

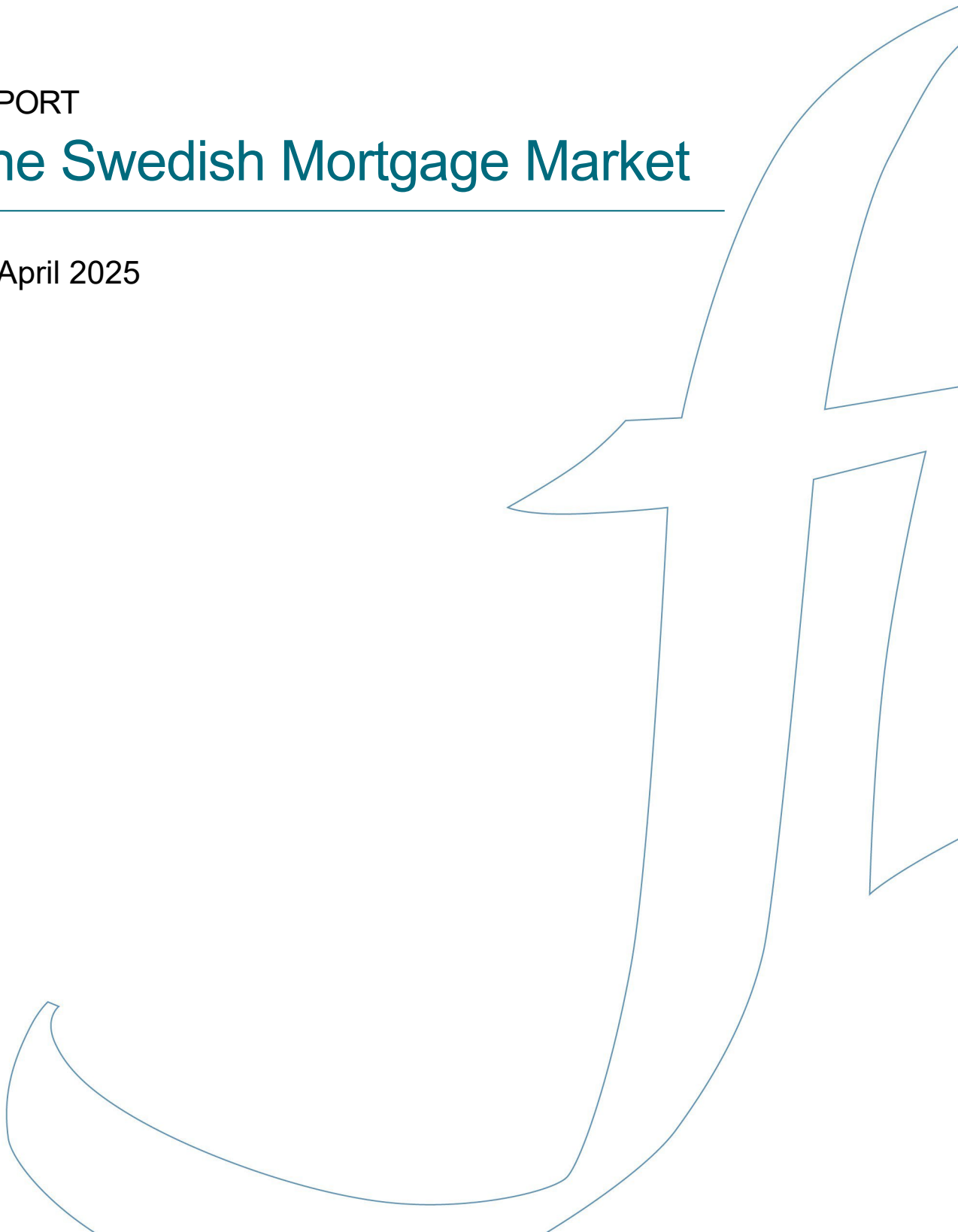


REPORT

# The Swedish Mortgage Market

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02 April 2025



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## Summary

During 2024, the conditions for household finances began to improve after several challenging years. The most visible improvement for households that have a mortgage was that the Riksbank started to make cuts to the policy rate after inflation had subsided. As households became more optimistic, housing prices also increased. In this report, we analyse the developments on the mortgage market using a sample of households that took out a new mortgage during 2024.

The average new mortgage in 2024 was larger than it was in 2023. At the same time, households' income increased to the same extent. Therefore, households' average loan-to-income ratio was unchanged, and the share of new mortgagors with a high loan-to-income ratio decreased slightly. The average loan-to-value ratio (the size of the loan in relation to the value of the home) increased slightly for new mortgagors who purchased a home. The share of homebuyers with a high loan-to-value ratio continued to be high. One clear change in 2024 was that the share of borrowers that chose a variable mortgage rate increased from an already high share the previous year.

Mortgage rates were lower in 2024 than in 2023, and household income increased. Thus, the new mortgagors' average interest-to-income ratio (interest expense as a share of disposable income) decreased. Changes to amortisation payments on mortgages were small. This also means that the new mortgagors' debt-service ratio (interest and amortisation payments in relation to disposable income) decreased. The downturns in the interest-to-income and debt-service ratios were from high levels. They were still higher than they were prior to 2022. Borrowers' estimated surplus in the discretionary income calculation the banks conduct as part of their credit assessment increased in relation to the previous year. When viewed over a longer period, the buying power in the surplus of the new borrowers has decreased due to high inflation.

For households that purchase tenant-owned housing, the fee to the tenant-owners association accounts for a significant portion of their total cost of living. Many tenant-owners associations have been impacted in recent years by rising prices and higher interest rates. Our sample in 2024 shows that the associations' average member fees were approximately 5 per cent higher than in 2023 and almost 15 per cent higher than in 2022.

## Introduction

In 2024, households' financial conditions gradually improved after a number of tough years, but the Swedish economy was still in a recession. On the housing market, prices began to increase again after several years of cautiousness.

In this report, we follow the development on the mortgage market during the period 2017–2024, with a focus on the most recent year. A turbulent period for households. The drawn-out period of very low interest rates culminated during the pandemic when monetary policy was very expansive. As the pandemic then began to recede, inflation started to increase sharply and reached a level that historically was very high. As a result of rising inflation, interest rates also increased sharply. Households that had variable mortgage rates saw interest rate levels more than triple. During the second half of 2021 and in 2022, electricity prices also fluctuated sharply and household energy costs increased significantly. At the end of 2022, households' economic confidence in the future was at an all-time low.<sup>1</sup>

Given this development, 2024 may be viewed as a year of recovery and normalisation, even if the economy was in a recession. Inflation returned to levels around the Riksbank's inflation target, and interest rates began to decrease. However, at the time of the sample that serves as the basis for this report, the interest rate cuts to short-term rates were still in a relatively early phase. Market rates with longer maturities had decreased more, and mortgages with longer fixed maturities had lower interest rates than variable mortgages. Households' real income began to increase once again, and household economic confidence in the future had recovered.<sup>2</sup>

The development on the housing market has a strong link to the development in household debt. Higher housing prices mean that households need to take larger loans. When housing prices increase, this also increases the possibility for households to take out larger loans on their existing homes, so-called equity withdrawals, which they could use, for example, for renovation or consumption.

Diagram 1 shows the price development on the housing market according to an external price index (Valueguard).<sup>3</sup> The price increase during the pandemic years is clear, particularly for single-family homes. When inflation and interest rates began to increase in 2022, housing prices decreased significantly. After showing cautious

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<sup>1</sup> According to NIER's confidence indicator for households, households' view of the economic situation at the end of 2022 and beginning of 2023 was the lowest ever measured.

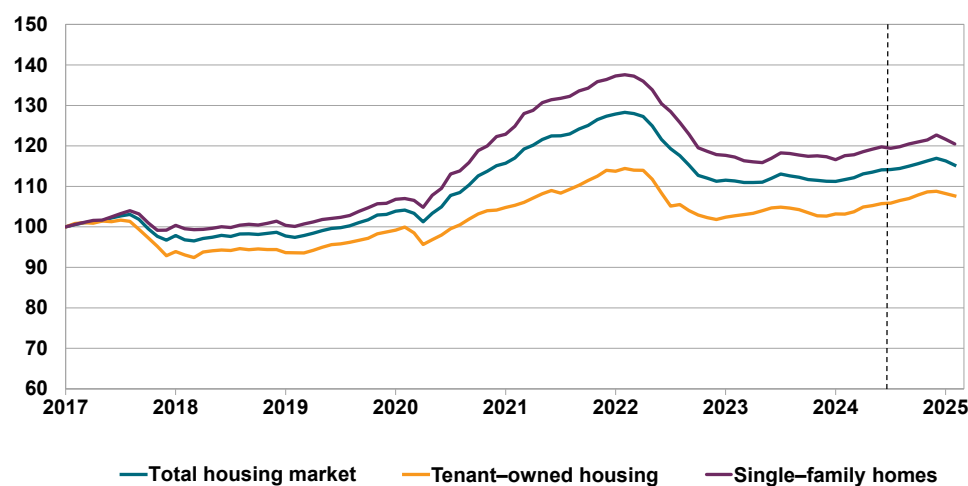
<sup>2</sup> According to NIER's confidence indicator, households' view of the economic situation improved significantly in 2024, and at the end of the year it had reached what can be considered a normal level.

<sup>3</sup> Valueguard's price index takes into consideration the types of homes that are sold, including location and size.

development at the end of 2022 and during 2023, housing prices increased again in 2024 by roughly 5 per cent. However, price levels at the end of 2024 were still lower than at they were at their peak in 2022, particularly for single-family homes.

### 1. Housing prices increased in 2024

Index, 100=2017



Source: FI and Valueguard.

Note: Price development pursuant to the Valueguard price index, seasonally adjusted development. The price index is indexed using 2017 as the baseline year. The vertical line mid-way through 2024 marks the approximate point in time when the home buyers in our survey purchased their home.

## Sample of new borrowers

As part of its in-depth analysis of mortgages, Finansinspektionen (FI) gathers every year a sample of new mortgagors. The number of households in the sample for 2024 was slightly higher than in the sample for 2023. However, it was primarily the number of households that chose to increase an existing loan that was higher while the number of households that purchased a home remained basically the same. The share of young borrowers was therefore slightly lower than in previous years, but the age distribution – and the geographic distribution as well – was largely unchanged compared to previous years.

The aim of the in-depth analysis of mortgages is to analyse households that take out new mortgages. We also use this information to evaluate the borrower-based measures we have implemented. The analysis includes data from the eight largest mortgage institutions.<sup>4</sup> These institutions accounted for approximately 94 per cent of the total mortgage volume in 2024.<sup>5</sup> When collecting the data, we also gather a sample, and it is primarily this sample that forms the basis of the analyses in this report.

### A household-level sample

The sample includes all new mortgage agreements for which the mortgage was paid out during the periods 26 August–2 September 2024 and 23 September–30 October 2024. This is the fifteenth time FI has collected a sample of new mortgages. The previous samples were collected in 2009 and 2011–2023.<sup>6</sup> The information consists of, for example, data about the new mortgage that was paid out during the period in question, information about the home that is collateral for the loan, and the borrower's income and total loan burden.<sup>7</sup> We have detailed information about the new mortgage, including, for example, the agreed interest rate and amortisation payments. However, we do not have detailed information about other debt. We also have limited information about borrowers' financial assets.

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<sup>4</sup> The mortgage institutions are Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SBAB Bank, SEB, Skandiabanken and Swedbank.

<sup>5</sup> According to Statistics Sweden: Banks and credit market companies, assets and liabilities.

<sup>6</sup> We are currently working to review the sample and improve the data handling. This means that there have been some methodology changes that impact this report, and some historical figures have been revised compared to previous reports.

<sup>7</sup> The total loan burden includes, among other things, additional mortgages that are not included in the sample, loans with different collateral, for example a car, and unsecured loans, i.e., loans without collateral.

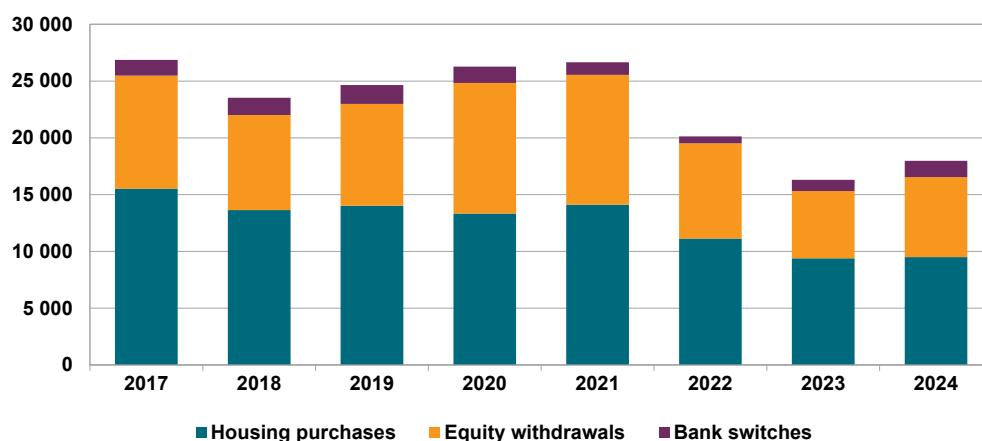
*New mortgages* does not only include new mortgages taken for the purchase of a home; this term also includes the expansion of existing mortgages (known as *equity withdrawal*). For example, households may withdraw equity to renovate their home, make purchases, or pay off other loans. Existing mortgages that the borrower has moved from one bank to another (known as *bank switches*) are also recorded as a new mortgage.

## Slightly more new borrowers in 2024

There were slightly more households that took out a new mortgage in the 2024 sample than in the previous year, but this number was still lower than in 2022 and earlier years (Diagram 2).<sup>8</sup> The number of borrowers that switched banks or withdrew equity increased compared to the 2023 sample, while the number of home buyers basically remained the same. The percentage of home buyers among the new borrowers was thus slightly lower than in previous years. The percentage of home buyers differs depending on the type of home. Approximately 60 per cent of the borrowers that took out a new mortgage with a single-family home as collateral did so in the form of an equity withdrawal.<sup>9</sup> In contrast, for those that took out a new mortgage with tenant-owned housing as collateral, 80 per cent referred to the purchase of a home. This distribution between purchasing a home and withdrawing equity has been relatively consistent in the sample over the years.

### 2. More households took out a new mortgage in 2024

Number



Source: FI.

Note: Refers to the number of borrowers after removal of incomplete and outlier observations.

<sup>8</sup> According to Svensk Mäklarstatistik, 14 per cent more tenant-owned housing and 16 per cent more single-family homes were sold in 2024 than in 2023.

<sup>9</sup> When bank switches are excluded.

## Slightly lower share of young mortgagors

The geographic distribution of new mortgagors was relatively unchanged in the 2024 sample compared to in previous years (Table 1). The percentage of borrowers in the Greater Stockholm area was the same as in 2023 and slightly higher than in earlier years. The share of new mortgagors in the rest of the country was slightly lower in 2024. The age distribution was also roughly the same as before. The youngest borrowers (30 and younger) represented approximately 18 per cent of the new mortgagors, which was slightly lower than in previous samples, while the group of borrowers aged 31–40 was slightly larger than before (28 per cent).<sup>10</sup>

Table 1. Geographic and age distribution of new mortgagors

Per cent

Share of households	Stockholm	Gothenburg	Malmö	Other large cities	Rest of country	Total
2017–2022	26.3	10.9	6.8	20.1	36.0	100
2023	28.9	10.8	6.6	18.8	34.9	100
2024	28.7	11.5	6.9	18.5	34.3	100
Share of households	18–30	31–40	41–50	51–64	65+	
2017–2022	19.9	25.3	22.6	22.8	9.4	100
2023	19.7	27.2	21.3	23.0	8.8	100
2024	18.1	28.3	21.3	23.5	8.8	100

Source: FI.

Note: Refers to housing purchases, equity withdrawals and bank switches. Stockholm, Gothenburg and Malmö refer to metropolitan regions. 2017–2022 refers to the average percentage for the years 2017 to 2022. The age distribution is based on the age of the primary borrower at the time the loan is issued.

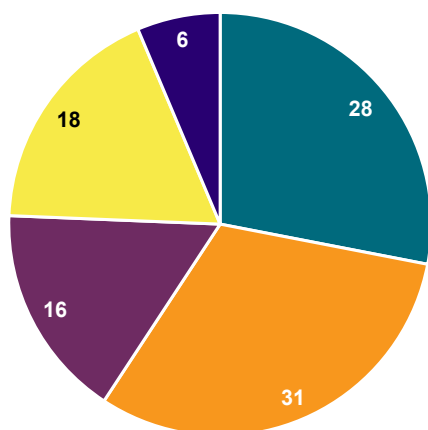
The share of younger home buyers was larger than among the borrowers withdrawing equity (Diagrams 3 and 4). Approximately six out of ten borrowers who bought a new home were aged 40 or younger. Among borrowers withdrawing equity, approximately three out of ten were 40 or younger. One explanation for the decrease in the percentage of young borrowers is that the share of borrowers purchasing a home decreased.

<sup>10</sup> The age distribution is based on the age of the primary borrower at the time the loan is issued.



### 3. Age distribution for home buyers in 2024

Per cent



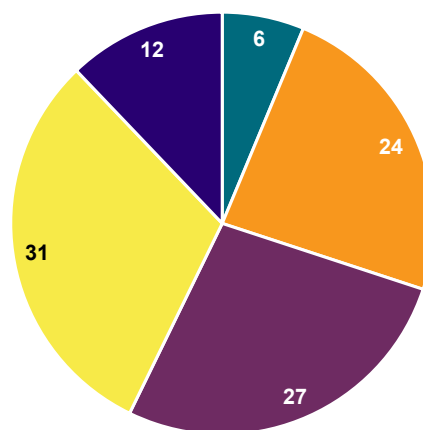
■ 18-30 ■ 31-40 ■ 41-50 ■ 51-64 ■ 65+

Source: FI.

Note: The age distribution is based on the age of the primary borrower at the time the loan is issued.

### 4. Age distribution for equity withdrawals in 2024

Per cent



■ 18-30 ■ 31-40 ■ 41-50 ■ 51-64 ■ 65+

Source: FI.

Note: The age distribution is based on the age of the primary borrower at the time the loan is issued.

## New mortgages in 2024

The size of the new mortgages increased in 2024. Both loans to buy homes and equity withdrawals on existing homes increased in size. However, the increase was limited in relation to the development of the home's value and household income, and there were small changes to the new borrowers' loan-to-value (LTV) ratio and loan-to-income (LTI) ratio. Cuts to the policy rate began during the year, and the share of new borrowers that chose variable rate on their mortgage increased further.

### Size of loan and fixed interest rate period

#### Larger new mortgages in 2024

New borrowers in 2024 took out slightly larger mortgages than in previous years. Households that purchased a home borrowed on average SEK 2.25 million, an increase of almost 7 per cent compared to in 2023. This was the first time since 2021 that the average new mortgage increased in size in relation to the previous year. The median value for home buyers' new mortgages was SEK 1.9 million, which was 6 per cent higher than in 2023. Households that added to an existing mortgage by withdrawing equity borrowed on average SEK 600,000, an increase of just over 6 per cent compared to in 2023. The median value of equity withdrawals was SEK 300,000, which did not change compared to the previous year.

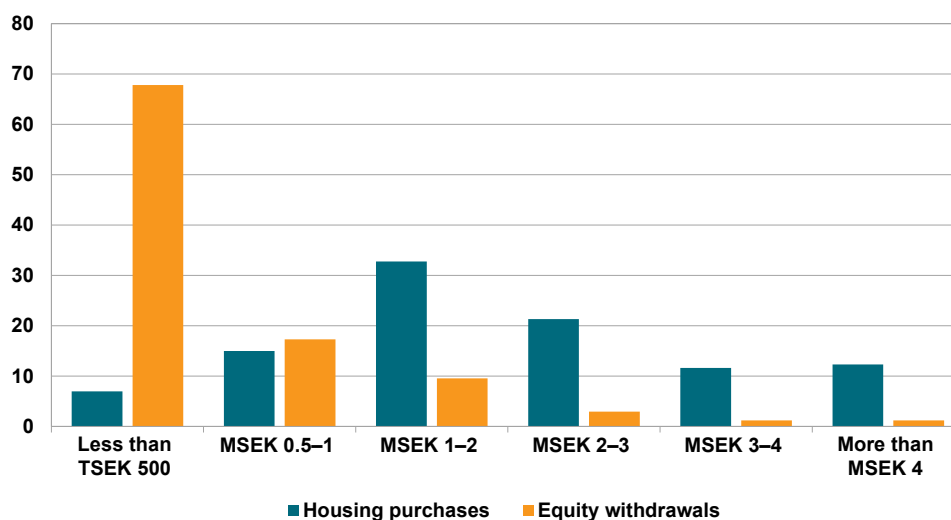
The majority of the new home buyers borrowed between SEK 1 million and SEK 3 million in 2024 (Diagram 5). Almost one-fourth borrowed more than SEK 3 million, and around 10 per cent of new home buyers borrowed more than SEK 4 million. More than 65 per cent of those that borrowed more than SEK 4 million were households that purchased a home in the Stockholm area. Among equity withdrawal loans, the majority were less than SEK 500,000, but there were also existing loans that increased by more than SEK 1 million. Overall, the new loan volume was broken down into approximately 73 per cent housing purchases and 14.5 per cent equity withdrawals. The remaining new loan volume consisted of loans paid out to replace existing loans that were moved between banks, so-called bank switches.<sup>11</sup>

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<sup>11</sup> The average size of the mortgages that switched banks in 2024 was just over SEK 2.5 million. An increase of almost 1 per cent compared to 2023.

## 5. New borrowers broken down by type of loan and size of new mortgage

Per cent



Source: FI.

Note: New borrowers in 2024 broken down by size of the new loan and divided into home buyers and equity withdrawals.

## Many households chose variable mortgage rate

In May 2024, the Riksbank started to cut the policy rate, and several cuts followed throughout the year. Market rates with longer maturities were also lower in 2024 than in 2023, which was reflected in the fixed mortgage rates.<sup>12</sup> This development managed to have somewhat of an impact on the mortgage rates that households received in the sample (Diagram A1 in Appendix 1). The average interest rate for households that purchased a home in 2024 was approximately 4 per cent, a decrease of 0.65 percentage points compared to in 2023.

We calculate a volume-weighted fixed interest period for every new borrower. If the household's mortgage is broken down into different components, we weight the fixed interest period of each component in relation to its size.<sup>13</sup> Even though interest rate levels for longer maturities were lower in 2024 than the variable rate, the percentage of households that chose the variable interest for the entire mortgage – a fixed interest period of 3 months – increased. More than 78 per cent of the new home buyers chose only a variable rate for their new loan (Diagram 6). This was an increase of almost 14 percentage points compared to in 2023. Measured in volume, the borrowers that chose a variable rate accounted for almost 79 per cent of the

<sup>12</sup> The average rate of secured mortgage bonds with a maturity of two years and five years was approximately 1.6 percentage points lower in Q3 2024 than in Q3 2023.

<sup>13</sup> For borrowers withdrawing equity, the fixed interest period refers to the new loan (the increase). The fixed interest period of the original mortgage is not known. Therefore, we focus primarily on home buyers in this section.

new loans. Approximately 1.6 per cent of home buyers had a weighted fixed interest period of more than three years.

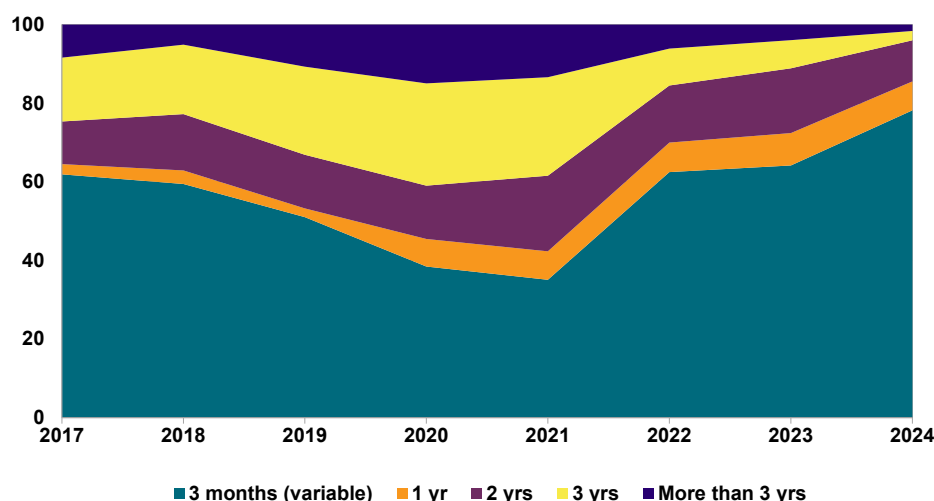
The share of new borrowers that chose a variable mortgage rate increased for all types of households. This was most common among borrowers in the larger cities that have both a high income and a high LTI ratio.

This is most likely due to households' expectations of how the interest rate will develop. For example, according to NIER's economic tendency survey, households had higher expectations that the interest rate would be lower in the future during the period between the mortgage surveys in 2023 and 2024.<sup>14</sup>

Looking several years back in time, there has been a significant shift in households' choice of fixed interest period. During the pandemic years of 2020 and 2021, around 35 per cent of new borrowers chose a variable mortgage rate.

## 6. High percentage of home buyers chose variable mortgage rate

Per cent



Source: FI.

Note: The fixed interest period is volume-weighted for each component of the new mortgage. Refers to new borrowers who purchased a home.

## LTV ratio

We create key ratios to follow the development of the mortgages and identify groups that could be more vulnerable than others. We do this by setting the loans in relation to other relevant variables. The LTV ratio is calculated as the size of the mortgage in relation to the value of the home and shows what percentage of the

<sup>14</sup> When asked "What do you believe the variable interest rate will be in one year?", households' expectations decreased by 1.3 percentage points between Q3 2023 and Q3 2024 in NIER's economic tendency survey for households. Calculated monthly as an average across quarters.

home is financed by the mortgage. For households with similar assets and incomes, this means that a household with a higher LTV ratio is more vulnerable to a drop in housing prices.

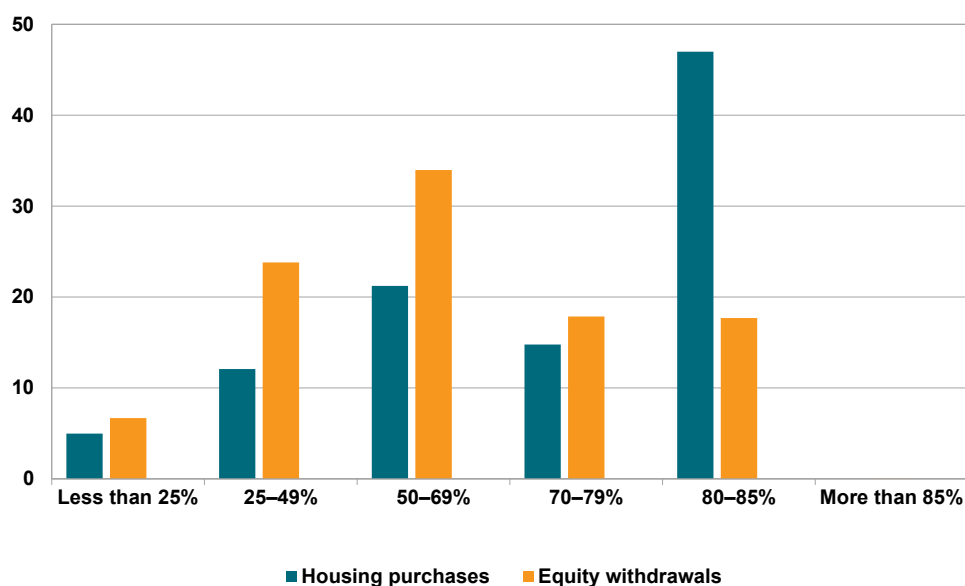
## Small changes to the LTV ratio in 2024

The average LTV ratio for new borrowers increased marginally to 64.5 per cent in 2024 compared to in 2023 (Diagram A2 in Appendix 1). The change is due to home buyers increasing their average LTV ratio by almost one percentage point to 69 per cent and to a higher average LTV ratio among households that switched banks.<sup>15</sup> The LTV ratio for households that withdrew equity was unchanged at 60 per cent.

Around 47 per cent of households that purchased a home in 2024 had an LTV ratio of more than 80 per cent, i.e., more than two percentage points higher than in 2023. Almost 40 per cent of the home buyers had an LTV ratio of 85 per cent.<sup>16</sup> This was also an increase of two percentage points (Diagram 7).

### 7. Large share of home buyers had a high LTV ratio

Per cent



Source: FI.

Note: New borrowers broken down by LTV ratio on the new loan and divided into housing purchases and equity withdrawals.

Households that withdraw equity on their existing home normally have owned their home a while and thus decreased their LTV ratio through amortisation payments and value increases, and among these borrowers the percentage with a high LTV

<sup>15</sup> Households that switched banks had an average LTV ratio of around 59 per cent in 2024, which was an increase of around 2 percentage points compared to in 2023.

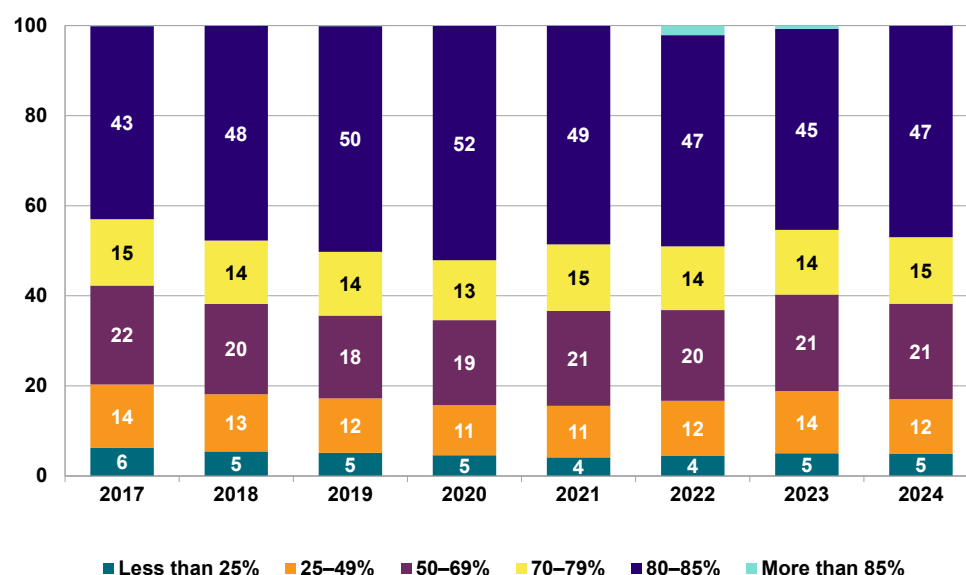
<sup>16</sup> Here, an LTV ratio of 85 per cent is defined as a ratio of between 84 and 85 per cent.

ratio was lower. The majority of these households had an LTV ratio between 25 and 70 per cent, but around 35 per cent of the households that withdrew equity chose to increase their mortgage to an LTV ratio of more than 70 per cent.

If we look further back in time, there have been relatively small changes in the distribution of new borrowers' LTV ratios; a large share of home buyers has had a high LTV ratio. The largest was the share of home buyers with a high LTV ratio – more than 80 per cent – during the years 2019 and 2020 (Diagram 8).

#### 8. Percentage of home buyers with a high LTV ratio was largest in 2020

Per cent



Source: FI.

Note: Refers to new borrowers who purchased a home.

A key explanatory factor for a household's LTV ratio is the age of its borrowers. Younger borrowers often have a high LTV ratio since they as a rule have not had the possibility of building up capital over an equally long period of time as borrowers who are more established on the housing market. Among new borrowers under the age of 30 that purchased a home, more than six out of ten borrowed more than 80 per cent of the value of the home. At the same time, we see that as the age increases, the LTV ratio of new borrowers tends to decrease.

## LTI ratio

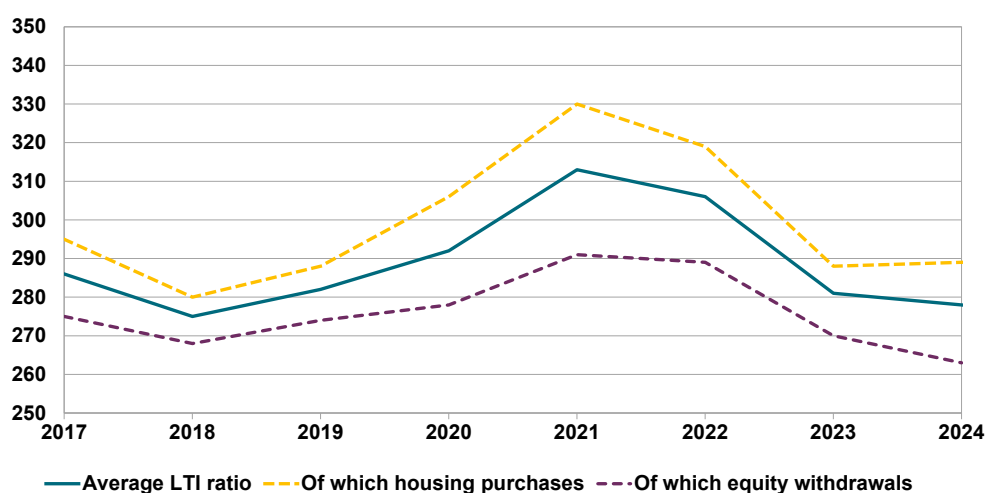
How size of the loan changes in relation to the borrowers' income is also a key parameter for assessing vulnerabilities. The LTI ratio shows the relationship between a household's loan and its income, and it is calculated as the total of all of the household's mortgages in relation to gross income. A higher LTI ratio generally means an increased sensitivity to rising interest rates or loss of income.

## Small change in LTI ratio in 2024

The average LTI ratio for new borrowers decreased by three percentage points to 278 per cent between 2023 and 2024 (Diagram 9). After an upswing during the pandemic, the average LTI ratio has returned to a level corresponding the level in 2018 when the stricter amortisation requirement based on the household's LTI ratio was introduced.<sup>17</sup> The slight downturn in 2024 is due to households withdrawing equity borrowing less in relation to their income. For these households, the average LTI ratio decreased by seven percentage points. The average LTI ratio for households that purchased a home is basically unchanged.

### 9. Average LTI ratio decreased slightly

Per cent



Source: FI.

Note: The LTI ratio is calculated as gross income divided by the total mortgage. The average LTI ratio refers to housing purchases, equity withdrawals and bank switches.

## High LTI ratio more common in larger cities and among younger borrowers

The share of new borrowers with a high LTI ratio (here defined as greater than 450 per cent of the household's gross income) decreased sharply after the introduction of the stricter amortisation requirement in 2018 (Diagram A3 in Appendix 1). During the pandemic, households began to dedicate a larger share of their income to housing, and housing prices increased. As a result, the share of households with a high LTI ratio increased again in 2020 and 2021 and then decreased again in 2023. The share of borrowers with a high LTI ratio in 2024 was 5.5 per cent among households that purchased a home, which was the same as in 2023. For the other

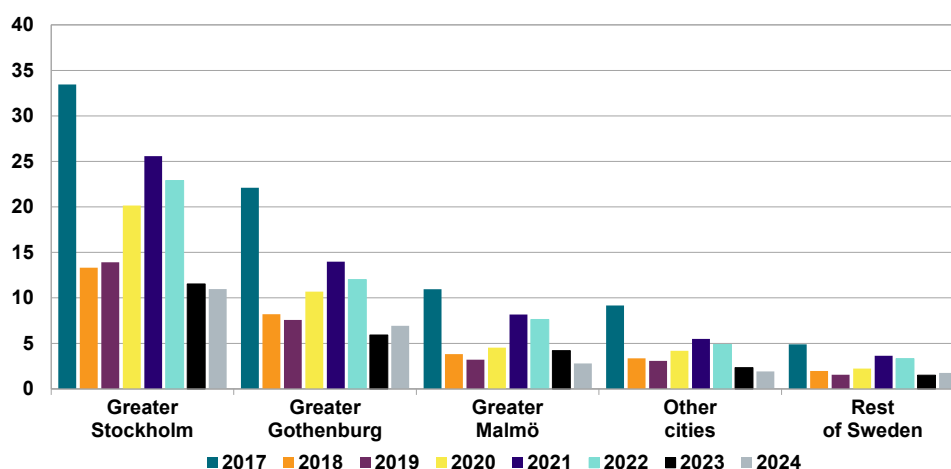
<sup>17</sup> Under the stricter amortisation requirement, households with a total mortgage greater than 450 per cent of their gross income must amortise at least 1 per cent of their mortgage annually in addition to the amortisation required under the first amortisation requirement.

types of new mortgages, the share was lower, and calculated for all new borrowers it was 4.9 per cent.

It is primarily households purchasing a home in the larger cities that borrow a lot in relation to their income. In Stockholm, more than 11 per cent of the new borrowers had an LTI ratio higher than 450 per cent in 2024, and in Gothenburg the figure was around 6 per cent (Diagram 10). In the other geographic regions, the percentage was very small in 2024 and overall households in Stockholm and Gothenburg accounted for 76 per cent of those with a high LTI ratio.

#### 10. Larger share with high LTI ratio in large cities

Per cent



Source: FI.

Note: Share of borrowers with an LTI ratio greater than 450 per cent. The LTI ratio is calculated as gross income divided by the total mortgage. Refers to home buyers.

#### Share of borrowers with both high LTV ratio and high LTI ratio has decreased

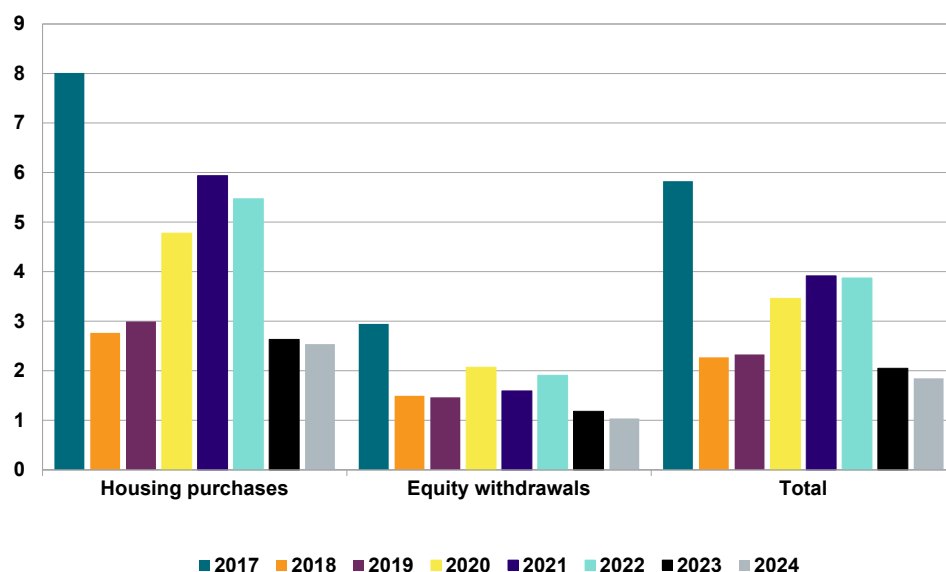
Borrowers that have a high LTV ratio (more than 70 per cent) and a high LTI ratio (more than 450 per cent) often are more vulnerable to more types of shocks.

Among households that purchased a home in 2017, households with both a high LTV ratio and a high LTI ratio accounted for more than 8 per cent of the new borrowers that year. After the introduction of the stricter amortisation requirement in 2018, this share clearly decreased. During the pandemic years, the share increased again and then decreased in 2023. This development continued in 2024, with 2.5 per cent of the home buyers having both a high LTV ratio and a high LTI ratio (Diagram 11).



# 11. Share of households with both a high LTV ratio and a high LTI ratio remained at low level

Per cent



Source: FI.

Note: The share of new borrowers with both an LTI ratio (more than 450 per cent) and a high LTV ratio (more than 70 per cent). The LTI ratio is calculated as gross income divided by the total mortgage. The total includes all new mortgages, including bank switches.

## Amortisation payments

The share of new mortgagors that amortised was basically unchanged in 2024 compared to in 2023, but it was still lower than in the years prior to this. The number of granted exemptions due to special grounds was slightly lower in 2024 than in 2023.

Loans that are too large pose a risk to both the individual borrower and the economy at large. Through amortisation, borrowers decrease their loans over time. Thus, interest rate payments decrease and resilience increases, all else equal. Therefore, FI has introduced regulations on amortisation requirements. The first amortisation requirement entered into force in June 2016 and entails that mortgages taken after this date that have an LTV ratio of more than 50 per cent must amortise 1 per cent a year. If the LTV ratio exceeds 70 per cent, the household must amortise at least 2 per cent a year. The stricter amortisation requirement entered into force in 2018 and entails that mortgagors with a mortgage of more than 450 per cent of their gross income must amortise an additional 1 per cent of the total mortgage per year in addition to the previous amortisation requirement.<sup>18</sup> In some cases, new borrowers can be granted exemption from these amortisation requirements.<sup>19</sup>

### Share of new mortgagors that amortise remained the same

Just under 84 per cent of new mortgagors in 2024 amortised their mortgages (Diagram 12).<sup>20</sup> This was marginally higher than in 2023 and slightly lower than in previous years. The economic situation in the past few years – high inflation and rising interest rates – can have contributed to borrowers who are not subject to the amortisation requirements or are able to get an exemption from them choosing not to amortise to hold down their monthly loan payments. At the same time, high interest rates could lead to other borrowers prioritising amortisation over other forms of savings or consumption in order to reduce the size of their interest rate payments over time.

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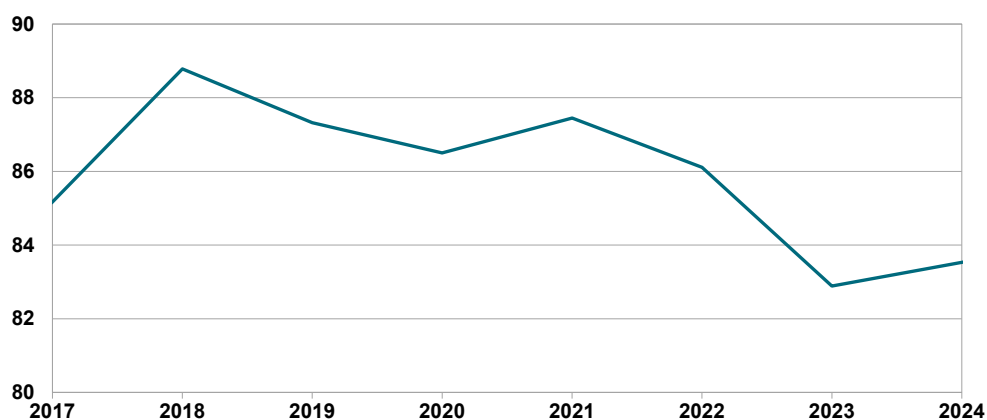
<sup>18</sup> A borrower with an LTV ratio of more than 70 per cent and an LTI ratio of more than 450 per cent would thus amortise 3 per cent of their mortgage a year. Older loans or new mortgages where the size of the loan in relation to the borrower's income or the value of the home falls below the thresholds are not subject to the amortisation requirements. In these cases, the borrower can choose not to amortise.

<sup>19</sup> Exemption is possible, for example, for borrowers moving an older existing loan from one bank to another and for borrowers that acquire a newly built home. It is also possible to be granted exemption if special grounds exist during the term of the loan. For more information about exemption possibilities, see sections 11–16 of Finansinspektionen's regulations (FFFS 2016:16) regarding amortisation of loans collateralised by residential property.

<sup>20</sup> The percentage refers to agreements for regular amortisation payments made when the loan is granted. The 16 per cent that did not sign an amortisation agreement nevertheless may choose to amortise a large percentage of their mortgage on components with a variable rate or begin to make regular amortisation payments at a later point in time.

## 12. Small changes to the share of new mortgagors who amortise

Per cent



Source: FI.

Note: Refers to home purchases, equity withdrawals and bank switches. Refers to amortisation payments on total mortgages with collateral in the sample.

## Unchanged average rate of amortisation

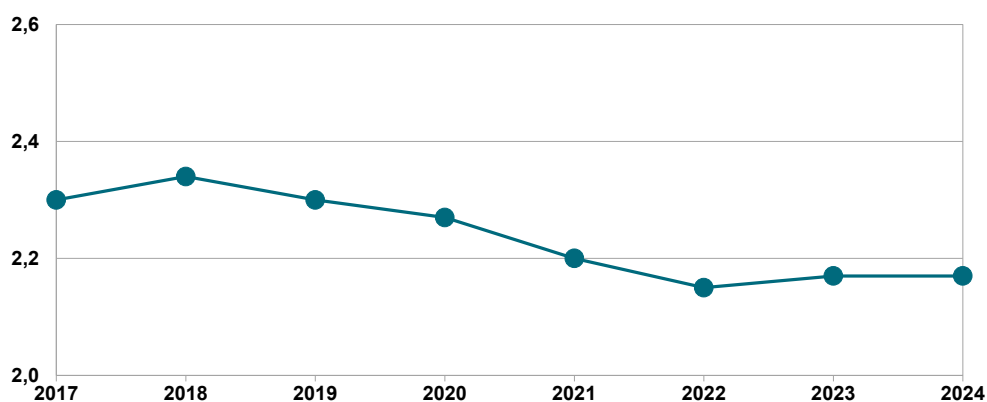
In the sample for 2024, the average amortisation rate among new mortgagors who amortised at the time the loan is granted was 2.2 per cent (Diagram 13). The average rate of amortisation was the same as in 2023. Like in earlier samples, the median borrower had an amortisation rate of 2 per cent.

Among the new mortgagors who amortised, the average payment was SEK 3,800/month, which is just over SEK 100 more than in 2023 but less than in previous years. The median value in 2024 was just over SEK 3,100/month, which was also slightly higher than in 2023. Every tenth borrower amortised more than SEK 7,200/month in 2024.

Amortisation payments can constitute a significant portion of loan service payments. If special grounds arise during the term of the loan for a mortgagor, the bank has the option of temporarily exempting the borrower from amortising for a period of time. In 2024, this exemption was utilised to less of an extent than the previous year (see the fact box – Amortisation exemption due to special grounds). By gaining relief from their monthly payments, a borrower with special grounds can thus strengthen their cash flow.

### 13. Annual rate of amortisation for borrowers who amortise

Per cent



Source: FI.

Note: Refers to housing purchases, equity withdrawals and bank switches. Refers to amortisation payments on all mortgages with collateral in the sample.

### Fact Box – Amortisation exemption due to special grounds

The amortisation regulations allow lenders to offer temporary amortisation exemption to mortgagors whose financial circumstances have deteriorated significantly.<sup>21</sup> It is up to the lender to decide whether to grant an exemption following an individual assessment of the mortgagor's finances. During the spring of 2023, FI was tasked by the Government to map how the banks applied the exemption option based on so-called special grounds.<sup>22</sup> In this in-depth analysis of mortgages, FI has continued to map the banks' handling of exemptions from the amortisation requirements.

The number of exemptions granted due to special grounds peaked at year-end 2023 and since then has decreased (Diagram F1). We note a high number of granted exemptions in January in both 2023 and 2024 and then see a gradual decline up through the autumn. However, the development in the autumn between the two years differs: exemptions gradually increased in 2023 while they increased in September 2024 and then fell. More than double the number of borrowers were granted exemption in 2023 compared to in 2022, an increase from 14,600 to

<sup>21</sup> Section 11 of Finansinspektionen's regulations (FFFS 2016:16) on amortisation of loans secured on residential properties (the amortisation regulations) grants mortgage lenders the possibility of allowing mortgagors to refrain from making amortisation payments for a given period of time given the existence of special grounds.

<sup>22</sup> For more information, see [Banks' administration of amortisation requirement exemptions](#), June 2023, FI.

33,000 (Diagram F2). In 2024, the number of granted exemptions was slightly lower, just under 29,200.

F1. The number of granted exemptions was slightly lower in 2024 than in 2023...  
Thousands

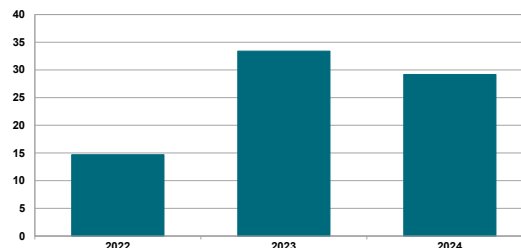


Source: FI.

Note: Number of granted exemptions from the amortisation requirements due to special grounds, per month.

F2 ...but it was still significantly higher than in 2022

Thousands



Source: FI.

Note: Number of granted exemptions from the amortisation requirements due to special grounds, total per calendar year.

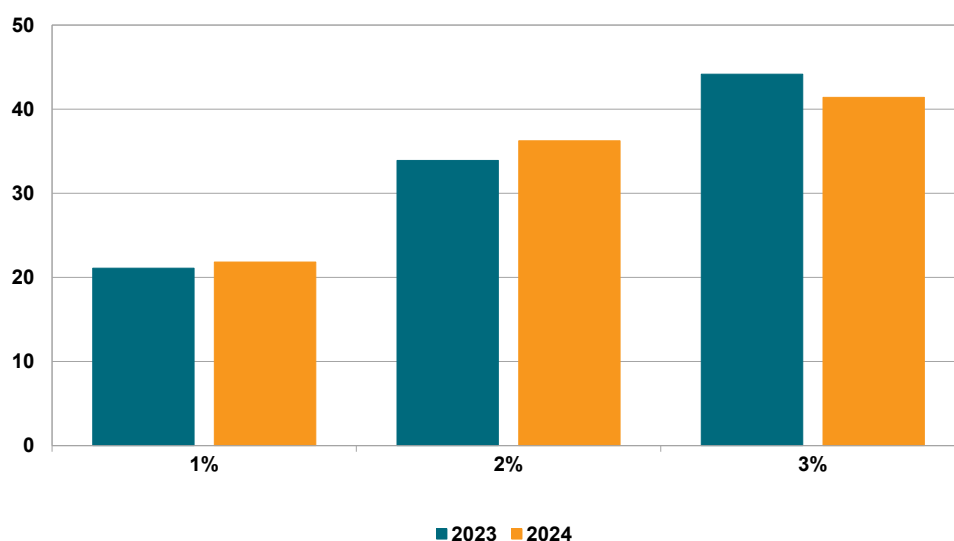
Exemptions are more prevalent among certain categories of borrowers. For example, borrowers aged 31–40 are overrepresented among those granted an exemption. In addition, this age group's share of the exemptions increased slightly, from 51 per cent in 2023 to 56 per cent in 2024. The Stockholm area was also overrepresented among those granted an exemption. Just under half of the borrowers granted an exemption in 2023 and 2024 were living in Greater Stockholm. As a comparison, the share of new borrowers in Greater Stockholm was approximately 26 per cent between 2017 and 2024. It is most common for borrowers to be granted an exemption of less than one year, but the share granted an exemption of more than 12 months more than doubled from just under 7 per cent in 2023 to more than 15 per cent in 2024.

Among those granted an exemption, the share with agreed amortisation of 2 per cent was slightly higher in 2024 at the same time as the share that needed to amortise 3 per cent decreased slightly. In other words, there has been a marginal shift in 2024 from borrowers with a high LTI ratio and a high LTV ratio to borrowers with lower LTI ratios. At the same time, borrowers with an amortisation rate of 3 per cent continued to be clearly overrepresented among those granted an exemption (Diagram F3).

Overall, we see that the number of granted exemptions decreased slightly in 2024 but was still at a high level compared to the period before 2022. The downturn in the second half of 2024 indicates stabilisation and possibly an improvement for households, with stable inflation and decreasing interest rates. However, it continues to be important to use the flexibility in the regulations and that banks grant exemptions from the amortisation requirements when justified.

### F3. More borrowers with lower amortisation rate granted an exemption in 2024

Per cent



Source: FI.

Note: The diagram shows the share of borrowers that amortise 1, 2 or 3 per cent, respectively, among those granted an exemption in 2023 and 2024.

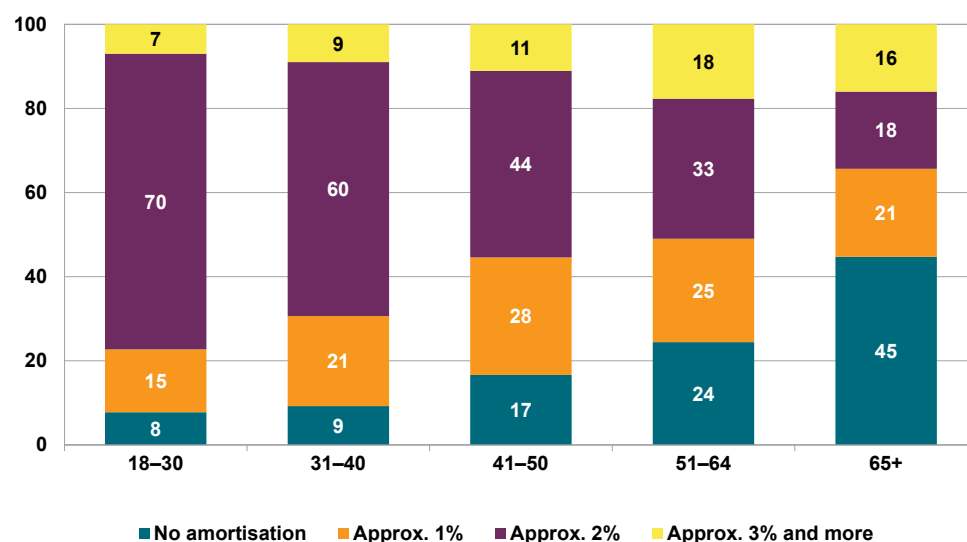
## Amortisation payments more common among young mortgagors

New mortgagors in the age groups 18–30 and 31–40 are more likely to amortise than borrowers in the other age groups (Diagram 14). This is largely due to young mortgagors as a rule having higher LTV ratios and LTI ratios than older borrowers (see the chapter New mortgages in 2024), which thus requires them to amortise more under the amortisation requirements. Among the borrowers who amortised, in contrast, those in the older age groups had higher average amortisation rates than younger mortgagors.

A significant share of borrowers who amortise between 2 and 3 per cent – around 80 per cent of the entire group – have an amortisation rate of exactly 2 per cent. This share also differs by age group; approximately nine out of ten borrowers in the age group 18–30 amortise exactly 2 per cent while the corresponding figures in the age group 65+ is six out of ten. This explains why the yellow bars in Diagram 14 are taller than the share of highly leveraged households in the sample would indicate.

#### 14. Size of amortisation payment by age group

Per cent



Source: FI.

Note: Refers to housing purchases, equity withdrawals and bank switches. Refers to amortisation payments on all mortgages with collateral in the sample. Amortisation intervals refer to own calculations and do not necessarily correspond to amortisation according to the amortisation requirements. The age distribution is based on the age of the primary borrower at the time the loan is issued.

## Loan payments

The new borrowers' interest rate expenses on mortgages was lower in 2024 after sharp upswings the past two years. The share of disposable income that households needed to use to pay the interest on their loans – the interest-to-income ratio (IIR) – decreased. Over a longer time horizon, households' loan service payments – interest expenses and amortisation payments – were still high in 2024.

One way to analyse households' ability to repay their loans is to calculate loan service payments in relation to the borrowers' disposable income. The IIR sets interest rate payments in relation to income.<sup>23</sup> The loan service ratio (LSR) includes both interest expenses and amortisation payments. Interest on and amortisation of mortgages can take up a significant portion of a household's income. An increase in interest expenses reduces the household's ability to consume and save.

### Interest expenses' share of household income decreased in 2024

The downturn in mortgage rates was at an early phase when the sample was collected in 2024. The development of fixed rates had progressed further than the development of variable rates. The average volume-weighted mortgage rate for new borrowers was lower than it was the previous year. Given that the new loans in 2024 also increased at a moderate rate, households' average interest cost per month (after interest deductions) decreased to SEK 5,500.<sup>24</sup> This was a decrease of 8.6 per cent compared to the previous year (Diagram A4 in Appendix 1). Half of the mortgagors in 2024 had an interest expense in 2024 – after interest deductions – of at least SEK 4,600/month. This corresponds to around SEK 6,500/month before interest deductions. And one out of ten households with a new mortgage had an interest expense in 2024 of SEK 10,200/month or more.

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<sup>23</sup> If the loan in the sample is for equity withdrawal, the interest rate and the fixed interest rate period for the other parts of the loan are not known. Therefore, the actual total interest rate for the entire mortgage is more uncertain when an existing mortgage is increased than it is for new loans taken by home buyers. For home buyers, we have information about the interest rate level for the entire mortgage.

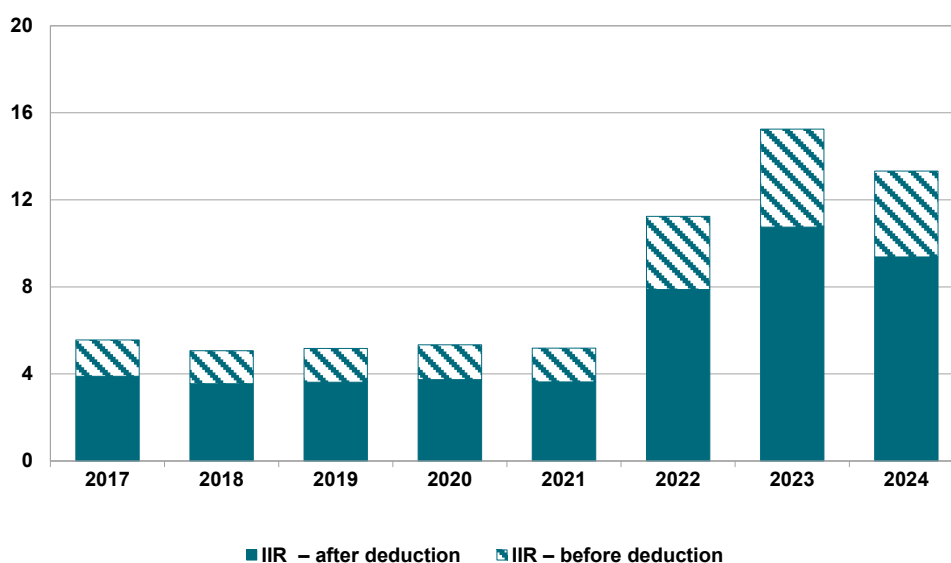
<sup>24</sup> When we calculate actual interest expense after interest deductions, we assume that the entire interest expense is deductible and optimally divided between borrowers to grant maximum deduction. Furthermore, we consider the break-off limit for the interest deduction, where the right to a deduction decreases for amounts above this limit. The interest deduction allows a deduction of 30 per cent for a capital deficit (the difference between capital income and capital expenses) of up to SEK 100,000 per person and year. For deficits greater than SEK 100,000, the deduction is 22 per cent. As part of the ongoing oversight of the data handling of the sample, we have switched to using the banks' own reported net income for the household. Before, we calculated net income ourselves.



In 2024, mortgage rates began to decrease at the same time as households' disposable income increased.<sup>25</sup> These two factors contributed to the decrease in the IIR. The average IIR in 2024 (after interest rate deductions) decreased by 1.5 percentage points to 9.3 per cent of disposable income (Diagram 15). The lower IIR in 2024 should be viewed in the context of its sharp increase in recent years; it almost tripled between 2021 and 2023. Despite decreasing in 2024, the IIR was still significantly higher than in 2021 and prior years. Between 2017 and 2021, it was 3.7 per cent.

### 15. Interest-to-income ratio decreased in 2024

Per cent



Source: FI.

Note: Average interest-to-income ratio, interest expense in relation to the household's income after tax. Calculated before and after interest rate deductions. Refers to home buyers.

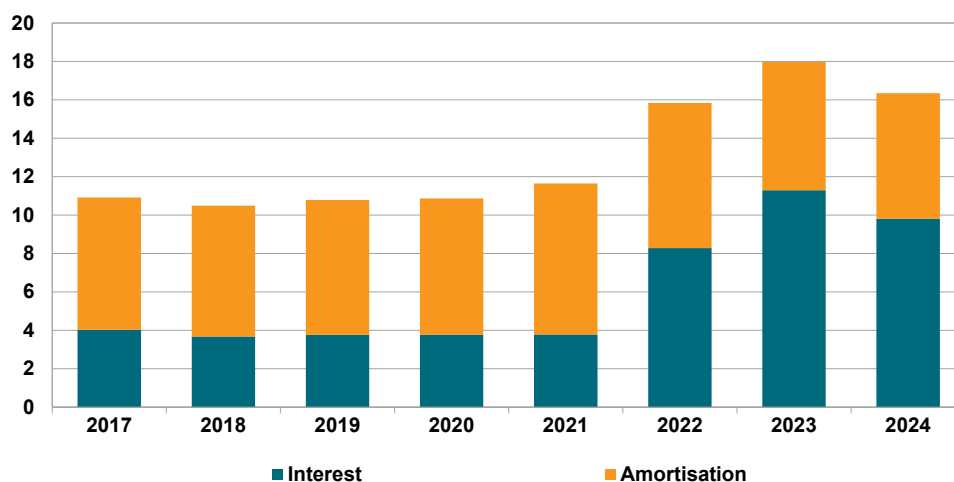
### Lower interest expenses dampened the LSR

Lower interest expenses also led to a decrease in the LSR in 2024 (Diagram 16). The change was driven by lower interest expenses and higher income. On average the households that took out a new mortgage to buy a home in 2024 allocated more than 16 per cent of their net income (after interest rate deduction) to loan service payments. This was a decrease of almost 2 percentage points compared to in 2023. More than 60 per cent of the total loan service payments consisted of interest expenses, and the rest was amortisation payments.

<sup>25</sup> The average net income for households in the sample increased by 5.6 per cent in 2024.

## 16. Lower interest rate expenses lowered the loan-service ratio

Per cent



Source: FI.

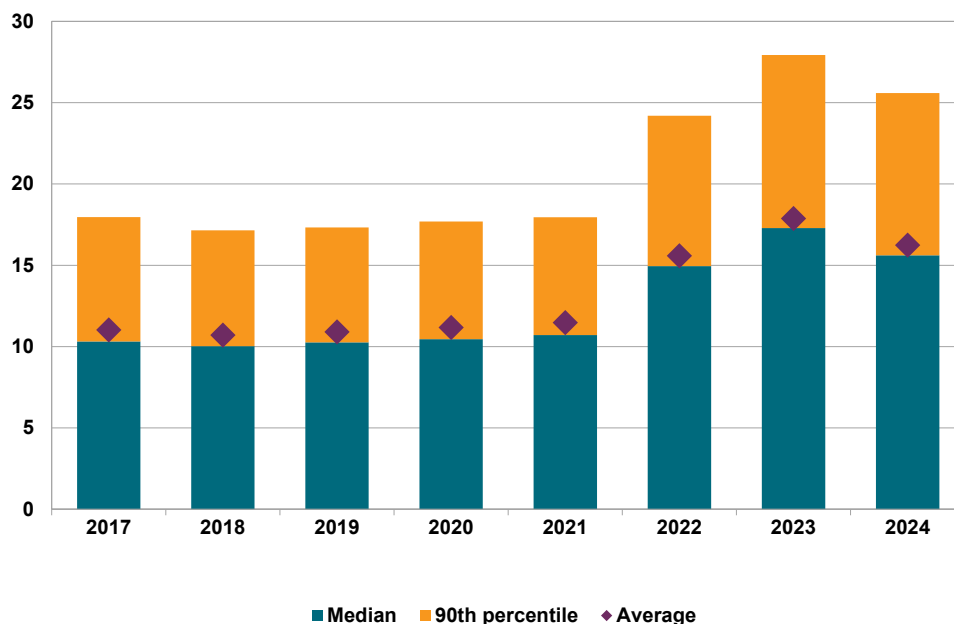
Note: Average LSR broken down into interest expense and amortisation. Calculated for borrowers who purchased a home and amortise. Interest expense after interest rate deduction.

Even though the LSR decreased in 2024, it has been lower before. During the period 2017–2021, more than half of the new mortgagors spent 10 per cent or less of their net disposable income on interest and amortisation payments for their mortgage (Diagram 17). Then, interest expenses constituted around 35 per cent of the average loan service payment; the rest was amortisation payments. The LSR subsequently increased, and in 2023, one out of three new borrowers had an LSR of 20 per cent or higher.

Despite the decrease in the average LSR in 2024, as well as the decrease in the share of new borrowers with a high LSR, there were still many new borrowers who had to allocate a large portion of their disposable income to loan service payments. Every second household with a new mortgage allocated at least 16 per cent of their disposable income to their loan service payment, and every tenth household allocated at least 26 per cent of their income to their loan service payment. New borrowers that purchased a home in the metropolitan areas and young, single borrowers had the highest average LSR.

### 17. Every tenth new borrower paid more than SEK 25,000/month in loan service payments

Per cent



Source: FI.

Note: LSR for new borrowers who amortise. Interest expense after interest rate deduction. LSR includes interest expense and amortisation for homes in relation to the household's income after tax. Refers to housing purchases, equity withdrawals and bank switches.

### Fact box – Total housing payments decreased in 2024 from high levels

The increase in households' housing costs in recent years was not only due to high interest rates; the sharp increase in inflation in 2022 and 2023 also had an impact. We do not have exact information about each home's total operating cost in our data, but we can estimate it.

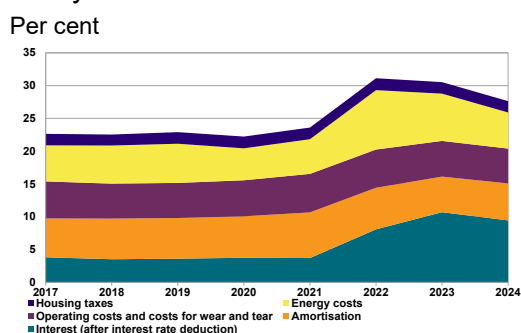
For households that purchased tenant-owned housing, the monthly fee to the tenant-owner association was the largest operating cost, and we have data in our sample for each unit's fee. For households that purchased a single-family home, energy represents a significant housing cost. We do not have information about each household's energy cost but based on the size of the home and the levels of electricity prices, fees and taxes, we can estimate the cost of energy for each home. A more detailed description of how we calculate the operating costs for each home is presented in Appendix 2.

We calculate the total housing payments each household in our sample that purchased a new home. Diagrams F4 and F5 show the average total payment for

residents, broken down into new borrowers who purchased either tenant-owned housing or a single-family home. We include amortisation, which are a payment but not a cost. We exclude the household's cost for equity that has been invested in the home, a cost that does not entail ongoing payments.

Housing payments increased sharply in 2022 and 2023 and were then on average more than 30 per cent of household's disposable income. Rapidly rising interest rates were behind this upswing. Significantly higher energy prices also contributed to larger housing payments, particularly for households that purchased a single-family home. In 2024, housing payments decreased to less than 30 per cent of disposable income as both interest rate levels and energy prices decreased. However, housing payments in 2024 were still higher than they were prior to 2022.<sup>26</sup>

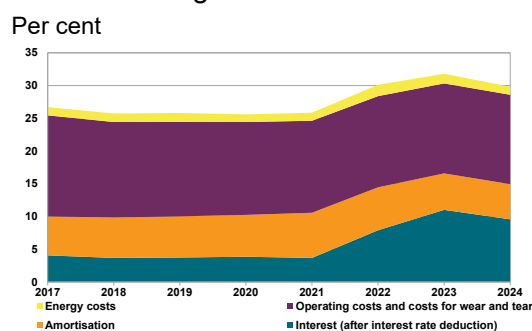
F4. Total housing payments for households that purchased a single-family home.



Source: FI.

Note: Housing payments as an average share of households' disposable income.

F5. Total housing payments for households that purchased tenant-owned housing.



Source: FI.

Note: Housing payments as an average share of households' disposable income.

<sup>26</sup> Housing payments in 2024 were on average 29.8 per cent of disposable income for households that purchased tenant-owned housing and 27.6 per cent for those that purchased a single-family home. Average payments for the years 2017 to 2021 were 25.9 and 22.8 per cent, respectively.

## Margins of borrowers

The share of new borrowers with a small calculated surplus per month in the banks' credit assessment was relatively unchanged in 2024. Within some groups of borrowers, a high share had small economic surpluses. The average nominal surplus has increased over time. But when we also consider the changes that banks have made in the calculation and the price increases in recent years, the consumption and savings capacity of new borrowers have decreased after paying for necessary housing and subsistence costs.

The economic margin of new borrowers after paying for housing costs, amortisation and subsistence costs shows their capacity for handling increased costs or a loss of income. It is important for both banks' credit quality and good consumer protection that the credit assessment ensures that new mortgagors have economic margins.

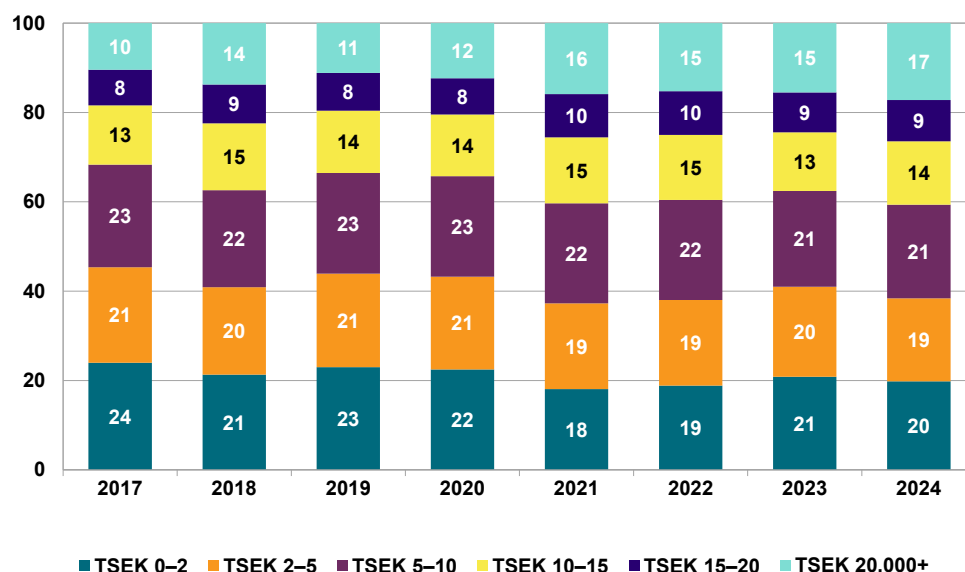
All banks included in the data calculate discretionary income as part of their credit check. In this calculation, the banks deduct the household's costs from its income. This includes interest and amortisation payments for the household's loans and the operating costs for the home. A standard amount is usually used for subsistence costs. To assess whether the household can handle a higher interest rate level than the one at the time the loan is issued, banks use a stressed interest rate in their calculations.

### Share of households with small surplus in banks' calculation relatively unchanged

The share of home buyers that had a small financial surplus after paying for necessary expenses, which was defined as a surplus of less than SEK 2,000/month in the discretionary income calculation, was almost 20 per cent in 2024. This share has remained relatively unchanged over time (Diagram 18). More than one out of four households that purchased a home had an estimated surplus of SEK 15,000 or more, a relatively unchanged share over the recent years.

## 18. Small changes in share of households with small surplus

Per cent



Source: FI.

Note: New borrowers broken down by the household's surplus in the banks' discretionary income calculation. Refers to households that purchased a home.

The development of the surplus over time is dependent to some extent on the composition of borrowers and their specific features as well as the development of income and costs. Stated in SEK, the median surplus in 2024 in the banks' discretionary income calculations was just above SEK 8,600 for new borrowers, an increase of almost SEK 1,000 compared to in 2023.<sup>27</sup> A borrower who lives by themselves with a given surplus has significantly greater room to manoeuvre financially compared to a family with children that has the exact same surplus in SEK. But borrowers who live by themselves as a rule also have a smaller surplus than cohabitating borrowers. Diagram A5 (Appendix 1) shows the surplus for households and per borrower. Per borrower, the median surplus was just under SEK 5,500 in 2024. This was SEK 450 higher than in 2023.

## Young, older, and single borrowers more likely to have small surpluses

The size of the households' surplus after paying for necessary costs differs based on the type of household. In particular, borrowers who live by themselves generally have significantly smaller margins than cohabitating borrowers. Households with children tend to also have a lower surplus. Among single borrowers that have

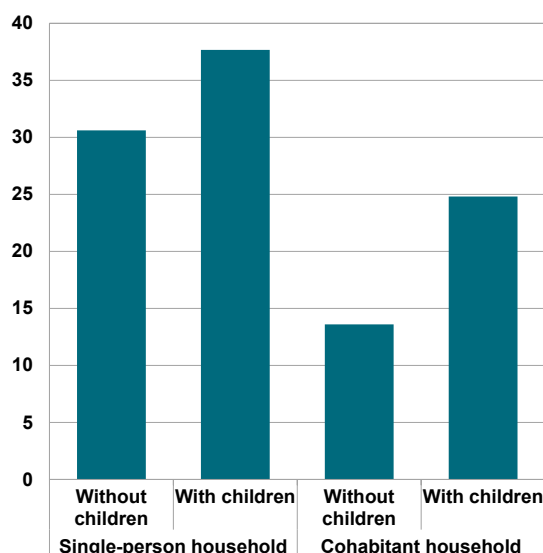
<sup>27</sup> There is a large spread in the reported surpluses. Some borrowers have a deficit in the calculation while others have a large surplus. We therefore show median figures instead of average figures.

children at home and purchased a home, almost 38 per cent in 2024 had a small surplus (less than SEK 2,000/month) (Diagram 19).<sup>28</sup>

There are also differences in the size of the surplus between age groups. The youngest borrowers (aged 18–30) and the oldest borrowers (older than 65) tend to have lower income than the other groups and therefore also lower surpluses in the discretionary income calculations. Among the youngest new borrowers that purchased a home, almost 30 per cent had a small surplus, and among the oldest homebuyers, almost one-third had a small surplus (Diagram 20).

19. Higher share of single households and families with children with small surplus

Per cent



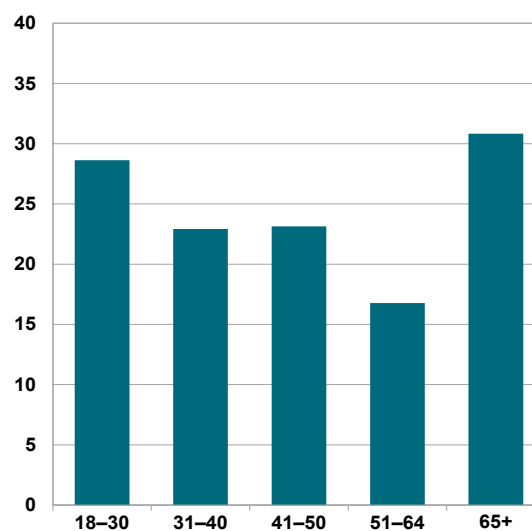
■ Less than SEK 2,000 per month and borrower

Source: FI.

Note: Share of borrowers with discretionary income surplus of less than SEK 2,000, broken down by household composition. Where applicable, households with a negative outcome in the discretionary income calculation are also included. Refers to new borrowers who purchased a home. Estimated surplus in the discretionary income calculation has been split evenly between cohabitating borrowers. Households with three or more borrowers have been excluded.

20. More young and older borrowers have small surpluses

Per cent



■ Less than SEK 2,000 per month and borrower

Source: FI.

Note: Share of borrowers with discretionary income surplus of less than SEK 2,000, broken down by age group. Where applicable, households with a negative outcome in the discretionary income calculation are also included. Refers to new borrowers who purchased a home. Estimated surplus in the discretionary income calculation has been split evenly between cohabitating borrowers. Households with three or more borrowers have been excluded.

<sup>28</sup> A very small share of the new mortgagors had a deficit in the banks' discretionary income calculations but were still granted a loan. There can be many different reasons for this, but usually the borrower in some other way shows that they have a good repayment capacity, for example through large holdings of assets. They are part of the group of borrowers with a deficit of less than SEK 2,000.

## High inflation has decreased buying power of new borrowers' surpluses

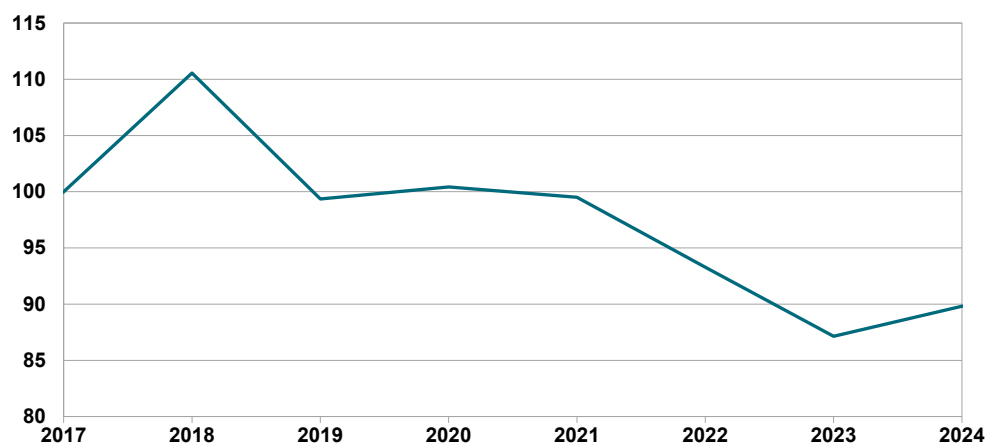
In practice, an unchanged discretionary income surplus entails a decrease in buying power due to an increase in consumption prices. In other words, a household's surplus does not cover as much consumption or savings as it did previously.

Diagram 21 shows a calculation of how the buying power of households' surpluses has developed since 2017. We have adjusted new borrowers' surpluses using the inflation trend (according to the CPIF measure) since 2017. In this calculation, we also reversed changes made to the stressed interest rates used in the discretionary income calculations so they are constant over time. The development was then indexed using 2017 as the base year.

When we consider price increases that affected households' subsistence costs, it is clear that they have had a negative impact on the buying power of households' surpluses. In 2022 and 2023, the buying power of the surpluses that new borrowers had left after paying for necessary costs decreased significantly due to the high inflation rate during these years. Despite some improvement, new borrowers' buying power in 2024 corresponded to 90 per cent of that of new borrowers in 2017.

### 21. High inflation decreased buying power of households' surpluses

Index, 100 = 2017



Source: FI.

Note: The calculation is based on the average surplus in the discretionary income calculation (after interest rate deductions). The surplus was then adjusted for changes in the stressed interest rate by holding this rate constant at the 2017 level and thereafter corrected using inflation figures from CPIF. Includes all new borrowers.



## Finances of tenant-owner associations

Tenant-owner associations' (TOA) average loan per square metre was higher in 2024 than it was in 2023. Newly formed associations in general had larger loans than existing associations. The average fee per square metre was also higher in 2024 than it was in 2023.

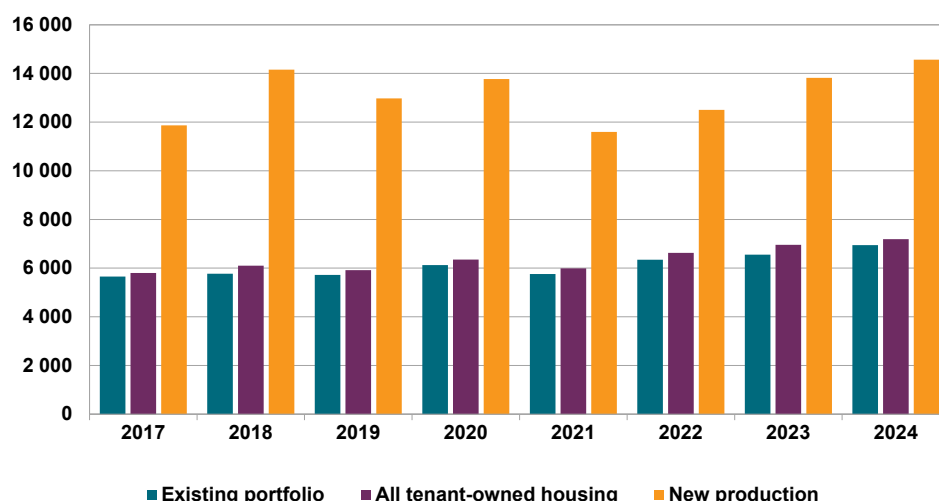
These associations' loans represent an indirect debt for owner of a tenant-owned unit. For home buyers, the finances of the association are therefore important. The associations' debt is also important for assessing borrowers' vulnerability. FI is therefore gathering data on associations' financial position.<sup>29</sup>

### TOAs' loans impact borrowers

TOAs' loans have averaged around SEK 6,000 per square metre of tenant-owned residential area over the years that FI has collected data. In 2024, the average was SEK 7,200 per square metre (Diagram 22).<sup>30</sup> This was an increase of just over 4 per cent compared to in 2023 and 9 per cent compared to in 2022. Borrowers in newly formed TOAs had on average approximately twice as much debt per square metre compared to borrowers in existing TOAs.<sup>31</sup>

#### 22. TOAs' loans per square meter of residential area are higher in new production

SEK



Source: FI.

Note: Existing portfolio refers to homes that are not reported as new production.

<sup>29</sup> We do not have complete information about TOAs' finances.

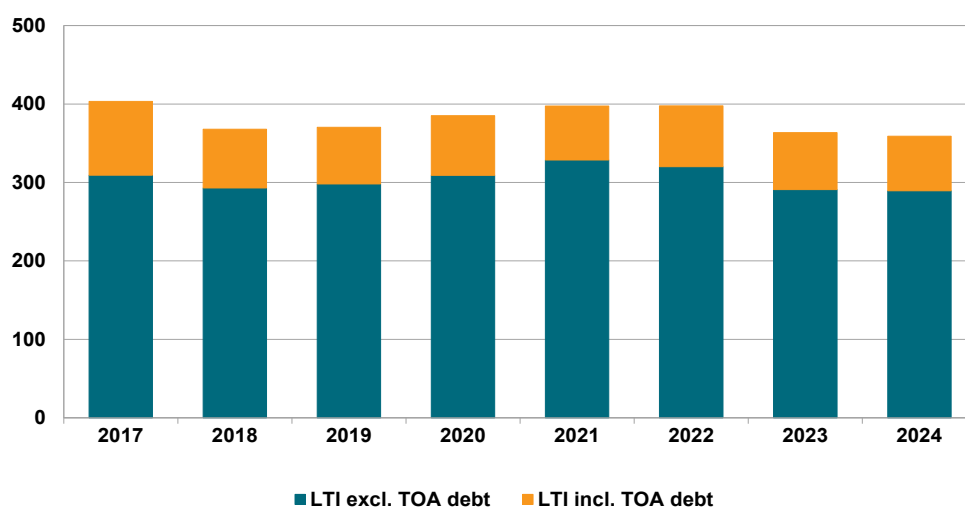
<sup>30</sup> The difference between the existing and the total portfolio is small.

<sup>31</sup> FI estimates that approximately 4 per cent in the sample refers to new production.

We estimate borrowers' share of the association's debt using a simplified method. The results can then be included in the calculation of the LTI ratio to estimate the sum of the borrowers' direct and indirect loans in relation to their income.<sup>32</sup> In the 2024 sample, when the TOAs' loans are included, the average LTI ratio – the household's mortgage in relation to gross income – for new mortgagors living in tenant-owned housing was approximately 24 per cent higher than when excluding the TOAs' loans (Diagram 23). For mortgagors in newly formed TOAs, the LTI ratios were almost 40 per cent higher when the indirect loan is included.

### 23. LTI ratio is higher when TOA loans are included

Per cent



Source: FI.

Note: Refers to gross LTI ratio for all mortgages. All tenant-owned housing units.

### Fees continue to be higher for tenant-owners

Most households that live in tenant-owned housing pay a monthly fee to the association. What is included in the fee varies from one association to another, which means that the fees are not fully comparable between borrowers. Often, the fee includes operating expenses, for example heating, water and waste collection. Payment of the association's loans and contributions to maintenance of the property are also normally covered by the fee.

The higher interest rate has had a gradual impact on TOAs' finances. As interest rates increased, TOA fees also increased.<sup>33</sup> The interest rate cuts in recent years provide relief for TOAs that have debt. However, interest rate expenses for TOAs in 2024 were still significantly higher than they were several years ago. The

<sup>32</sup> Data on the TOA's assets is unavailable in our sample, as is each unit's share of the association. Therefore, the calculation uses only the product of the reported loans per square metre and the area of the unit as an estimate of the tenant-owner's indirect loans.

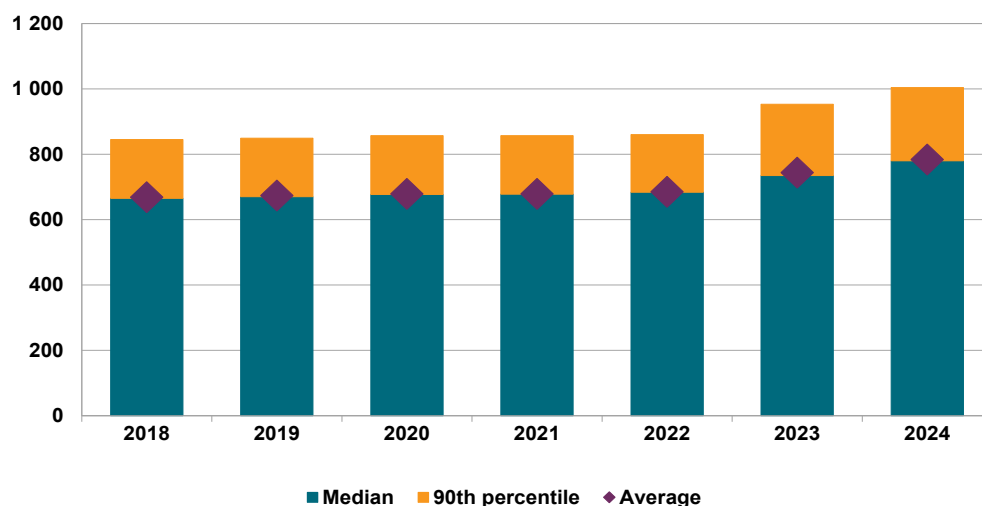
<sup>33</sup> How much and how quickly interest expenses increase is dependent on how much of the association's loans are at a variable rate and a fixed rate, respectively.

Swedish economy is also experiencing a downturn, which could mean that TOAs' rental income for commercial premises could decrease if tenants terminate their rental contracts. At the same time, the increase in prices has also had an impact on TOAs, and operating costs have increased. Many associations have already increased their monthly fees, albeit to varying extents. More may do so to be able to maintain the same maintenance standard and at the same time manage higher costs in general, including interest rate expenses and potentially lower rental income.<sup>34</sup> Even if interest rates have gone down, associations that have had fixed rate loans at low interest rates may need to renew these loans at a higher rate. Interest expenses for TOAs facing such a dilemma could continue to put pressure on the association's fees. Compared to existing TOAs, associations for newly produced tenant-owned housing often have larger loans. They are therefore particularly vulnerable to rapid changes in interest rates if they have chosen a variable interest rate period for their loans.

FI estimates the annual fee per square metre using data on the monthly fee to the association and the size of the tenant-owned unit. In the 2024 sample, the average fee per year and square metre was SEK 784. This figure was approximately 5 per cent higher than in the previous year and almost 15 per cent higher than in 2022 (Diagram 24). Borrowers in newly built tenant-owned housing paid slightly higher fees to their associations than borrowers in existing tenant-owned housing.

#### 24. Annual fee per square metre of residential area has increased sharply since 2022

SEK



Source: FI.

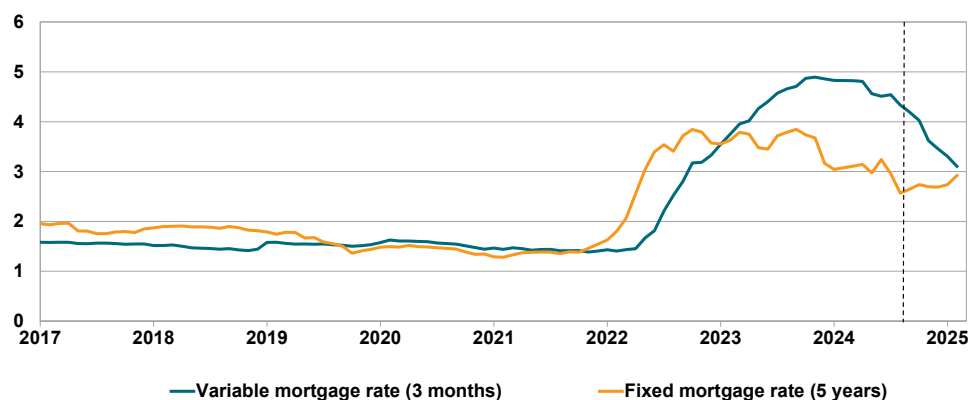
Note: Refers to all types of tenant-owned housing.

<sup>34</sup> Interest expenses related to mortgages are deductible for mortgagors, but tenant-owner associations may not deduct their interest expenses.

## Appendix 1, diagrams

### A1. Variable mortgage rates started to decrease in 2024

Per cent

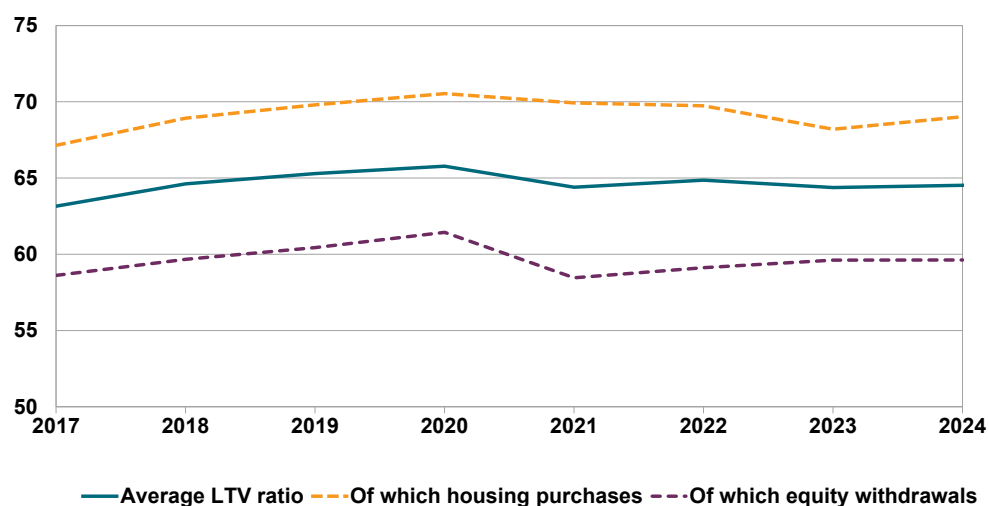


Source: Statistics Sweden.

Note: MFI average mortgage rates, new agreements. Fixed mortgage rate refers to Statistics Sweden's classification "more than 3 years and up to and including 5 years". Vertical dashed line shows the approximate point in time for when the new mortgages were paid out.

### A2. Average LTV ratio increased marginally in 2024

Per cent

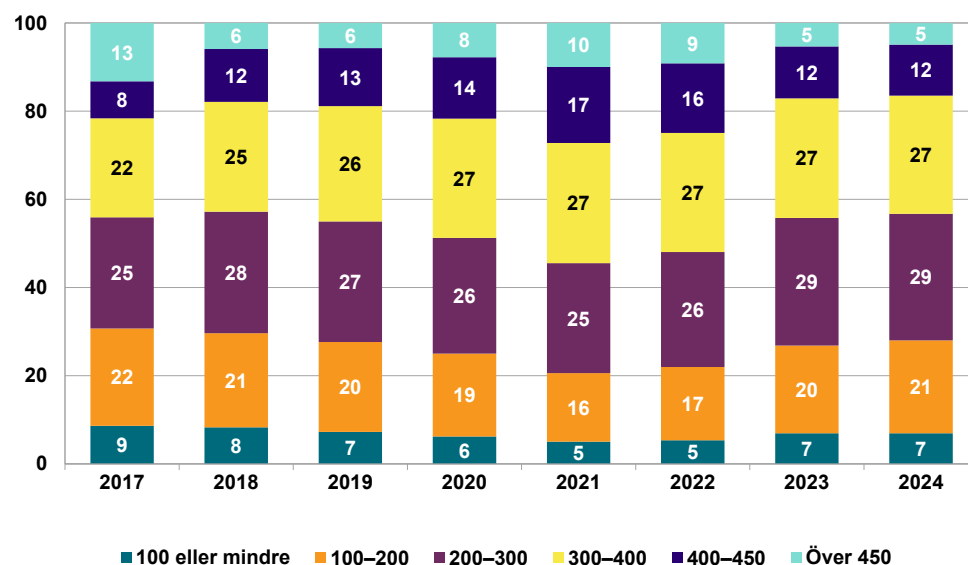


Source: FI.

Note: The LTV ratio is calculated as the size of the mortgage in relation to the value of the home. Average LTV ratio refers to all new mortgages, home purchases, equity withdrawals, and bank switches.

### A3. Unchanged share of borrowers with high LTI ratio in 2024

Per cent

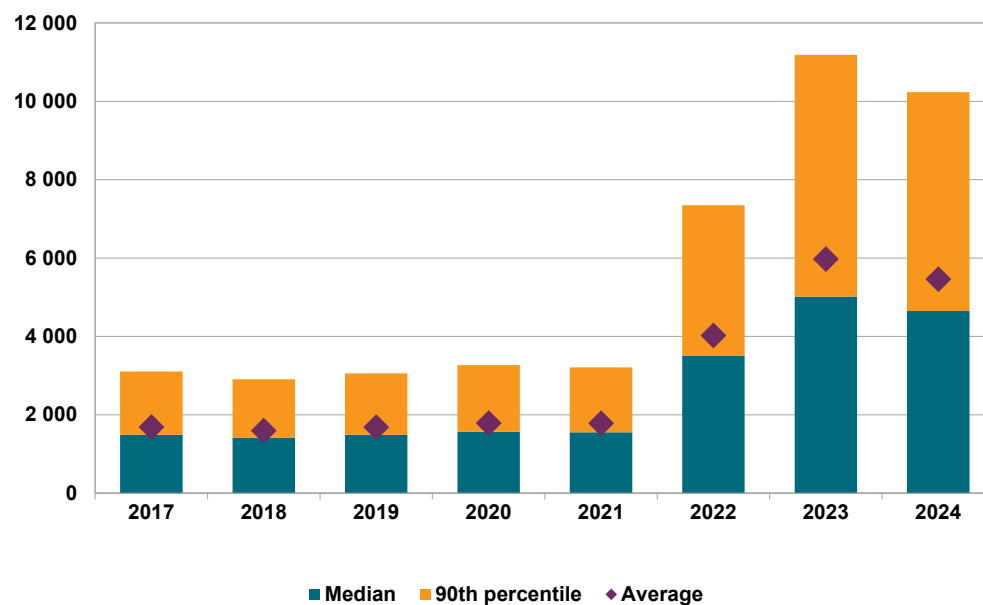


Source: FI.

Note: The LTI ratio is calculated as gross income divided by the total mortgage. Refers to home purchases, equity withdrawals and bank switches.

### A4. Interest expense decreased in 2024

SEK

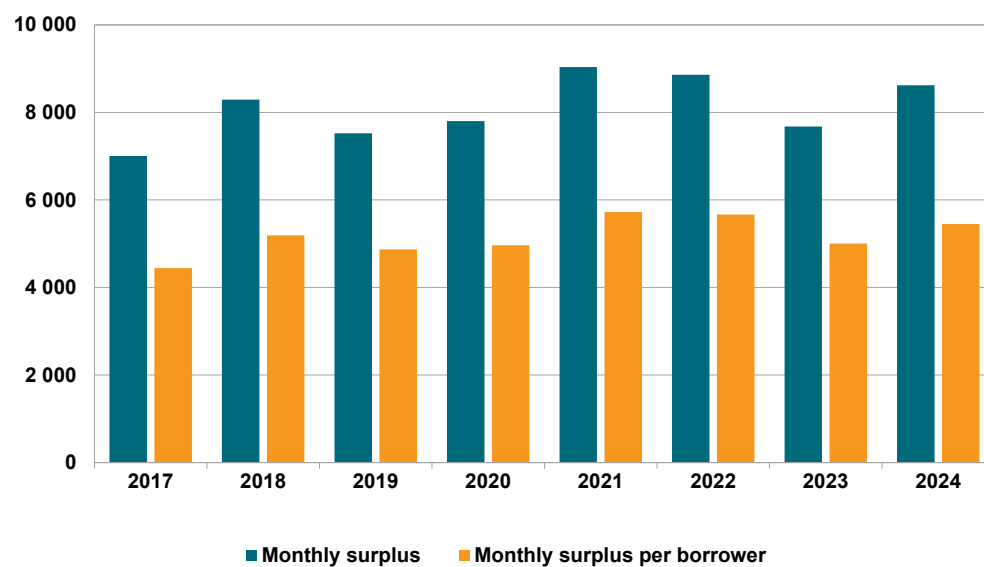


Source: FI.

Note: Interest expense per month after interest deduction. Refers to home purchases, equity withdrawals and bank switches.

#### A5. Monthly surplus broken down by household composition

Per cent



Source: FI.

Note: Refers to the median values. For monthly surplus per borrower, the reported discretionary income has been split evenly between cohabitating borrowers. Loans with three or more borrowers have been excluded. Refers to home purchases, equity withdrawals and bank switches.

## Appendix 2

We describe in more detail in this appendix how we have calculated homebuyers' housing costs.

### Interest expenses and amortisation payments

The interest expense is determined by the actual interest rate the household is paying for the mortgage, including an interest rate deduction of 30 per cent. If the loan has been broken down into different maturities, we weighted the interest rate by volume. Amortisation payments are the actual agreed amortisation payments.

### Energy costs

Households' electricity costs consist of fixed basic fees and fees for consumption. The parts that are determined by consumption is the price for consume electricity including VAT, energy tax including VAT, and the power fee. Where the housing is located in the country (electricity zone) also has an impact on the price of electricity. To estimate each home's electricity consumption, we use average consumption levels.<sup>35</sup> We then calculate each home's electricity consumption based on the size of the home. To the greatest extent possible, each home has also been classified by the electricity zone in which it is located to be able to apply the correct price, which has been obtained from Statistics Sweden. In this case, we use the price for variable electricity agreements. As a final step, the households' fees, taxes and cost for consumed electricity have been added together to determine the total electricity cost.

### Operating costs and costs for wear and tear

For tenant-owned housing, the operating cost consists mainly of the fee to the association, with the addition of some costs such as home insurance and electricity. We have data on the fee for each tenant-owned unit, which we use here.

Information about operating costs in addition to electricity and the monthly fee for tenant-owned housing is taken from Statistics Sweden's data on housing costs and is used here in the form of standardised amounts.

In addition to operating costs there is also a need to compensate for wear and tear of the home. We set the annual cost of wear and tear at 1 per cent of the market value for single-family homes.<sup>36</sup> For tenant-owned units, the association is

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<sup>35</sup> According to available statistics, electricity consumption for an average single-family home is 20,000 kWh/year.

<sup>36</sup> We apply 1 per cent of the part of the market value that is attributable to the property. The breakdown of the market value between land and the property is determined using standards from Statistics Sweden's aggregate statistics.

responsible for external maintenance and has thus set the rate of wear and tear to 0.5 per cent annually.

## Housing taxes

Housing-related taxes are paid by households that purchased a single-family home and consist of property tax as well as stamp duty and mortgage tax. The property tax is 0.75 per cent of the tax assessment value, although with an upper limit in 2024 of SEK 9,525. We calculate each household's property tax based on the tax assessment value. Most of the new homebuyers pay the upper limit. The stamp duty and mortgage tax is a one-time tax paid when purchasing a single-family home, but it can be a significant amount. We distribute the tax expense across the time the household lived in the home. The tax rate used in the model is thus set to  $(1/30)$  of the estimated stamp duty and mortgage tax.