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A CROSS-SECTIONAL SAVING PROFILE OF MALTESE HOUSEHOLDS

BOX 2: A CROSS-SECTIONAL SAVING PROFILE OF MALTESE HOUSEHOLDS¹

Household saving behaviour is of key interest to macro-economic analysis. From a theoretical perspective, the starting point for most research on consumption and saving is either the Permanent Income Hypothesis or the Life Cycle Hypothesis. The former states that consumption is mainly dependent on one's permanent income – a measure of a person's expected income over their lifetime – derived from an adjustment of current income.² The Life Cycle Hypothesis, which is the basis for most empirical work, predicts that rational consumers smoothen consumption over their lifetime, saving during working age and dis-saving in the early and retirement stages of the life cycle.³

This box focuses on saving behaviour in Malta of different types of households, using data collected by the NSO for the purpose of the 2015 Household Budgetary Survey (HBS). We use these data to identify how median saving behaviour compares to theoretical predictions. This box therefore presents an update on previous analysis which was based on the 2008 HBS wave.⁴ To this end, we compare findings based on the more recent data with those from the 2008 wave.

In the HBS, a household is represented by the reference person, typically the bread-winner among all members of the household. The primary use of this survey is to update household expenditure weights used in, for example, the computation of price indices such as the HICP and the RPI. Since the survey collects data on both expenditure and income, it can also be used to study household saving patterns. Income includes income from employment, benefits and allowances, income from financial investments and other income from rent and private pension plans. Although HBS data are typically presented in terms of averages, in this box we use median values as both income and expenditure distributions are typically highly skewed. Median values are generally less sensitive to large movements at the tails of the distribution, and therefore make for more robust comparisons both across household types and across time. To this end, we observe a doubling in median saving rates across the two waves, from 8.7% in 2008 to 17.5% in 2015 (see Chart 1).

Saving rates across household characteristics

The HBS provides disaggregated information on a number of characteristics that are important for the analysis of saving behaviour, such as income, age, education, employment and homeownership status. In line with theory, saving rates and household disposable

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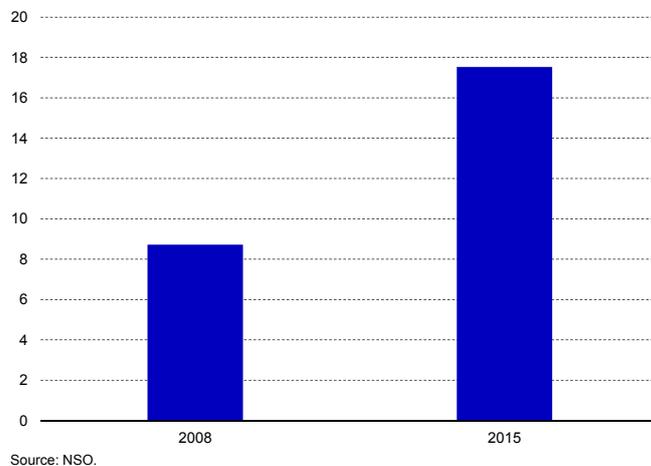
² See Friedman, M. (1957). The permanent income hypothesis, in *A theory of the consumption function*. (pp. 20-37), Princeton University Press.

³ Working age households typically repay any outstanding debt and accumulate enough resources to see them through retirement. In addition, bequests are typically also an important driver of saving. See De Nardi, M., French, E., & Jones, J. B. (2016). Savings after retirement: A survey. *Annual Review of Economics*, 8, pp. 177-204.

⁴ See Gatt, W. (2015). A profile of household saving behaviour in Malta. *Central Bank of Malta Quarterly Review 2015:1*, pp. 35-38.

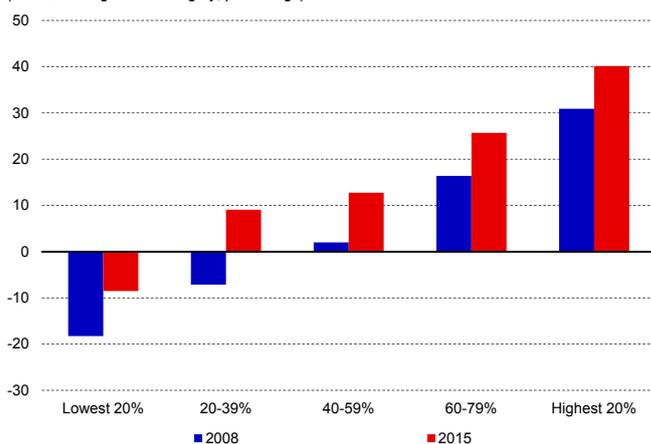
income are positively related.⁵ Chart 2 shows that median saving rates rise over income quintiles, with households in the top 20th percentile saving around 40% of their disposable income in 2015. These findings are in line with those for the euro area.⁶ The same pattern is observed for the 2008 wave, albeit saving rates are lower at all income quintiles, in line with the lower aggregate median saving rate reported in Chart 1. Whereas households in the two lowest income quintiles had negative saving rates in 2008, only those within the bottom income quintile had a negative median saving rate in 2015. This reflects the fact that median incomes rose by more than median expenditures across all income quintiles, shifting saving rates up.

Chart 1
MEDIAN SAVING RATES ACROSS HBS WAVES
(Median saving rate, percentage)



Source: NSO.

Chart 2
MEDIAN SAVING RATES BY INCOME QUINTILE
(Median saving rate of category, percentage)



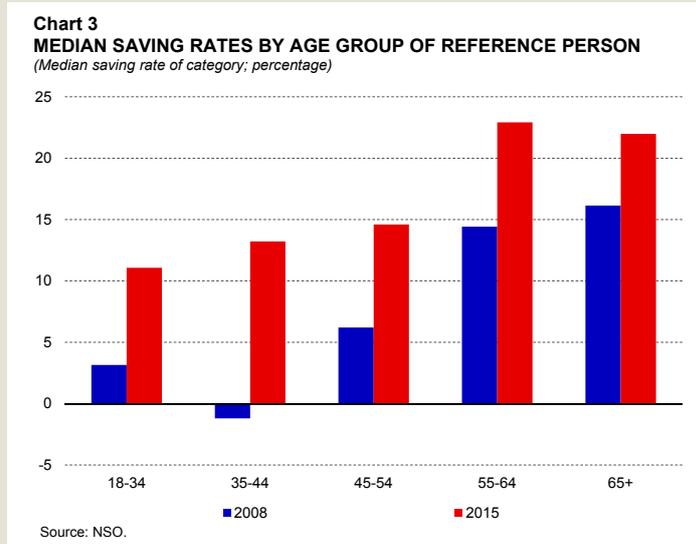
Source: NSO.

The theoretical predictions of the Life Cycle Hypothesis are borne out by data for households whose reference person is under 65 years old. Indeed, households whose reference person is younger than 35 have the lowest saving rates (see Chart 3). These then start to rise with age, peaking with the 55-64 age bracket. However, the data indicate that households whose reference person is older than 65 years have the second highest median saving rate, despite the drop in income that comes with retirement. Maltese households thus appear

⁵ Current income is found to have both short-term and long-term impacts on saving rates. When minimum subsistence consumption is covered, savings rise sharply with income in the short-term. But development, which raises income levels, also brings changes in demographics and urbanisation, some of which tend to reduce saving in the longer term. See Servén, Loayza and Schmidt-Hebbel (1999), Saving – what do we know, and why do we care? *PREM Notes*, (No. 28). The World Bank, Washington, D.C.. See also Schmidt-Hebbel, K., & Servén, L. (1997). Saving across the world: Puzzles and policies. *World Bank Discussion Papers no. 354*. The World Bank, Washington, D.C. and Loayza, N., Schmidt-Hebbel, K., & Servén, L. (2000). What drives private saving across the world? *Review of Economics and Statistics*, 82(2), pp. 165-181.

⁶ See Rodríguez-Palenzuela, D., & Dees, S. (2016). Savings and investment behaviour in the euro area. *ECB Occasional Paper 167/January 2016*.

to be adjusting consumption downwards by more than the decline in income. Bequest motives may explain the high saving rates for this cohort. It could also be that since many of these households depend on just one pension as there was one breadwinner, they may be engaging in precautionary saving to provide for the eventual fall in pension income for surviving spouses.



Patterns across the two waves are similar, yet in 2008 households whose reference person was aged 35-44 had the lowest saving, with their saving rate being markedly lower than those in the 18-34 age group. However, the 2015 data show that income relative to expenditure rose by more for the former group than it did for the latter. As a result, the saving rate of the 35-44 age bracket not only turned positive but was also higher in absolute terms compared to 2008. It should be noted that between the two waves, labour participation rose greatly in this age group (from 67.5% and 66.5% in 2008 for those aged 35 to 39 and 40 to 44, respectively, to 82.1% and 78.4% in 2015). This boost mainly reflected an increase in female participation following measures such as free childcare.

Higher educational attainment is in general linked to higher income although this does not always automatically translate into higher savings, as households tend to revise their consumption patterns when their income falls, as the case of pensioners suggests.⁷ The data indicate that households whose reference person has up to primary school education have the highest saving rate, followed by those with tertiary education, while those with secondary and post-secondary school education saved the least in both waves of the HBS (see Chart 4). It may be hard to form priors on the link between education and saving. On one hand, higher educational attainment is expected to generate higher income, leading to higher saving rates *ceteris paribus*. On the other hand, higher actual and expected income is likely to relax borrowing constraints, meaning that these households could in theory have a lower precautionary motive, and therefore save relatively less.⁸ The data suggest that the first channel is dominant for households with a secondary or higher level of education; saving rates rise with income. Conversely, households whose reference person has a primary level of education may be highly borrowing-constrained, and thus save rela-

⁷ For example, as education rises from secondary to post-secondary, median income and median expenditure both rise by about 24%, implying little changes to the saving rate. See also Darmanin, J., Georgakopoulos, I., & Knoppe, C. (2018). Income distribution, inequality and mobility in Malta. *Research Bulletin (2018)*, Central Bank of Malta, pp. 19-26.

⁸ For instance, Le Blanc, J., Porpiglia, A., Teppa, F., Zhu, J., & Ziegelmeyer, M. (2016). Household saving behavior in the euro area. *International Journal of Central Banking*, 12(2), pp. 15-69, make this point by noting that households with higher education levels may face fewer credit constraints than those with low education levels.

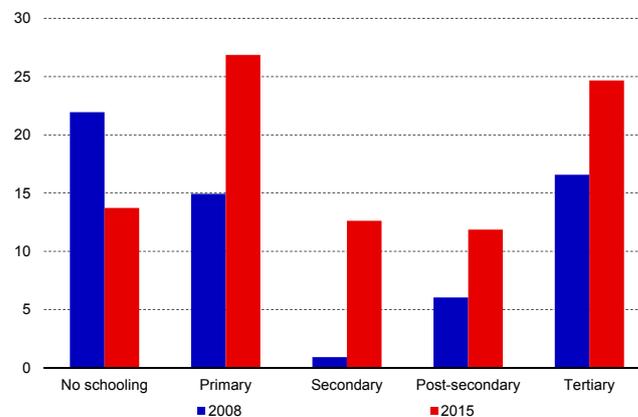
tively more because of this.⁹ Furthermore, indications from the sample suggest that households with up to primary school level are likely to be older households.¹⁰ As discussed above, these tend to have higher saving rates. These arguments help to explain the patterns observed in both HBS waves.

The HBS also provides data on saving by the employment status of the reference person. The first salient point is that saving rates for unemployed people are lower than those for people who are employed or self-employed (see Chart 5). Saving is expected to fall as income falls upon loss of work; however, consumption typically also falls in response to an unemployment shock and upon retirement.¹¹ In Malta these patterns are somewhat present, but we observe a large shift

in saving rates between 2008 and 2015 for the households whose reference person is either unemployed or inactive. In addition, we also observe very similar median saving rates for both employed or self-employed and retired households. Median income for active households is about 2.1 times higher than for retired households, but roughly so is their consumption. Therefore, while saving rates are similar, the amount of saving by the former is also about double that of the latter in absolute terms.

Chart 4
MEDIAN SAVING RATES BY EDUCATIONAL ATTAINMENT OF REFERENCE PERSON

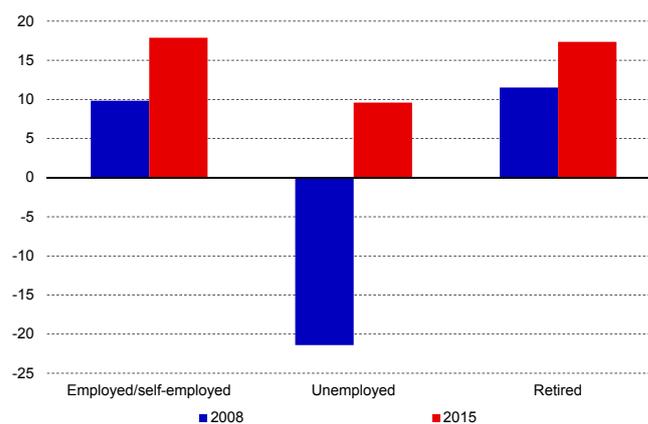
(Median saving rate of category; percentage)



Source: NSO.

Chart 5
MEDIAN SAVING RATE BY EMPLOYMENT STATUS OF REFERENCE PERSON

(Median saving rate of category; percentage)



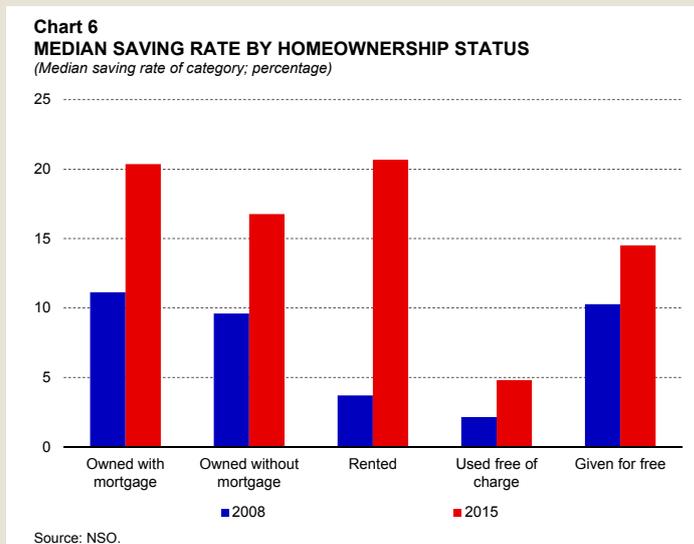
Source: NSO.

⁹ The median income of households whose reference person has up to primary level of education was about €12,500 in 2015, compared to about €21,400 for a household with up to secondary level of education.

¹⁰ It became compulsory to attend school until at least age 16 in 1974. See Cutajar, M. (2007). Educational reform in the Maltese islands. *Journal of Maltese Education Research*, 5(1), pp. 3-21. This implies that, in theory, the youngest reference persons featuring in the bottom two education levels were in their fifties in 2015.

¹¹ Banks, J., Blundell, R., & Tanner, S. (1998). Is there a retirement-savings puzzle? *American Economic Review*, 88(4), pp. 769-788.

Turning to saving behaviour by housing tenure, we see that in both 2008 and 2015, homeowners with mortgages had a higher median saving rate than outright owners (see Chart 6). Since mortgage payments are not included in expenditure, it follows that this difference is likely explained by additional saving for the loan repayment.¹² Moreover, part of this higher saving rate can also be explained by the fact that, in both HBS waves, owners with a mortgage tended to have a higher median income than owners without a mortgage.



A more significant change since 2008 is in the median saving rate of households who rent their dwelling. Not only did they experience the largest absolute change in the saving rate, but they also reversed the pattern of 2008, and had the highest median saving rate in 2015. However, although market-driven rents have risen considerably over this period, the bulk of the renters in the survey are likely paying controlled rents. Moreover, during this period, the increase in rented accommodation was mainly to relatively well-paid foreign workers, changing the composition of tenant population. Therefore, the rise in the saving rate of renters reflects the fact that while median income rose by about 16%, median expenditure rose by about 7%. In relative terms this translates to a high saving rate.

Conclusion

The trends emerging from the data presented above are broadly consistent with the relevant theoretical predictions of the Life Cycle Hypothesis; saving rates are low for young households and higher for older working age households, with the saving rate rising with income. In addition, the analysis of saving across household characteristics sheds further light into the developments over time. The aggregate median saving rate has risen between the two reference years of the HBS, and this rise is reflected across most households, including those on low incomes.

That said, the above analysis confirms that the underlying distribution remains highly skewed, and therefore policymakers need to go beyond simple aggregates in order to target policies to reach intended beneficiaries. Given the overall improvement in aggregate figures, it is becoming ever more crucial to undertake micro data analysis prior to policy design.

¹² While mortgage payments are not included in expenditure, interest on the loan is. On the other hand, rent and imputed rent are included in expenditure.