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Box D:

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Savings Across the Income Distribution

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Households have experienced significant cost of living increases over the past year. Real incomes are forecast to fall this year and certain households, such as lower income ones, are disproportionately impacted by the current high inflation rate (Lydon, 2022). Applying a distributional lens to incomes and savings can provide insight into the resilience of households to current inflationary pressures. This *Box* extends the analysis on the impact of inflation on households' economic well-being by examining the path of spending, real incomes and savings, across the distribution.

Gross saving by households in Ireland increased significantly during 2020, remaining elevated in 2021 and into 2022 compared to pre-pandemic trends. Previous work by Lydon and McIndoe-Calder (2021) using aggregate data showed that households had built up significant "excess savings" during the pandemic, which, if spent, could boost consumption. By also aggregating spending data from the 2015/16 Household Budget Survey (HBS), this analysis concluded that higher income households likely saved more. In this *Box*, we revisit this finding but draw on granular microdata from the Household Finance and Consumption Survey (HFCS). Specifically, we use the recently released data for 2020 from the third wave of the survey for Ireland to explore savings accumulation since the last HFCS wave in 2018 and consider the resilience of Irish households in view of the current cost of living increase.[2] In 2020, and in 2022 at the aggregate level, many households were able to save more than they used to, but financial buffers remain limited for households at the lower end of the income distribution. Consequentially, the level of resilience to ongoing inflationary pressures is heterogeneous.
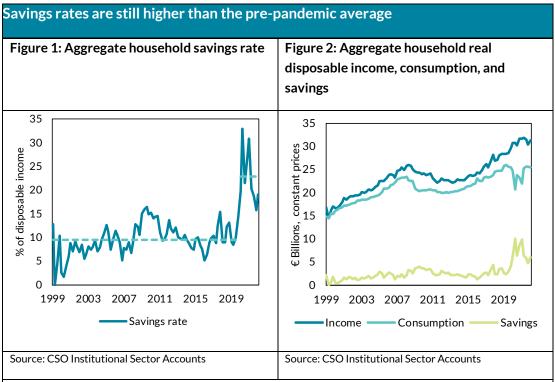
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[1] Irish Economic Analysis Division.
[2] The sample covers 6,020 households in 2020 and 4,793 households in 2018. When computing summary statistics, household are aggregated using cross-sectional weights to represent the Irish population structure. Note that CSO is working on a re-imputation of 2018 data using the new data available from the CCR and a re-weighting reflecting updated calibration of farming households. This would impact some of the figures we present for 2018

At a national level, savings flows are moderating but remain high

Institutional Sector Accounts (ISA) show that, in aggregate terms, Irish households saved 23.4 per cent of gross income in 2020 H2, up from 11.5 per cent in 2018 (Figure 1).[3] This remains elevated in 2022 Q1 at 19.1 per cent, almost twice as high as the pre-pandemic average (9.6 per cent). The latest ISA data reflects aggregate household real gross incomes moderating after a long period of sustained growth. Aggregate household real spending has de-coupled from its pre-pandemic trend and remains subdued (Figure 2). The difference between these two series represents gross real savings flows and indicates that households continue to build financial buffers. Deposit flows (close in definition to HFCS savings, which we use in our analysis) mimic these trends, having moderated since the pandemic but remaining high compared to pre-pandemic trends.

To meet cost of living increases in the absence of real income growth, households can adjust their spending, spend more of their income (save less) or draw down on available buffers (dis-save). The set of strategies households use is a function of their income and available buffers, that is, household financial resilience.

Savings rates are still higher than the pre-pandemic average	
Figure 1: Aggregate household savings rate	**Figure 2: Aggregate household real disposable income, consumption, and savings**
Source: CSO Institutional Sector Accounts	Source: CSO Institutional Sector Accounts
Note: Dashed lines in the RHS chart are pre-pandemic (1999 Q1-2019 Q4) and post-pandemic (2020 Q1-2022Q1) averages. Disposable income includes all income minus payments for interest, social and pension contributions, taxes, and transfers. Consumption includes all spending on goods or services that satisfy the household's needs and wants. Nominal values are deflated using the HICP index (2015=100, source: CSO, CPM15).	

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[3] Source: CSO ISA (ISQ04). Average of 2020 Q3-Q4 for 2020 and 2018 Q2-Q4 for 2018, in line with time of collection of HFCS data. Seasonally adjusted.

Savings rate across the income distribution is highly skewed

Aggregate statistics obscure the large heterogeneity that exists across the income distribution. Granular HFCS data can contextualise national trends. While the HFCS does not provide identical measures of the savings rate from ISA, a close definition can be generated as 1 minus the ratio of total spending over total gross income.[4] Total spending in HFCS includes expenditures on food (at home and outside home), trips and holidays, utilities and consumer goods and services, in addition to alimony, rent and interest payments.[5] However, it excludes expenditure on items such as transport, tobacco, large durable items and education that are not available in the HFCS. According to this measure, the median gross savings rate among all households in 2020 was 36.1 per cent, up from 28.9 per cent in 2018. This result, while not directly comparable to ISA figures, corroborates the increased saving trend observed at the aggregate and is more current than other granular saving data.[6]

To explore heterogeneity among households, we look at the 2020 HFCS savings rate by equivalised gross income deciles. [7] This adjustment is necessary as income sources and consumption needs are a function of household size.[8] Figure 3 shows a clear positive relationship between income and savings; the higher the household income, the larger the share of gross income saved. The disaggregation also reveals that the representative (or middle) household in the first two deciles do not save any amount of their total income.[9] Expenditure exceeds gross income for the middle households in the bottom two deciles, generating saving rates of approximately -33 per cent and -3 per cent respectively. This is in line with Horan, Lydon and McIndoe-Calder (2020), who find similar dissaving patterns in HFCS 2018 and with findings from HBS 2015/16.[10] For households where expenses exceed incomes, the main resource used to bridge the gap in 2020 was to draw down existing financial assets, i.e. their stock of savings.[11]

Price increases for food and energy have contributed significantly to the cost of living increases that households have experienced since the end of the pandemic (Lydon, 2022). These are expenses, which are difficult to substitute out of and make up around 35 per cent of HFCS households' total spending. Plotting this across deciles of equivalised income (Figure 4) shows a similar result to the gross savings rate. The middle household in the first decile of the income distribution spends 48 per cent of their

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[4] HFCS does not provide a measure of (net) disposable income.

[5] Interest payment on mortgages outstanding on households' main residence, other property and other loans. We consider interest instead of total debt payments (including capital) to exclude the accrual of assets (or savings).

[6] Note the HFCS aggregate savings rate in 2020 (54.5 per cent) was 19.4 per cent higher than in 2018 (45.6 per cent). This follows a similar trend as for the median households (+24.9 per cent).

[7] Equivalised income is defined as total gross annual household income equivalised using the modified OECD equivalence scale which accounts for the number of consumption units in the household (1 unit for the first household member, 0.5 for each additional household member aged 14 and more, and 0.3 per additional household member aged 13 or less).

[8] Income equivalisation is routinely used in household income surveys including the Survey of Income & Living Conditions (SILC) and HFCS. Equivalised gross income accounts for differences in household size and composition.
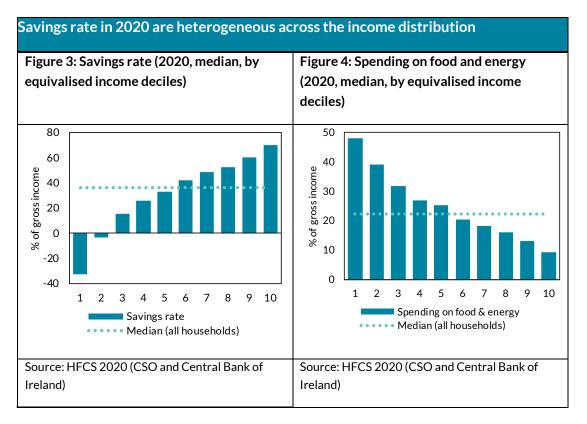
[9] As is standard in HFCS, we use median values (the middle value of a ranked variable) to better summarize the skewed nature of the distribution of savings and income.

[10] See Figure 2.5 in this CSO overview of the HBS 2015/16.

[11] For lower deciles, asking for help from relatives/friends and leaving bills unpaid were additional strategies reported.

gross income on food and energy. This implies that only half of their gross income is available to cover additional spending, including debt repayments and taxes. Figure 4 also shows that as income increases, the proportion spent on food and energy declines such that the richest households spend only 9.4 per cent of gross income on food and energy, leaving wider coverage for other expenses and savings. In absolute terms, the level of food and energy spending increases with income, with the middle household in the tenth decile spending more than twice the middle household in the first decile.[12]

Savings rate in 2020 are heterogeneous across the income distribution	
Figure 3: Savings rate (2020, median, by equivalised income deciles)	**Figure 4: Spending on food and energy (2020, median, by equivalised income deciles)**
Source: HFCS 2020 (CSO and Central Bank of Ireland)	Source: HFCS 2020 (CSO and Central Bank of Ireland)

Savings stock across the income distribution

To complement the analysis on savings rates, it is important to look at the stock of savings as it provides information on financial resources available to households. Using HFCS data, we look at two measures: the amount of deposits and savings in bank accounts, and net liquid assets (NLA). The latter are defined as the sum of all liquid financial assets minus non-collateralised debt (i.e., overdrafts, credit card debt, and non-mortgage loans). [13] Accounting for debt repayment commitments is important when considering how households might meet increased prices on consumption of goods and services.

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[12] This difference is reflective of, among other things, preferences. As a share of total consumption on food and energy, spending for food at home is decreasing with income while spending for food outside home is increasing in income. This has implications for total spending as prices for these two options are significantly different.
[13] Excluding, following the HFCS definition, non-liquid financial assets such as money owed to households, voluntary pensions, and other assets.
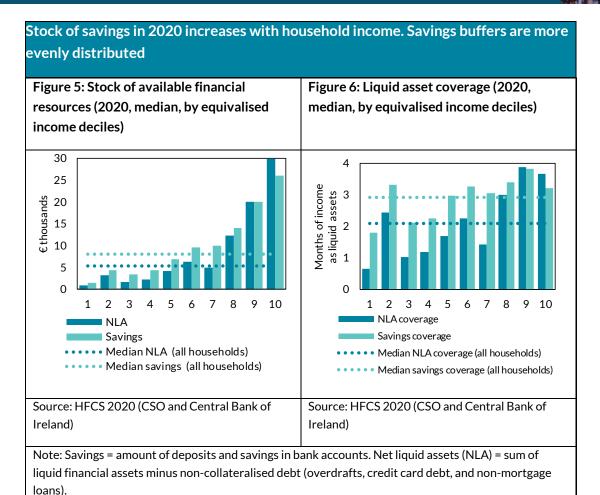
Figure 5 presents both of these stock measures for 2020 by equivalised income deciles. The median saving stock in 2020 was €8,000, while the median NLA stock was €5,347. Compared to 2018, and accounting for price differences, the stock of both savings and NLA is higher for all income deciles, except for the first decile (savings only). [14] These large increases, present across the income distribution and larger in levels towards the top deciles, reflect the increase in savings that followed the Covid-19 pandemic.

Finally, to obtain a more informative view of the financial buffers that Irish households had at their disposal in 2020 H2 to meet future income shocks or planned future spending/investment, liquid financial coverage across the distribution is explored. [15] Liquid financial coverage is defined as the stock of available financial resources as a share of equivalised gross income, and it is calculated using both savings and NLA respectively as stock measures. The resultant coverage measures (Figure 6) provide the number of months of income that households have in the form of liquid assets. Between 2018 and 2020, the median liquid asset coverage across all households increased by 0.9 months when savings is used as the stock measure and 1.1 months with NLA.

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[14] 2018 values have been inflated to 2020 prices as part of the analysis, using the HICP index (Source: CSO, CPM15).
[15] Compared to the 2018 wave, the share of respondent households that report "provision of unexpected events" as a purpose for their savings increased by 14 per cent.

Stock of savings in 2020 increases with household income. Savings buffers are more evenly distributed

Figure 5: Stock of available financial resources (2020, median, by equivalised income deciles)	**Figure 6: Liquid asset coverage (2020, median, by equivalised income deciles)**
Source: HFCS 2020 (CSO and Central Bank of Ireland)	Source: HFCS 2020 (CSO and Central Bank of Ireland)

Note: Savings = amount of deposits and savings in bank accounts. Net liquid assets (NLA) = sum of liquid financial assets minus non-collateralised debt (overdrafts, credit card debt, and non-mortgage loans).

Compared to savings rates and levels of financial buffers, the distribution of both measures of liquid asset coverage is more equally distributed across equivalised income deciles. Relatively homogeneous coverage ratios, compared to saving rates and levels, across the income distribution are consistent with the fact that lower income households spend a significantly higher share of their incomes on essential expenditures (Figure 4), which may incentivise them to hold relatively more buffers in order to be adequately insured against price increases on these essentials. The negative savings rate and low-income growth in 2020 for the first decile may however have frustrated any desire to accumulate additional buffers for these households. Further, the differences in liquid financial coverage between lower and higher income households is substantial. Households in the bottom half of the distribution on average have coverage rates 0.4 and 0.7 months lower than the median for savings and NLA coverage respectively.

Figure 6 also indicates that accounting for debt is important, as savings coverage is higher than NLA coverage for all deciles, except 9 and 10. At the median, non-collateralised debt reduces the coverage

households have against price increases by 28 per cent, from 2.9 months to 2.1 months' worth of gross income.

Overall, the analysis implies that in 2020 many households were able to save more than they used to and that this improvement has continued into 2022 at an aggregate level. However for some, particularly those at the lower end of the income distribution, buffers are limited. This is despite net equivalised disposable income growing more strongly for lower income than higher income households, both before and during the pandemic (Roantree et. al., 2021 and CSO, 2022). While the aggregate savings ratio remains high (average 21.4 per cent in 2021 and 19.1 per cent in Q1 2022) and substantially above pre-pandemic levels, it is possible that for some households, savings accumulated during the pandemic may have been drawn upon already. Specifically, given that low-income households are dis-savers on average (Lydon, 2022) and have lower levels of buffers to draw on (both in levels and as a share of their income), those at the bottom of the distribution are more likely to have dis-saved and used up their buffers. This implies a large variation in the current level of resilience to ongoing inflationary pressures. However, in addition to the measures in Budget 2022, the Government has introduced supports to assist low-income households affected by rising inflation amounting to about €1 billion.[16] This could help households in the bottom of the distribution to preserve part of their stock of savings, reduce their need to curtail consumption or borrow from other sources.

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[16] Source: Department of Finance, Stability Programme Update 2022 (Box 8, Table 10).