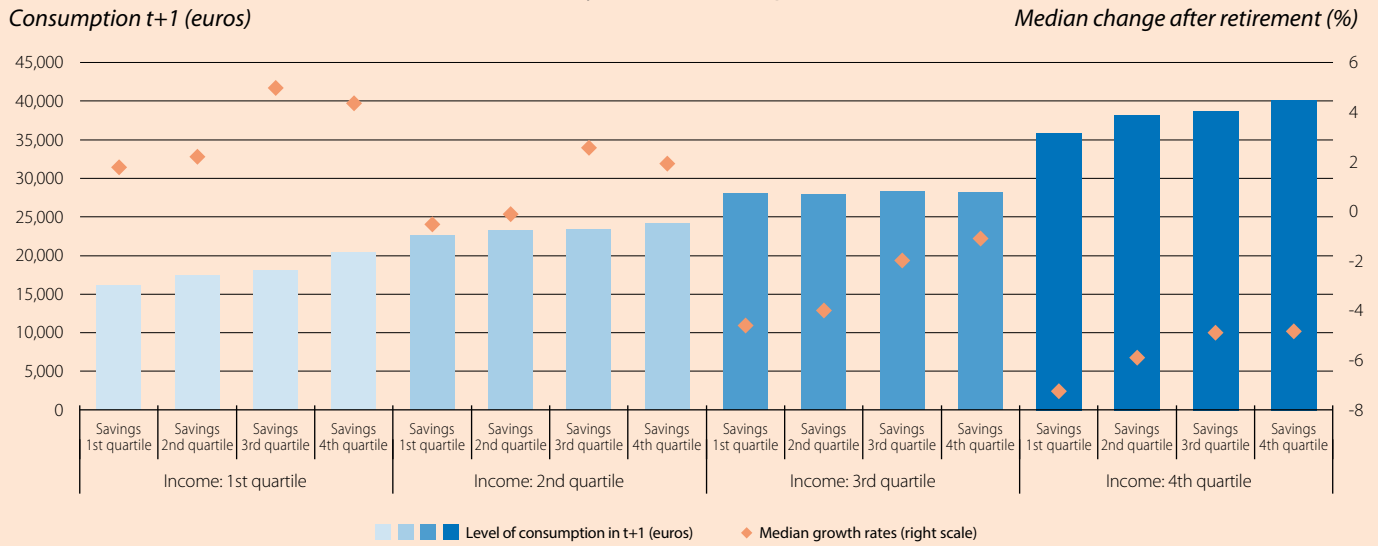
In conclusion, these results add to the extensive literature documenting the existence of the retirement-consumption puzzle. The results show that consumption reduces after retirement: by 1.2% after one year of retirement, and by up to 6.4% five years after

5. The analysis focuses on customers aged 60 to 68 who received a payroll before retirement and who, at some point between June 2014 and February 2018, retired and went on to receive a public pension. We analyse the period prior to the COVID-19 pandemic to avoid the temporary shock that occurred in consumption. The data are deflated using the headline CPI to euros at 2013 prices. The year *t* is the year of retirement, so the expenditure in the year *t+1* corresponds to the annual expenditure in the year after retirement. The definitions of savings, income and consumption are the same as in footnote 4.

6. These results are similar to those of the Household Budget Survey (National Statistics Institute) for households in which the main breadwinner is over 65 years old.

7. The results have been validated using a linear regression in which individuals’ consumption is explained by the variables of income, savings and other control variables. The estimated coefficients are statistically significant.

**Spain: level of consumption after retirement by level of savings and pre-retirement income**



**Notes:** The sample includes all CaixaBank customers aged 60 to 68 who retired between June 2014 and February 2018 and went from receiving a payroll to receiving a public pension. The expenditure in the year t+1 corresponds to the annual expenditure in the year after retirement (always prior to COVID-19) and includes cash withdrawal, card payments, bizum transfers, direct debit charges and transfers to companies. The data are deflated using the headline CPI to euros at 2013 prices. The results have been validated with a regression in which individuals' consumption is explained by the variables of income, savings and other control variables. The estimated coefficients are statistically significant.

**Source:** CaixaBank Research, based on internal CaixaBank data.

leaving the world of work. In addition, our analysis highlights the important role that savings play in determining the degree to which consumption is reduced after retirement. For retirees with the same pre-retirement income level, having greater accumulated savings makes it possible to maintain a higher level of consumption, demonstrating the importance of planning for retirement in order to build up that savings cushion that will allow us to maintain the quality of life we desire in our golden years.

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