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A PROFILE OF HOUSEHOLD SAVING BEHAVIOUR IN MALTA

BOX 3: A PROFILE OF HOUSEHOLD SAVING BEHAVIOUR IN MALTA¹

The drivers of household saving behaviour and how these change over the life course are research questions which have been central to improving economists' understanding of consumption dynamics. One answer to these questions is given by the *Life-Cycle Hypothesis*, which states that people tend to prefer to balance consumption over their lifetime rather than consume in line with their current income.²

A theory on consumption and saving

This proposition implies that people who spend more than they earn try to bridge the gap by borrowing funds. People in this category are generally of a young age. Subsequently, over a person's lifetime, income tends to grow at a faster pace than consumption, and as a person approaches middle age s/he will repay balances due and start saving for retirement. Upon retirement, s/he draws down on the accumulated funds to sustain consumption. This model implies that saving is a function of a person's age and follows a "hump-shaped" profile: it is negative at a young age, positive at middle age and negative again after retirement.

There are, however, other factors, besides the age of the household, which affect consumption and saving decisions.³ *Interest rates* are generally expected to be positively related to savings, as they represent the opportunity cost of foregone consumption.⁴ The discussion above requires households to be able to bridge the gap whenever consumption is higher than income; therefore, savings are also expected to be positively related to the *availability of consumer credit*. In addition, the discussion above also assumes that households have perfect foresight about their future income streams, which is perhaps not realistic.

As a result, *income uncertainty* is expected to give rise to precautionary savings – households save more than they would under a scenario of perfect foresight – to build a buffer against unanticipated shocks to income. Fiscal policy may also have an impact on saving decisions, as the literature on *Ricardian Equivalence* argues. If households observe government deficits being financed through an increase in public debt, they anticipate the repayment of that debt as a future liability. As a result, an increase in government debt is expected to raise savings. All these considerations take place at household level. At an aggregate level, the median age of households also has a bearing on the saving rate in an economy. An ageing population is expected to have a lower saving rate than a younger one. Thus, the

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² Brumberg, R., & Modigliani, F. "Utility Analysis and the Consumption Function". *Post-Keynesian Economics*, Princeton University Press, Princeton, New Jersey, 1954, and Ando, A., & Modigliani, F., "The 'life cycle' hypothesis of saving: Aggregate implications and tests", *The American Economic Review*, Volume 53 Issue 1, pp. 55-84, 1963.

³ See Sturm, P.H., "Determinants of saving: theory and evidence", *OECD Economic Studies* Volume 1, pp. 147-196, 1983, Callen T. and Thimann, C., "Empirical determinants of household saving: evidence from OECD countries", *IMF Working Paper* 97/181, 1997, and Masson, P.R., Bayoumi, T. & Samiei, H. "International evidence on the determinants of private saving" *The World Bank Economic Review* Volume 12 Issue 3, pp. 483-501, 1998.

⁴ If a household is a net debtor, then higher interest rates increase the burden of outstanding debt, reducing the amount of resources that a household affords to save. Therefore, in this case, we would expect that the interest rate and saving rate are negatively related.

old-age-dependency ratio, defined as the number of people aged 65 and above as a ratio of the working age population, is expected to be negatively related to the saving rate.⁵

Evidence from macroeconomic data

These hypotheses were tested empirically for Malta for the period 2000-12 using regression analysis.⁶ It resulted that the saving rate in Malta is positively related to the real deposit interest rate and negatively related to the wealth-to-income ratio, which acts as a proxy for the accumulation of savings under the precautionary motive. Government deficits (surpluses) were also found to have an effect on the saving rate, although the strength of this relationship is weaker than predicted by theory. This analysis also found that consumer credit growth and the old-age-dependency ratio did not play a role in influencing saving decisions of Maltese households during the period 2000-12.

Evidence from microeconomic data

We can better understand the profile of household saving by looking at data at household level, which were obtained from the Household Budgetary Survey carried out in 2008.⁷ This exercise tracks the expenditure and income of a sample of households and can be used to build saving distributions across different strata.⁸

Data from this survey indeed show the hump-shaped saving profile across a household's lifetime predicted by theory, although households whose representative is older than 75 is seen as having the highest saving rate (Chart 1). This apparent contradiction is due to a number of reasons, primarily being that only old people still living in their homes were surveyed. The latter's expenditure is expected to be lower than those living in residential homes. Another reason for this result is the so-called "retirement-savings puzzle", a phenomenon observed in various empirical studies.⁹ On retirement, the sudden drop in income that ensues causes people to lower their consumption drastically. Bequest motives, which were not discussed in the basic framework described above, could also be behind a positive saving rate amongst old people.

Chart 1 also shows the median saving rate across households with different employment status. As expected, unemployed households have negative savings, while the retired had a saving rate of almost 10%, a result which follows from the distribution across household age. Home ownership is also a factor which influences the saving rate of households, as households which own a house have a higher saving rate than households which rent property.

Another factor which could influence saving behaviour is education. Higher levels of educational attainment are expected to lead to higher income and hence to a higher saving

⁵ An ageing population is expected to be at a "dissaving" stage.

⁶ See Gatt, W. "The determinants of household saving behaviour in Malta", *Central Bank of Malta Working Paper* 03/2014, 2014. <http://www.centralbankmalta.org/file.aspx?f=999>

⁷ Household Budgetary Survey 2008, National Statistics Office, 2010.

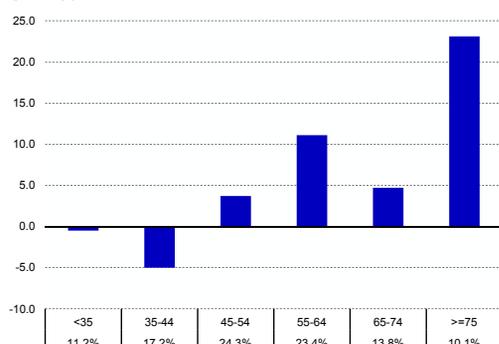
⁸ Although the survey collects data on both consumption and income, the data for income are not corrected for household size. Hence, the resulting saving rates across strata should be interpreted with caution.

⁹ See, Banks, J., Blundell, R., & Tanner, S. "Is there a retirement-savings puzzle?" *American Economic Review*, Volume 88 Issue 4, 1988, pp. 769-788. For a discussion on reasons behind this phenomenon, see Hurd, M. D. & Rohwedder, S. "Some answers to the retirement-consumption puzzle", *NBER Working Paper* number w12057, National Bureau of Economic Research, 2006.

Chart 1 HOUSEHOLD MEDIAN SAVING RATE

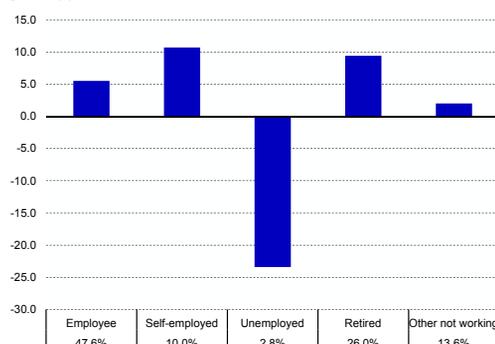
(% of median income; the numbers in percentages below groups are the proportion of respondents for each household falling within that group)

ACROSS HOUSEHOLD AGE (percentage)



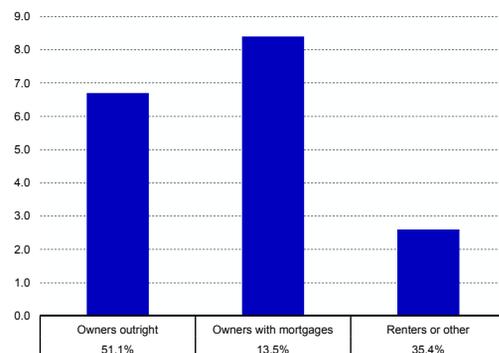
Source: HBS 2008.

ACROSS HOUSEHOLD EMPLOYMENT STATUS (percentage)



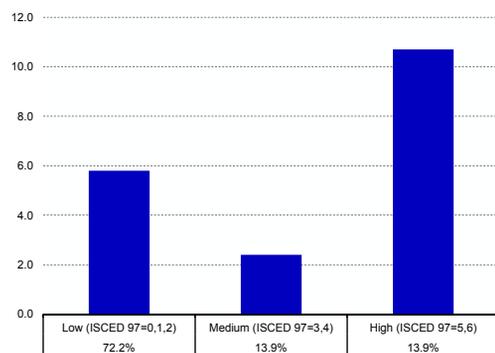
Source: HBS 2008.

ACROSS HOUSEHOLD HOME OWNERSHIP (percentage)



Source: HBS 2008.

ACROSS HOUSEHOLD EDUCATION LEVELS (percentage)



Source: HBS 2008.

rate. This pattern is not evident across different levels of educational attainment in Malta, although respondents with the highest level of education also had the highest saving rate.

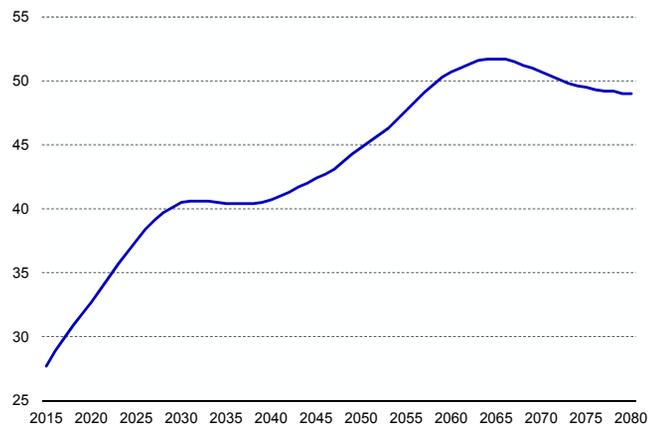
The preceding analysis has shown that while there may be many factors which influence household saving decisions, the predictions of the basic Life-Cycle Hypothesis are largely borne out by the data, with the possible exception of the large saving rate observed by households aged 75 and over in Malta.

Household saving in the future

Demographic projections by Eurostat show that the Maltese population is expected to age over the next 30 years, with the median age rising from 41 in 2015 to just over 46 by 2045. The result is an increase in the old-age-dependency ratio, from 27.7% to 42.4% over the same period (see Chart 2). Such a development is bound to have an effect on aggregate saving in the future, unless individual saving rates rise. In this light, incentives aimed at increasing saving rates appear warranted. Such saving would also compensate for the drop in social security contributions that could accompany the ageing of the Maltese population and which would lower public saving. On the other hand, the household data described here indicate that

having a more educated, employed and home-owning workforce could raise the average saving rate. In this respect, the family friendly measures that have been promoted during past years, such as the four-week maternity leave extension and greater availability of affordable child care, could also help to improve the prospective trend of household saving behaviour in Malta.

CHART 2
PROJECTED OLD-AGE-DEPENDENCY RATIO
(% of population above 65 years as a ratio of the working age population)



Source: Eurostat.