Analysis

Capping debt-to-income ratios complementary to housing loan cap

Financial stability | 29 May 2019 | Ville Voutilainen

AUTHOR



Ville Voutilainen
Senior Data Science

Economist

Finnish household debt relative to income has grown significantly since the turn of the millennium. In future, excessive borrowing could be stemmed by, for example, restricting the amount of credit available to households relative to their levels of income. Capping debt-to-income ratios would rein in dangerous credit growth especially in situations where collateral assets appreciate quickly and debt burdens risk growing at a much faster pace than incomes. For this reason, the new instrument would be particularly well placed to complement the existing cap on housing loans.



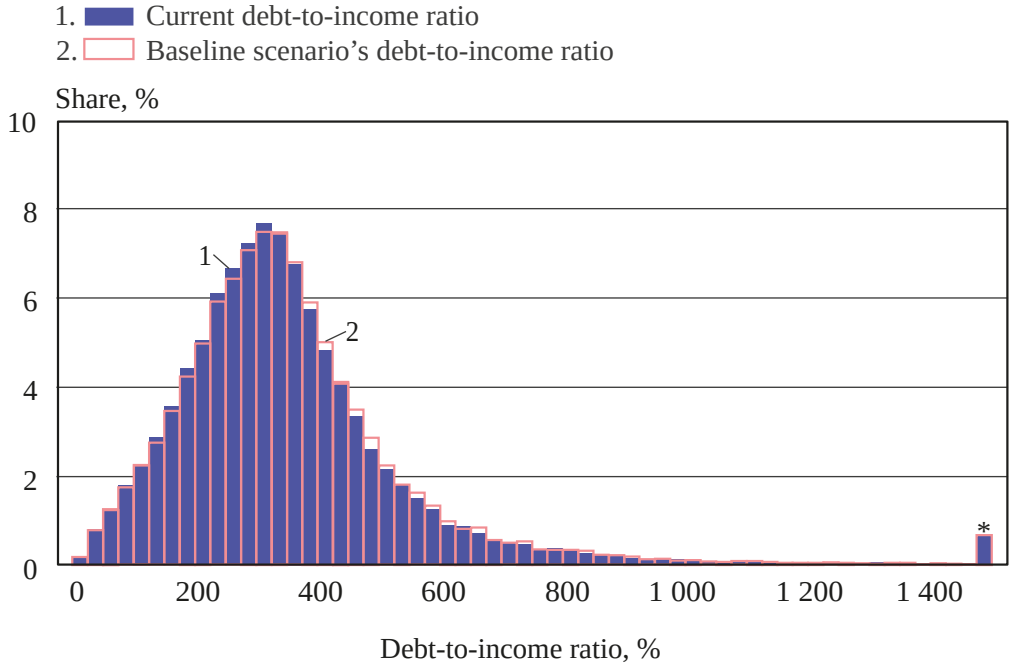
Proportion of new mortgage-borrowers highly indebted relative to income

The average debt burden of a Finnish household with a recently issued housing loan[1] has been about three times as large as their gross annual income (Chart 1).[2] However, a significant proportion of new mortgage-borrowers have taken out even larger loans, with about 16% having had debt worth more than four-and-a-half times their income. This group of highly indebted households possess a large share of total debt amongst new mortgage-borrowers, about 29%.

One of the aims of macroprudential policy is to prevent the excessive build-up of household debt and to mitigate its risks. In the research literature, there is robust evidence which suggests that rapid credit growth, subsequently rising asset prices and excessive risk-taking during economic upswings can exacerbate recessions and lead to financial crises (see 'The highly-indebted cut spending as the economy slows').

Chart 1.

Change in debt-to-income ratios only moderate in baseline scenario without restrictions



* Right-tail outliers are grouped to 1500.
Sources: FIN-FSA and calculations by the Bank of Finland.

15.4.2019
bofbulletin.fi

Capping debt-to-income ratios would have a limited impact under current conditions

One type of macroprudential instrument available to authorities in some European countries is a cap on debt-to-income (DTI) ratios, which limits the amount a household can borrow relative to its income. In the following sections, alternative examples are presented where households' debt-to-income ratios are capped at 450% relative to gross annual income. All household debt is subject to the cap, irrespective of loan type. In addition, the scenarios allow for a maximum of 15% of all new lending to exceed the debt-to-income cap each year, at the discretion of the lender.

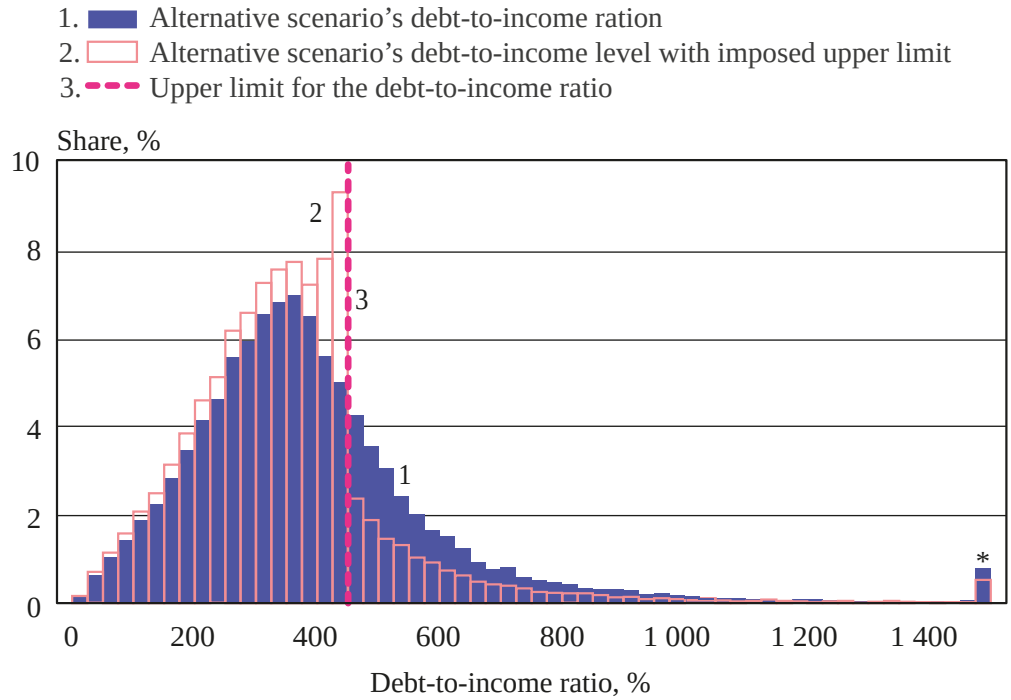
The debt-to-income cap's impact on household indebtedness can be evaluated by looking at alternative growth paths for the economy and the distribution of debt. Each scenario is based on particular assumptions concerning new mortgage-borrowers' debt and income growth over a

three year period, as well as assumptions concerning the actions taken by lenders and borrowers at the time of lending. The calculations assume, for example, that households will scale back the size of their desired housing loan by 10%, should they otherwise exceed the 450% debt-to-income cap. Furthermore, it is assumed that lenders will make full use of their prerogative to exceed the loan cap in the case of certain loan applicants.[3]

The baseline scenario assumes that new mortgage-borrowers' gross annual incomes will grow at the rate projected in the Bank of Finland's December 2018 forecast, and that their debts will grow at a pace slightly faster than this.[4] Accordingly, the baseline scenario demonstrates decidedly moderate growth in debt levels even without the debt-to-income cap, nor does the distribution of debt across debt-to-income ratios markedly differ from present levels in three years' time (red bars in Chart 2).

Chart 2.

More bite in debt-to-income cap when lending growth is high



Right-tail outliers are grouped to 1 500.
Sources: FIN-FSA and calculations by the Bank of Finland.

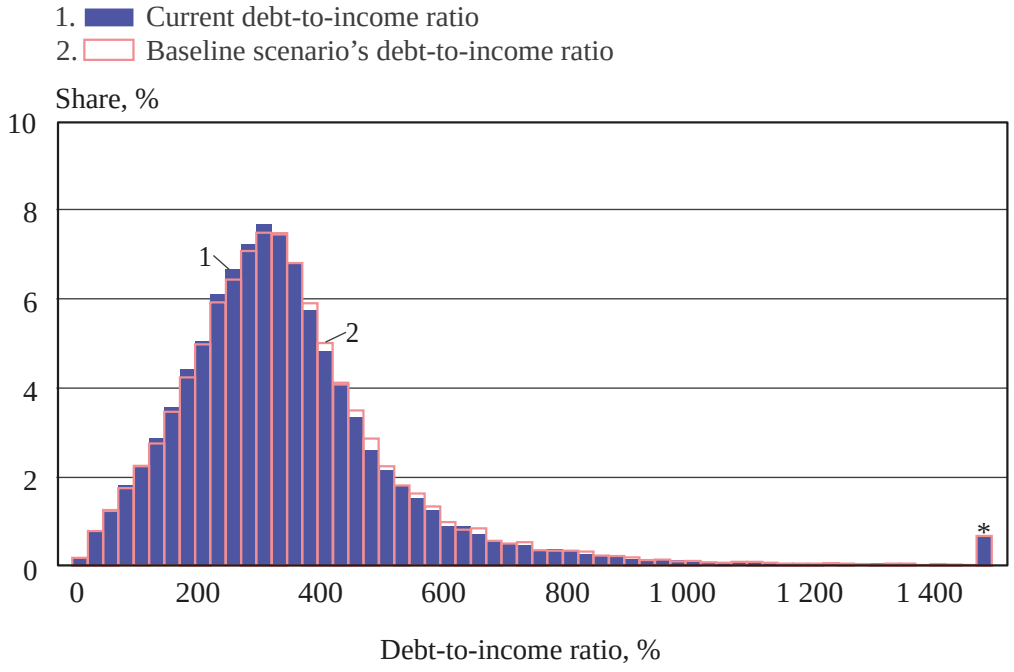
15.4.2019
bofbulletin.fi

Introducing the debt-to-income cap to the baseline scenario would only have a small effect on the

indebtedness of new mortgage-borrowers (Chart 3).[5] When the debt-to-income cap is put into place and the households breaching the loan cap reduce their desired loan amounts by 10%, a proportion of them will meet the new requirements and automatically receive a loan. In addition, a share of the households breaching the debt-to-income cap will receive a loan when the lender accepts them into the 15% permitted overdraft.[6] Overall, the debt-to-income cap would only reduce the volume of approved housing loans by 3% as compared with no new restrictions.

Chart 3.

Change in debt-to-income ratios only moderate in baseline scenario without restrictions



* Right-tail outliers are grouped to 1500.
Sources: FIN-FSA and calculations by the Bank of Finland.

15.4.2019
bofbulletin.fi

The debt-to-income cap and the existing cap on housing loans can also be examined in terms of their impact on a single representative household, the Jones family. The Joneses wish to purchase their first home, worth EUR 250,000, under lending conditions similar to those currently present. The family's gross annual income is EUR 55,000. Their outstanding liabilities comprise unsecured consumer credit and amount to EUR 17,500.

If the maximum loan-to-value ratio for housing loans (i.e. housing loan cap) is set at 95% and the property in question is the only asset the Joneses have to put up as collateral, they could, at the very most, receive a housing loan worth EUR 237,500. We can assume that the Joneses will make up the difference by dipping into their personal savings.

After the house purchase, the Joneses will have EUR 255,000 in liabilities—EUR 237,500 in housing debt and EUR 17,500 in consumer credit—with a debt-to-income ratio of about 464%. If the debt-to-income cap were fixed at 450%, the Joneses would have to fund a larger share of their house purchase with personal savings and/or opt for a cheaper property. If the Joneses reduced the size of their housing loan by 5% for example, their debt-to-income ratio will come in below 450%.[7]

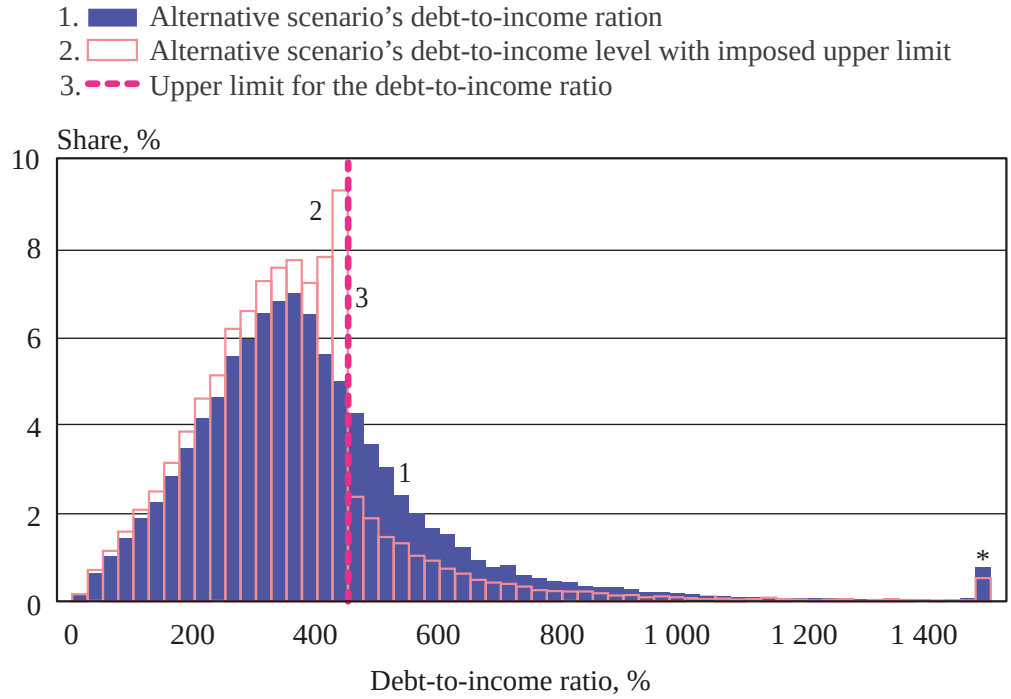
Capping debt-to-income ratios would rein in dangerous credit growth

The benefits of a cap on debt-to-income ratios are highlighted when lending threatens to grow significantly faster than incomes. To illustrate this, a three-year scenario is depicted in Chart 4, where the economy follows the Bank of Finland's basic forecast but with household debt growing at a pace almost twice as fast as in the previous section's baseline scenario.[8]

In this scenario of rapid credit growth, household debt increases sharply and the distribution of debt-to-income ratios shifts noticeably rightward compared with the baseline scenario. More households risk breaching the debt-to-income cap with their desired loan amounts, resulting in more households having to adjust their desired loans. Furthermore, even after reducing their desired amounts by 10%, a larger share of households will still be left without the full value of the loan they applied for, compared with the baseline scenario. As a result, the debt-to-income cap substantially reduces the number of loans that are approved when credit growth is high: the quantity of approved housing loans is about 10% smaller with the debt-to-income cap in place than without it.

Chart 4.

More bite in debt-to-income cap when lending growth is high



Right-tail outliers are grouped to 1 500.
Sources: FIN-FSA and calculations by the Bank of Finland.

15.4.2019
bofbulletin.fi

As for the Joneses—a sharp rise in their rate of borrowing would, in effect, be equivalent to the family seeking a significantly larger loan compared with the baseline scenario but at the same level of income. To illustrate this, let the Joneses apply for a EUR 259,000 mortgage. Their debt-to-income ratio is now about 505%. To meet the 450% cap, the Joneses would have to reduce their desired loan amount by 12%. However, the Joneses might still receive their original loan amount, without reductions, within the regulatory exemptions permitted to lenders. If the issuing bank deems the Joneses solvent and credit-worthy based on other metrics, it may issue the loan as long as it meets the standards of the bank's own risk management framework.[9] However, if the Joneses' desired loan amount breaches the debt-to-income cap and the issuing bank does not wish to include the loan within its permitted overdraft, the loan application will be rejected at its original value.

Based on the preceding examples, a debt-to-income cap would restrain the number of households with excessive levels of debt relative to income and mitigate the risk of disruption to financial

stability. Capping debt-to-income ratios is particularly effective in reining in dangerous credit growth when house prices grow faster than household incomes. For this reason, the debt-to-income cap is well placed to complement the loan-to-value cap on housing loans, which restricts the maximum loan amount relative to the collateral value of the house to be purchased as well as other eligible assets.

Notes

1. This article examines households with housing loans issued between April 2017 and March 2018. The calculations are based on loan-level data submitted by credit institutions to the Finnish Financial Supervisory Authority. In the charts, the housing loan distributions are weighted by the size of the loan. ↑
2. The distribution of debt-to-income ratios, weighted by housing loan size, has a median of 324% (Chart 1). ↑
3. More precisely, the impact assessment is based on the following assumptions: 1) the debt-to-income cap can be exceeded by 15% relative to the total value of housing loans (i.e. permitted overdraft). 2) If the volume of housing loans sought by households breaching the debt-to-income cap exceeds the permitted overdraft, all of the households breaching the debt-to-income cap will reduce their desired loan amounts by 10%. 3) If the 10% reduction fails to bring the total value of these desired loan amounts within the permitted overdraft, credit institutions will reject applications from this pool through random selection until the permitted overdraft is met. The uncertainty introduced by the random selection process is small. ↑
4. In the baseline scenario, aggregate household debt grows at an average annual rate of about 3.7%, while gross household incomes grow at an average pace of about 3.2%. ↑
5. The blue bars in Chart 3 are the same as the red bars in Chart 2. ↑
6. Otherwise the household will be left without a new loan. ↑
7. For simplicity's sake, the loan amount is always reduced by 10% in the preceding calculations. However, the necessary adjustment will ultimately depend on the household and may be smaller, as, for example, in the case of the Joneses. Hence the calculations may overestimate the volume of housing credit that would not be issued. ↑
8. 3 percentage points is added to the baseline scenario's annual growth rate for household debt, resulting in an annual growth rate of about 6.7%. ↑
9. There are grounds for allowing for a margin for credit approval, as a single indicator cannot realistically reflect all the factors that should motivate a credit decision. ↑

Keywords

financial stability, households, indebtedness, macroprudential tools, mortgage borrowers