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ECONOMIC Synopses

Developments in Household Liabilities Since the 1990s

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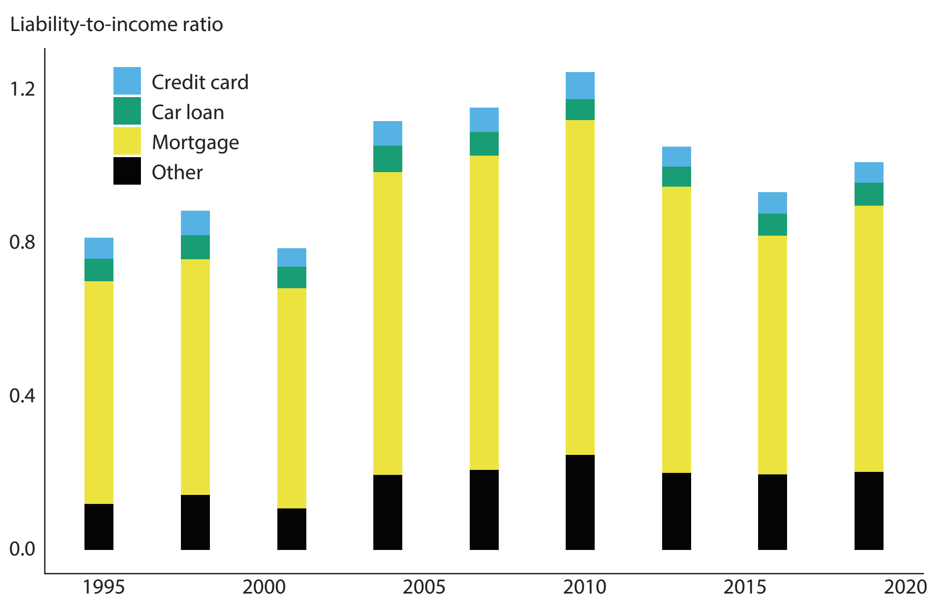
Household liabilities have undergone large changes since the 1990s, starting with a 50% increase and followed by a 20% decrease in the liability-to-income ratio after the Great Recession. We examine the overall trend and changes in different categories of household debt using data from the Survey of Consumer Finances. Combining information on how interest rates for corresponding types of debt change over these periods, we infer the relative strength between demand and supply in the loan market that drove the changes: For the initial increase in household liabilities, an increase in the supply of loanable funds played the dominant role; for the later decrease, a decrease in demand for loans has been a stronger driving force.

Liabilities over Time

Figure 1 shows the evolution of the aggregate household liability-to-income ratios from 1995 to 2019, broken down into four categories: mortgages, car loans, credit card debt, and other debt.[1] Mortgages are the most significant household liability, making up over 70% of the liability-to-income ratio. Car loans and credit card debt[2] are smaller, accounting for around 6% each. The remaining 18% of debt is labeled "Other." Total liabilities exceeded income starting around 2004 and increased until around 2010, after which they have trended mostly downward. The share corresponding to each liability category has remained relatively constant over time.

The table calculates the changes in liability-to-income ratios over two periods: 1995-2010 and 2010-2019; the two periods are split at their values in 2010, the year in which the liability-to-income ratio reached its peak. Over the first period, liabilities relative to income increased by over 50%, after which they decreased by around 20%. Most of the ratios experienced varying levels of increases, followed by decreases. Car loans are relatively stable over time, showing a slight decrease and later increase. Due to the disproportional size of mortgage debt compared with other

Figure 1
Household Liability-to-Income Ratio: 1995-2019



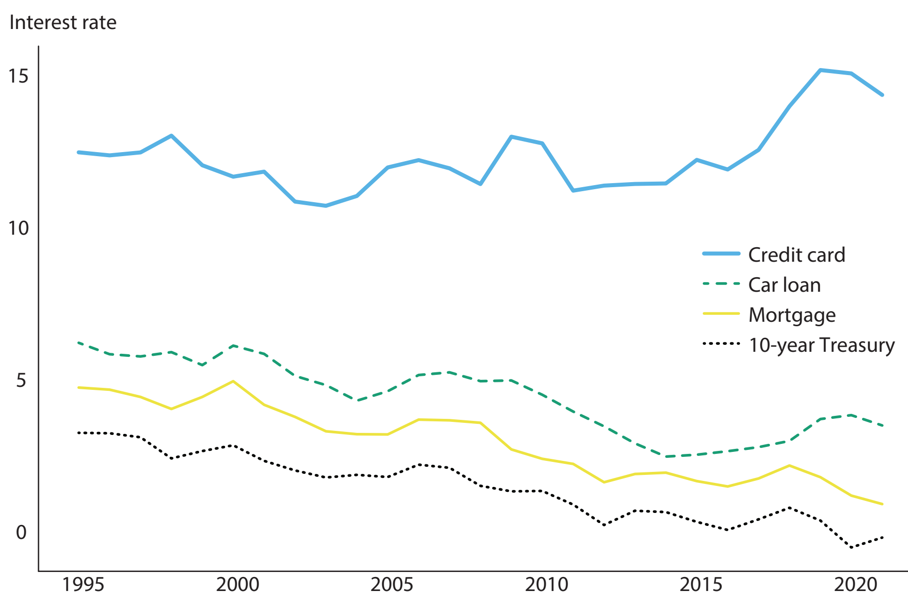
SOURCE: Survey of Consumer Finances 1995-2019 and authors' calculation. The liability-to-income ratio is calculated as the total liabilities of the household sector over total income, broken down into different debt categories.

Changes in Liability-to-Income Ratio

	Mortgage	Car loan	Credit card	Other debt	Total debt
1995-2010	50.37%	–6.97%	29.99%	106.29%	53.16%
2010-2019	–20.65%	12.33%	–23.99%	–17.45%	–18.77%

SOURCE: Survey of Consumer Finances 1995-2019 and authors' calculation. The changes in the liability-to-income ratio are the percent changes from 1995 to 2010 and 2010 to 2019.

Figure 2
Evolution of Real Interest Rates: 1995-2019



SOURCE: FRED, Cleveland Fed inflation expectations data, and authors' calculation.

debt categories, the overall changes in household liabilities follow that of mortgages.

Changes in Household Liabilities: Supply or Demand?

There are many potential explanations for these changes in household liabilities. To ascertain how changes in supply and demand in the loan market shaped the growth and decline in household liabilities over the two periods, we look at the corresponding interest rates for each type of debt. If we observe an increase in borrowing and a decrease in rates, that implies that (i) an increased supply of loanable funds played a relatively important role in increasing the household liability-to-income ratio and (ii) financial institutions lent out at lower rates to attract borrowers. Conversely, if a rate decrease is associated with a decrease in borrowing, that indicates a decrease in households' demand to borrow relative to loan supply, as financial institutions lower rates in response to lower demand. We take the 30-year average fixed mortgage rate to present the interest rate on mortgage debt, the finance rate on the 60-month auto installment rate for car loans, and the average rate on credit card plans for all commercial bank accounts for credit card debt.[3] While we don't have a corresponding rate for the "Other" debt category, we show the 10-year Treasury rate to represent the trend of general borrowing terms. Finally, to convert nominal interest rates to real rates, we adjust the nominal rates with inflation expectations of corresponding horizons: 30 years for mortgages, 5 years for car loans, 1 year for credit card loans, and 10 years for Treasury debt.

Figure 2 shows the evolution of these real interest rates over the sample period. Most rates decreased, with mortgage rates declining from 5% to 2% and car loan rates decreasing from 6% to approximately 4.5%. Credit card rates moved up and down, generally staying between 10% and 15%. Finally, the 10-year Treasury rate started at around 4% and decreased to close to 0%.

The increase in household liabilities and the decrease in interest rates suggest an increase in loan supply relative to loan demand during 1995-2010: Had the increase in liabilities been due to an increase in demand, one would have observed an increase in interest rates. The increase in the supply of loanable funds is likely related to the use of new financial instruments—for example, mortgage-backed securities. Mortgage-backed securities grew steadily through the 1990s and increased rapidly in the early 2000s. Securitization lowered the lending cost for financial institutions and led to an expansion of credit supply in the mortgage market. Lower rates were used to encourage borrowers to take on more debt, thus pushing up households' liabilities relative to income. (Refer again to Figure 1.)

On the other hand, during 2010-2019, household liabilities decreased relative to income, while interest rates mostly continued declining. This indicates that the decrease in household liabilities is driven by a decrease in demand relative to supply: Had the decrease in debt been a result of a decrease in the supply of loanable funds relative to demand, we would have seen an increase in interest rates, as financial institutions would have asked for a higher return for issuing loans. The decrease in loans is possibly related to the sluggish recovery from the Great Recession after 2010. Households reduced borrowing when they expected future income to be low. The collapse of the housing market is associated with a low turnover in housing and a slowdown in new construction, both likely contributing to the decrease in demand for mortgages. The credit card rate is the only exception among these interest rates that shows an overall increase during this period: There was a sharp increase starting in 2015 after the initial decrease. This indicates a decrease in the supply of loans through credit cards, possibly reflecting a re-evaluation of the risk profile of borrowers or a shift in borrower composition.

Summary

We show that, from 1995-2019, household liabilities underwent large changes, starting with a 50% increase and followed by a decrease in the liability-to-income ratio that reached its peak of 20% during the Great Recession. These changes are accompanied by decreases for most interest rates over time. The long-run decline in interest rates indicates that the initial increase in household liabilities was driven by an increase in the supply of loanable funds that outpaced loan demand, whereas the later decrease is due to a decrease in demand for loans that dominated changes in loan supply. ■

Notes

[1] This includes all liabilities not included in the other categories, such as education and personal loans.

[2] Credit card debt includes only balances that are not fully paid by the due date.

[3] We use interest on accounts where finance charges were assessed—i.e., balances that were not fully paid by the due date.

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