New mortgage-borrowers have an increasing amount of debt relative to income

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Hanna Putkuri
Adviser


Ville Voutilainen
Senior Data Science Economist

New mortgage-borrowers' total debt relative to income has increased in recent years. A higher proportion of new loans for house purchase are granted to highly indebted households relative to income. High debt-to-income ratios are less common in the case of first-home loans than in regard to other new housing loans. High debt-to-income ratios are more common in growth centres than elsewhere in Finland. The proposed debt-to-income cap would curb growth in indebtedness relative to income.

A debt-to-income cap would constrain large loans relative to income

A Ministry of Finance working group proposed in October 2019 that a maximum debt-to-income ratio, i.e. a debt cap for households, be introduced in Finland.[1] A debt cap would curb new borrowers' debt relative to income (debt-to-income cap, DTI). Calculation of the loan applicant's debt-to-income ratio would take into account the amount of the new loan applied for, outstanding previous loans, the applicant's share in housing company loans, as well as the applicant's annual gross income. The objective of the debt cap would be to curb excessive household indebtedness and consequent macroeconomic risks.[2]

A careful assessment of borrowers' repayment capacity is important at all times. The debt-to-income cap proposed by the working group would be a measure that would serve as a measuring stick for creditors, particularly in situations in which the applicant's total debt would be very large relative to income. According to the proposal, the majority of new loans should be calibrated so that when taking the loan, the household's total debt relative to gross annual income should not exceed 450%. The working group also proposed that the Board of the Financial Supervisory Authority (FIN-FSA) could adjust the debt-to-income cap by a maximum of 50 percentage points on financial stability grounds.

Creditors could still grant a portion of new household loans to applicants whose debt relative to income would be larger or would, as a result of the new loan, exceed the proposed debt-to-income cap. In the case of higher debt-to-income ratios, creditors would, however, be expected to exercise particular care. The working group proposed that creditors' room for discretion would be limited so that, on a quarterly basis, the debt-to-income cap could be exceeded by 15% relative to the total euro volume of new household credit granted by individual creditors.

It is important that authorities and creditors are given the possibility to use discretion in the calibration and practical application of the debt-to-income cap, in accordance with the proposal. Firstly, assessments of the impacts of macroprudential instruments, such as the debt-to-income cap, are always subject to uncertainty, which speaks in favour of allowing sufficient flexibilities. Secondly, the loan applicant's debt-servicing ability depends not only on the debt-to-income ratio but also on other factors, the impact assessment of which is part of creditor expertise. Such factors include the household's assets and expected developments in income.

Legislation on the debt-to-income cap and the other proposals by the working group is currently being prepared further by the Ministry of Finance, following the consultations.[3] The calibration and impacts of the debt-to-income cap will be re-assessed during the preparatory work. In its opinion, the Bank of Finland considered the debt-to-income cap and the other proposals by the working group as justified and that it would be important to develop impact assessments. Some of the commentators were, however, worried particularly that the debt-to-income ratio might weaken applicants' possibilities of being granted a mortgage and purchasing a first-time home, particularly in the Greater Helsinki area.[4]

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1. See Ministry of Finance press release Household indebtedness must be curbed with new measures (1 October 2019).
2. See also Samu Kärkkäinen and Juho Nyholm's A debt-to-income cap would dampen economic fluctuations.
3. For more detailed information on the progress of the initiative, see https://vm.fi/hanke?tunnus=VM119:00/2018 (reference 23 February 2020).
4. See also the article by Tuulia Asplund Velkakatto ja enimmäislaina-aika hillitsisivät liiallista velkaantumista joustavasti (9 December 2020) (A debt-to-income cap and maximum maturity would flexibly curb excessive

New mortgage-borrowers' debt-to-income ratios have increased

Households' debt-to-income ratios have been examined at the Bank of Finland using loan-specific data on new mortgages compiled by the FIN-FSA from credit institutions. The data also includes information on new mortgage-holders' total debt and income.[5] The most recent data, compiled in 2020, covers the period between April 2019 and June 2020 (hereinafter '2020'). The reference data, compiled in 2018, covers the period between April 2017 and March 2018 ('2018').[6]

The data shows that new mortgage-borrowers' total debt relative to income has increased. New mortgage-borrowers' total debt relative to annual gross income was in 2020 on average higher than in 2018 (Chart 1). In 2020, the typical debt-to-income ratio of new mortgage-borrowers was approximately 360%, against approximately 328% in 2018.[7] The median value of new mortgages rose during the same period from EUR 81,000 to EUR 89,000.

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indebtedness, in Finnish only).

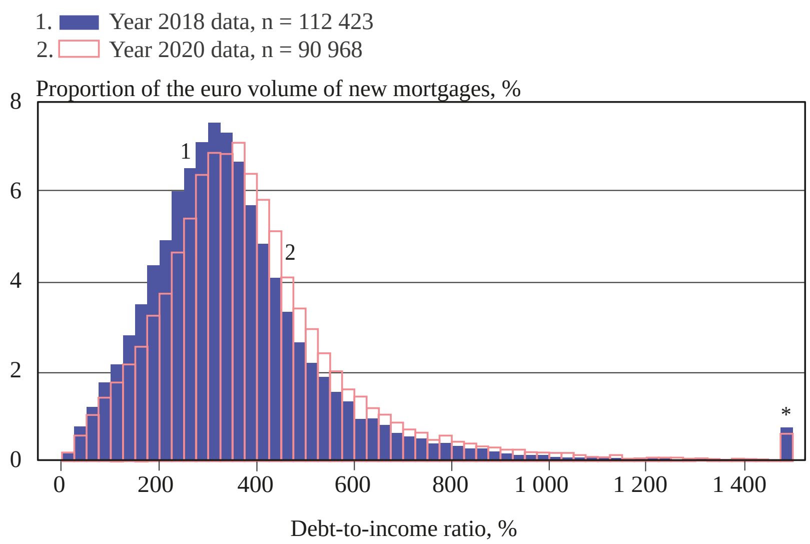
5. In the data collection for 2020, the question on borrowers' total debts differed from the question asked in 2018. The data on debt of the 2020 survey has been adjusted in the Bank of Finland based on the other information contained in the survey. In addition, the calculations have omitted a) bullet loans, b) loans known to be for the payment of old debts and c) observations for which the debt-to-income ratio cannot be calculated. The adjustments reduce the number of observations, but improve the comparability of the data from the different years.

6. Year 2018 data is examined in more detail in Ville Voutilainen's article Capping debt-to-income ratios complementary to housing loan cap (29 May 2019) and in the Ministry of Finance working group's Report on means to prevent excessive household indebtedness (1 October 2019, only the abstract in English).

7. Here, a typical debt-to-income ratio refers to the mortgage-weighted median debt-to-income ratio (middle observation). The weighted median describes the midpoint of the distribution of the *euro volume* of new mortgages. It provides a better picture of housing credit than the unweighted median, which describes the midpoint of the distribution of *the number* of mortgages.

Chart 1.

New mortgage-holders' debt-to-income ratios have increased



*Outliers of the right-hand tail have been added to the haircut value 1 500.

New mortgages as per borrower's debt-to-income ratio, data for 2018 and 2020.
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

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Some of the new mortgage-borrowers are highly indebted relative to their income. High debt-to-income ratios were in 2020 more common than two years earlier. The change can be illustrated by using as a measure the 450% debt-to-income ratio and the higher debt-to-income ratio of 500% examined in the Ministry of Finance working group's report.

In 2020, of the euro volume of new mortgages, some 28% was granted to households with a debt-to-income ratio of over 450% as a result of the new mortgage, and some 21% to households with a debt-to-income ratio of over 500%. In 2018, the corresponding proportions of new lending for house purchase were smaller (Table 1). The figures do not show the impact of the proposed debt-to-income cap on possibilities to acquire a loan, as the calculation does not take into account the room for discretion proposed for creditors (for a more detailed analysis, see the impact assessment below).

Table 1.

Proportion of highly-indebted borrowers in euro volume of new mortgages has increased		
	Borrower's debt-to-income ratio over 450%	**Borrower's debt-to-income ratio over 500%**
Year 2020	28% of euro volume	21% of euro volume
Year 2018	22% of euro volume	16% of euro volume
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.		

In 2020, the typical debt-to-income ratio of new first-home buyers was approximately 368%, compared with 356% in the case of persons purchasing subsequent homes and 330% in the case of persons purchasing a dwelling for investment purposes (Chart 2).[8] Of the euro volume of new mortgages, some 33% were first-home loans, 58% loans for the purchase of subsequent homes, and 9% loans for dwellings for investment purposes.

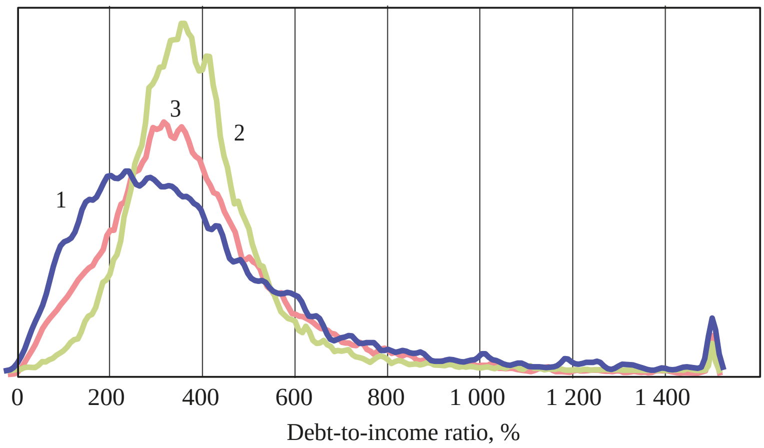
8. The examination is based on the information available on the purpose of the loan. A first-home loan taken out for investment purposes is classified as a first-home loan.

Chart 2.

A smaller proportion of first-home loans granted to highly-indebted borrowers than of other mortgages

1. Dwelling for investment purpose
2. First home
3. Subsequent home

Density function, mortgage-weighted



New first home loans, loans for subsequent homes and loans for dwellings for investment purposes according to borrower's debt-to-income ratio, year 2020 data.
Sources: Financial Supervisory Authority and calculations by the Bank of Finland

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In terms of euro volume, new first-home loans are on average larger than other new mortgages. Nevertheless, a smaller proportion of the euro volume of new first-home loans has been granted to borrowers with a high debt-to-income ratio than in the case of other new mortgages (Chart 2 and Table 2). This is mainly due to the fact that even though first-home buyers' new mortgages are usually larger, the amount of previous other debt is usually smaller than in the case of other new mortgage-borrowers.

Table 2.

The proportion of highly-indebted borrowers in the euro volume of new mortgages is smaller for first-home loans than for other new mortgages		
	Borrower's debt-to-income ratio over 450%	Borrower's debt-to-income ratio over 450%
First-home loans	25% of euro volume	16% of euro volume
Loans for subsequent homes	30% of euro volume	23% of euro volume
Loans for dwellings for investment purposes	30% of euro volume	24% of euro volume

Year 2020 data.
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

New mortgage-borrowers' debt-to-income ratios highest in growth centres

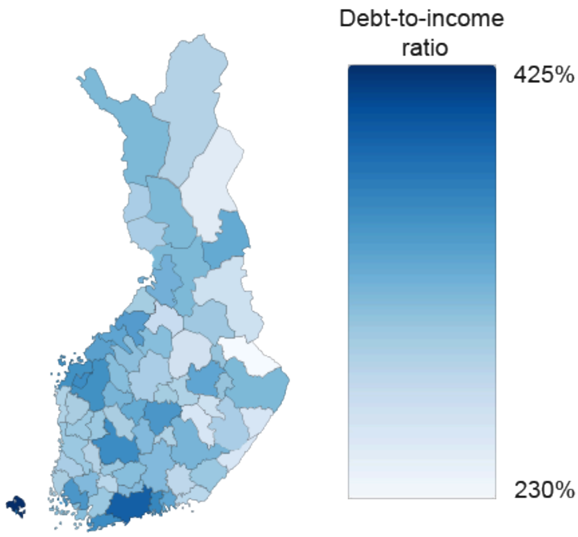
New mortgages are on average larger in the Greater Helsinki area and other growth centres than in the rest of the country.[9] This is also reflected in the indebtedness of new mortgage-borrowers. In 2020, the typical debt-to-income ratio of new mortgage-borrowers was in the Greater Helsinki area approximately 403%, compared with 335% elsewhere in Finland. In the Greater Helsinki area, the typical debt-to-income ratio of first-home buyers was 409% and for other mortgage borrowers, 398%.

Among new mortgage-borrowers, the highest debt-to-income ratios in 2020 were found in the sub-regional units of Åland and Helsinki (Chart 3). The Helsinki sub-regional unit comprises the Greater Helsinki area, the surrounding municipalities and other selected municipalities of the Uusimaa region.[10] Typical debt-to-income ratios were higher-than-average also in the sub-regional units of Tampere, Seinäjoki, Vaasa, Jyväskylä and Turku.[11]

9. The examination is based on data on the location of the primary real-estate pledge given as collateral for the housing loan. Information on the location of the primary real-estate pledge is loan-specific, whereas the debt-to-income ratio is borrower-specific.
10. Sub-regional units are regional entities formed by a few or several municipalities that belong to the same region. The reasons for forming sub-regional units are cooperation between municipalities and employment. The sub-regional units are confirmed annually by the Ministry of Economic Affairs and Employment.
11. New mortgage-borrowers' typical debt-to-income ratios in 2020 in the sub regional units were as follows: Mariehamns stad 382%, Ålands landsbygd 427%, Helsinki 394%, Tampere 358%, Seinäjoki 357%, Vaasa 355%, Jyväskylä 349% and Turku 349%.

Chart 3.

New mortgage-borrowers' typical debt-to-income ratio is higher in growth centres than elsewhere in Finland



The darker the colour, the higher the typical debt-to-income ratio of new mortgage-borrowers (mortgage-weighted median of the debt-to-income ratio). The sub-regional unit Ålands skärgård is not shown in the map due to the small number of observations.

Sources: Financial Supervisory Authority, Statistics Finland and calculations by the Bank of Finland. The municipality-based statistical units of the sub-regional units have been downloaded from the Statistics Finland interface service with the licence CC BY 4.0.

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New mortgage-borrowers' typical debt-to-income ratios differ also between income classes. The proportion of loans granted to highly indebted households relative to income was larger in new mortgages to low-income households than those to medium- and high-income households.[12]

The neutral debt-to-income cap is now close to 500%

The Bank of Finland has assessed whether the proposed debt-to-income cap and the involved room for discretion would have an impact on the possibilities of new borrowers to obtain a mortgage relative to current credit-granting practices. The most recent calculations are based on mortgages granted by credit institutions between the period

12. Borrowers have been classified into three income groups based on the total net income of borrowers of joint mortgages. In the data, borrowers in the lowest income quintile are classified as low-income, borrowers in the highest income quintile as high-income and others as medium-income.

April 2019 and June 2020 (see the above description of the data).

The calculations estimate how large a proportion of the euro volume of new mortgages could have been granted if either the 450% or the 500% debt-to-income cap had been in force and the 15% room for discretion available to the creditor in the application of the debt-to-income cap.

The calculations assume that, of the mortgages in the data, all those mortgages would still be granted in respect of which the borrower's debt-to-income ratio is lower than the examined debt cap. The calculation also assumes that borrowers whose debt-to-income ratio exceeds the debt-to-income cap will decrease the size of the applied loan by 10% to fall below the threshold (hereinafter ‘adjustment’). If the debt-to-income ratio is lower than the debt cap following the adjustment, the applicant is granted the credit. Otherwise, the credit depends on the creditor's discretion.[13]

Based on calculations, the neutral level of the debt-to income cap that more or less allows recent credit-granting practices has increased from the approximately 450% estimated by the Ministry of Finance working group to approximately 500% (Table 3). This shows that new mortgage-borrowers’ total indebtedness has increased in the past two years.

According to calculations, a 500% debt-to-income ratio, a 15% creditor discretion and the adjustment of certain loan applications by 10% as a whole would not have significantly reduced new lending for house purchase relative to the actual level of lending. Based on the calculations, of the total euro volume of new mortgages, some 98% would have been granted during the period under review if the debt-to-income cap had been in force.

Creditor discretion is significant particularly for those borrower groups in which debt levels are more typically higher than the proposed maximum debt-to-income ratio (see the above calculations on the exceeding proportions). It is, however, difficult to distinguish the impact of the debt-to-income cap on the various types of borrowers, as in practice creditors may apply discretion in various ways. In contrast to what is presumed in public debate, the debt-to-income cap would, however, not target particularly first-home buyers, as, based on the data, a smaller portion of first-home loans have been granted to highly-indebted households than is the case for other mortgages.

Without the assumption of loan application adjustment, the estimated impact of the debt-to-income cap on new lending for house purchase would be larger. Without adjustment of the loan applications, a larger proportion of the loans granted during the review period would not have been granted if the debt-to-income cap had been in force. This would, however, be a very extreme estimate of the impacts of the debt-to-income cap and the possible behaviour of loan applicants following the introduction of the cap. Furthermore, the calculations also do not take into account the possibility that creditors might re-channel their lending activities relative to the current situation once the debt-

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13. In addition, the calculations are based on the following assumptions: first, the creditors can use the allowed 15% room for discretion to the full extent; second, creditors may have to reject some of the applications if the euro volume of the loans applied for exceeds the allowed room for discretion; third, creditors randomly select those loan applicants who exceed the debt-to-income cap and are granted credit within the room for discretion (after adjustment of the loan volume). Random sampling has only a small impact on the outcome of the calculations.

to-income cap has entered into force.[14]

Table 3.

Proportion of the euro volume of new mortgages granted with a 450% or 500% debt-to-income cap and 15% creditor discretion as well as various loan volume adjustment assumptions

	Adjustment assumption	Debt-to-income cap 450%	Debt-to-income cap 500%
Year 2020	0%	85%	93%
Year 2020	10%	90%	98%
Year 2018*	0%	93%	100%
Year 2018*	10%	98%	100%

*As in the report by the Ministry of Finance working group.
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

The debt-to-income cap can be calibrated so that, when it comes into force, it would have a relatively small impact on new lending. Such a debt-to-income cap would, however, curb excessive growth in household indebtedness in future, particularly if there is a risk that debt levels continue to increase faster than borrowers' incomes. This scenario is examined in more detail in the article Capping debt-to-income ratios complementary to housing loan cap (published on 29 May 2019). The analysis shows that the debt-to-income cap is well placed to complement the loan-to-value cap on housing loans, particularly if house prices grow faster than household incomes.

14. Debt-to-income-cap-type regulation may channel lending from low-income borrowers to higher-income borrowers, and from areas with a high-activity housing market to areas with less activity, as has been the case in Ireland. See V. V. Acharya et al. (2020) *The anatomy of the transmission of macroprudential policies*. IMF Working Paper No. 2058.

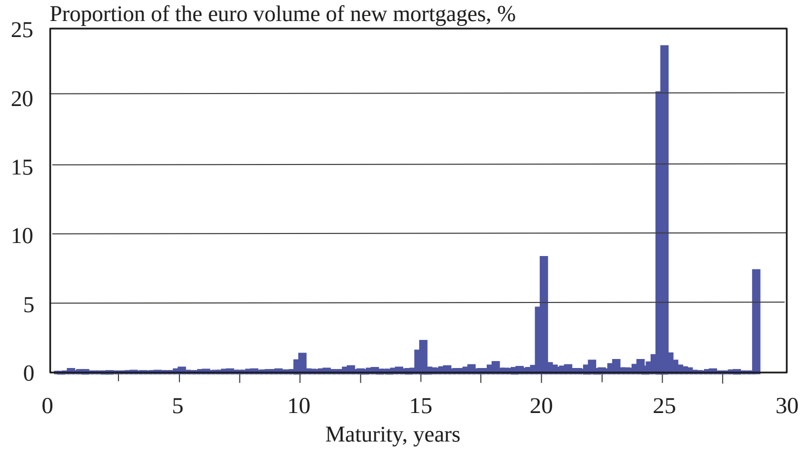
Imposing a maximum limit on housing loan maturities may change credit-granting practices

As a measure to curb excessive indebtedness, in their report, the Ministry of Finance working group proposes a maximum repayment period for new housing loans. According to the proposal, new housing loan agreements must not include terms allowing for repayment periods longer than 25 years from the date of loan drawdown. However, lenders would be allowed a 10% deviation from the maximum limit (*permissible breach*), as measured by the total amount of housing loans. Calculations based on banks' new housing loan data indicate that while the total amount of new housing loans more or less falls within the realms of the proposal, differences in lenders' practices may serve to constrain lending.

Chart 4 illustrates the distribution of maturities for new housing loans drawn down between April 2019 and June 2020. Maturities for most housing loans are concentrated around 20 and 25 years, but some loans have maturities over 25 years (Table 4). Given that a significant proportion of loans with these longer maturities have maturities just above the 25-year limit, the impact analysis of the maximum limit should focus rather on loans with maturities over, say, 25.5 years.

Chart 4

Maturities of new housing loans typically around 25 years



*Outliers of the right-hand tail have been added to the haircut value 29.
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.

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Table 4.

Long-term credit as a proportion of new housing loans			
Maturities over 25 years	Maturities over 25 years	Maturities over 25.5 years	Maturities over 25.5 years
23% of observations	35% of euro volume	5% of observations	10% of euro volume
Sources: Financial Supervisory Authority and calculations by the Bank of Finland.			

From Table 4 we can see that the maximum maturity limit proposed by the working group (here assumed to be 25.5 years) would be sufficient to just cover the proportion of housing loans in excess of the limit. In practice, the picture is more complicated, as repayment periods differ between lenders. The maximum maturity limit will be binding on lenders who have granted long-term credit in excess of the deviation allowed under the proposal. Therefore, the limit may act as a constraint on lending overall, provided that other lenders, who still have some leeway left, do not grant credit on corresponding terms. It must also be noted that the data used does not capture the extension of loan maturities since June 2020.[15]

Tags

financial stability, maximum debt-to-income ratio, debt-to-income cap, housing loans, indebtedness

15. See e.g. An exceptionally high amount of housing loans drawn down in late 2020 (suomenpankki.fi) The impact of the maximum limit must be recalculated when the data employed in the article is updated.