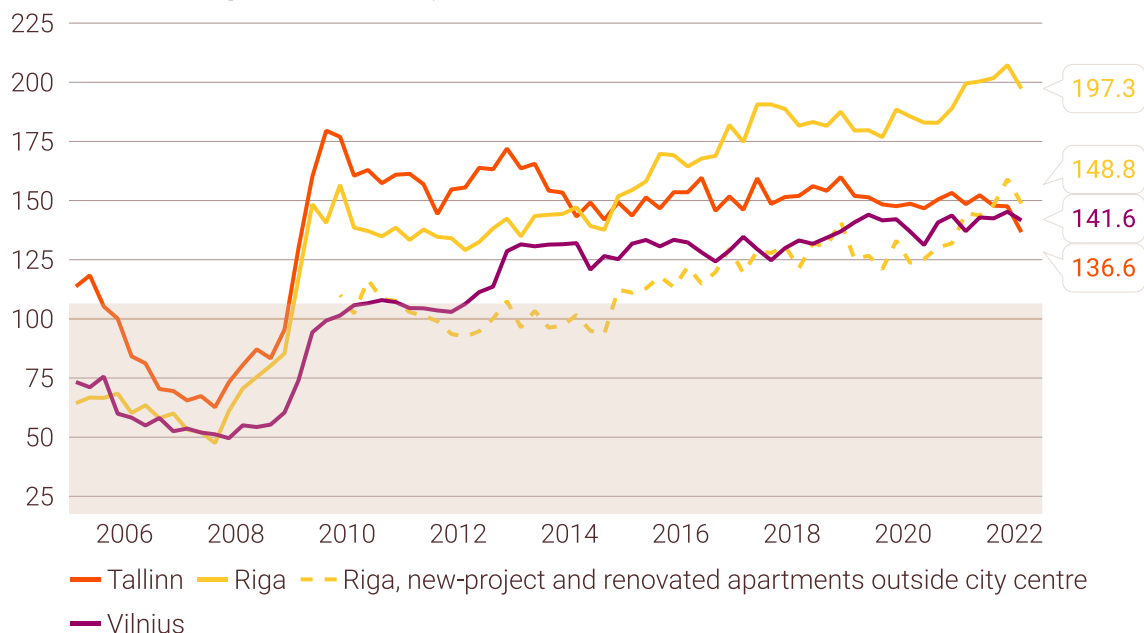


## Baltic HAI – affordability still high, but outlook is getting bleaker

### Quarterly decrease in all Baltic capitals, rising rates, and high inflation to depress future affordability

#### Baltic Housing Affordability Index



Over the quarter, housing affordability deteriorated in all three Baltic capitals. Compared with the same period last year, the housing affordability index (HAI) increased in Vilnius but declined in Riga and Tallinn, with the Estonian capital registering a more pronounced drop. However, rapidly increasing reservation prices indicate that prices of newly built apartments are growing even more steeply and dent in affordability could be larger.

A decrease in interest rates in the first quarter supported housing affordability in the Baltics. Average wage growth in Vilnius surpassed average apartment price growth, lifting housing affordability in annual terms. Meanwhile, in Riga and Tallinn, average apartment price growth exceeded wage gains, resulting in a decrease in the HAI.

Rising interest rates are expected to depress housing affordability in the upcoming quarters. Rising construction costs, construction delays due to material shortages, and strong demand for housing will all keep upward pressure on housing prices across the Baltics. However, the skyrocketing inflation will significantly reduce purchasing power. While nominal wages will continue to grow and support high levels of the index, real wages are likely to decline in the near term and stabilise by the end of the year. Combined with the depressed economic outlook, the HAI is in practice unlikely to increase in the near future.

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Sources: Swedbank Research & Macrobond

Note: Housing Affordability Index (HAI) is calculated for a family whose income is equal to 1.5 average net wages with an average-sized apartment of 55 square meters. The HAI is 100 when households use 30% of their net wages for mortgage payments. When the HAI is at least 100, household can afford their housing, according to established norm. The higher the index, the greater the affordability.

## Apartment price growth accelerates in Baltic capitals faster than statistics show

### Time lag between reservation and completion of flats leads to underestimated prices in statistics

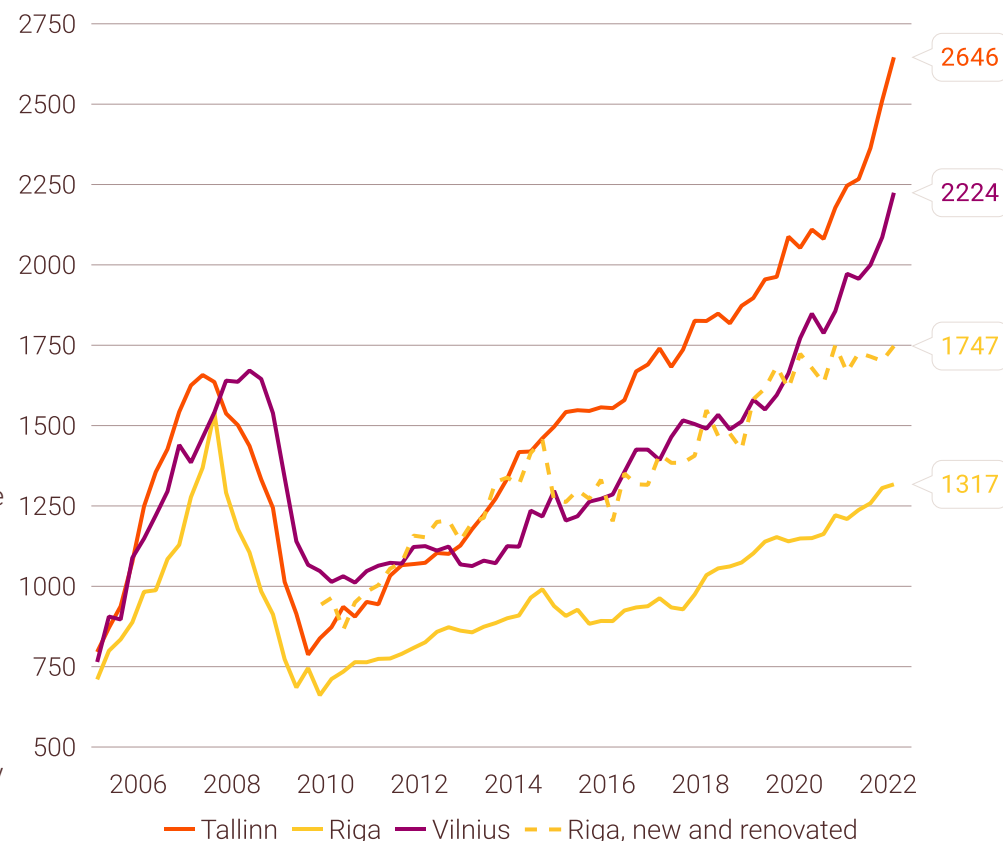
In Tallinn, apartment price growth reached 18% y/y in the first quarter. However, this increase accounts for the reservations of new apartments made a year ago. The supply shortage of new flats has intensified, and construction cost growth has accelerated. This has driven prices of new flat reservations further up – something that is not yet reflected in the statistics. Meanwhile, the demand is strong, pushing up prices also in the secondary market. According to preliminary data, price growth in the secondary market, which is reflected in the statistics in real time, accelerated to 28% y/y in April and 31% y/y in May – rates we haven't seen since 2006–2007. The demand for housing will keep strong in the near term; however, worsened affordability and the somewhat overvalued market could start weighing on it.

In Riga, weighted average price growth of apartments accelerated, reaching 8.9% in annual terms. Solid demand, in combination with limited supply, increased prices of Soviet-era apartments by 15% in annual terms. Statistics show prices of newly built apartments increasing by a mere 4.9% at the same time that skyrocketing construction costs and shortage of materials and labour have resulted in a surge in real-time reservation prices. The latter will be reflected in statistics only when the apartments are completed. The time lag from reservation to completion reaches two years in the most extreme cases. The lagged and, hence, currently underestimated price statistics of completed newly built apartments are leading to a slightly too upbeat HAI in Riga.

In Vilnius, official registry data show that housing appreciated 12.8% annually in the first quarter, but this is a gross underestimation. The repeat house sales index published by the Bank of Lithuania indicates price growth of 30% during the same period. Strong income growth and a shortage of newly built apartments are the primary drivers of price. Although construction start numbers are high, supply shortages are delaying construction, and housing inventory remains low. The situation is exacerbated by the inflow of refugees, which, at least in the near term, is significantly increasing demand for housing. At least some parts of the market are currently overvalued, and consequently there is hope that excess demand will subside, but the situation in housing market will remain tense in the coming quarters.

#### Average apartment price

EUR/m<sup>2</sup>



Sources: Swedbank Research & Macrobond

## Inflation eats away wage gains

### Real wages declined in first quarter across the Baltics; further decrease expected

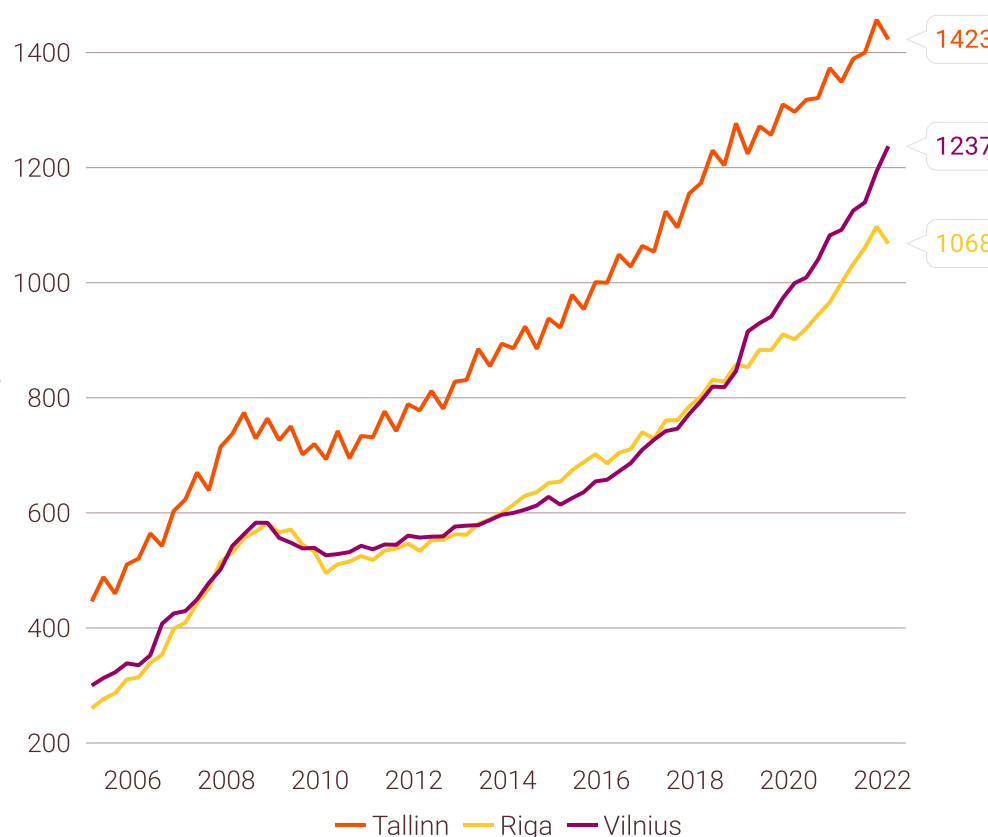
Net wages accelerated in Vilnius in the first quarter, reaching 13.3% growth in annual terms. Meanwhile, a slowdown was registered in Tallinn and Riga- wages grew by 5.5% and 6.8% respectively, compared with a year ago.

In Tallin and Vilnius, wage growth was supported by a minimum wage increase. Labour shortages remain widespread in the Baltics, and unemployment continues to decline, increasing workers' chances of negotiating higher wages. However, employers face rising costs on all fronts; this sets significant limits for a possible wage increase, putting downside pressure on future wage growth.

Consumer prices continue to accelerate in the Baltics. The first quarter registered a decline in real net wages in all the Baltic capitals. Inflation has accelerated further; in May it reached 20%, 18.9%, and 16.9% in Estonia, Lithuania, and Latvia respectively. We expect purchasing power to suffer a dent this year and start picking up in 2023. Combined with anxiety regarding future price increases, this could lead towards a short-term spike in demand, as the fear of -missing-out on current prices kicks in and people try to hedge against high inflation. Eventually, on the back of reduced housing affordability, the excess demand might fade. Rising interest rates will increase the cost of mortgage servicing, which will likely have some negative effect on households' willingness to increase their indebtedness.

In Tallinn and Vilnius, the number of months needed to save for a down payment was 34.1 and 33, respectively. In Riga it was equal to 22.9 (28.4 for new projects and renovated apartments). Higher price growth will lead to larger down payments. If the price-to-income ratio increases, the time to save up increases and weighs on housing affordability.

**Average monthly net wage**  
EUR



Sources: Swedbank Research & Macrobond

## Activity is not ebbing in the Baltics

### Supply of apartments is lagging

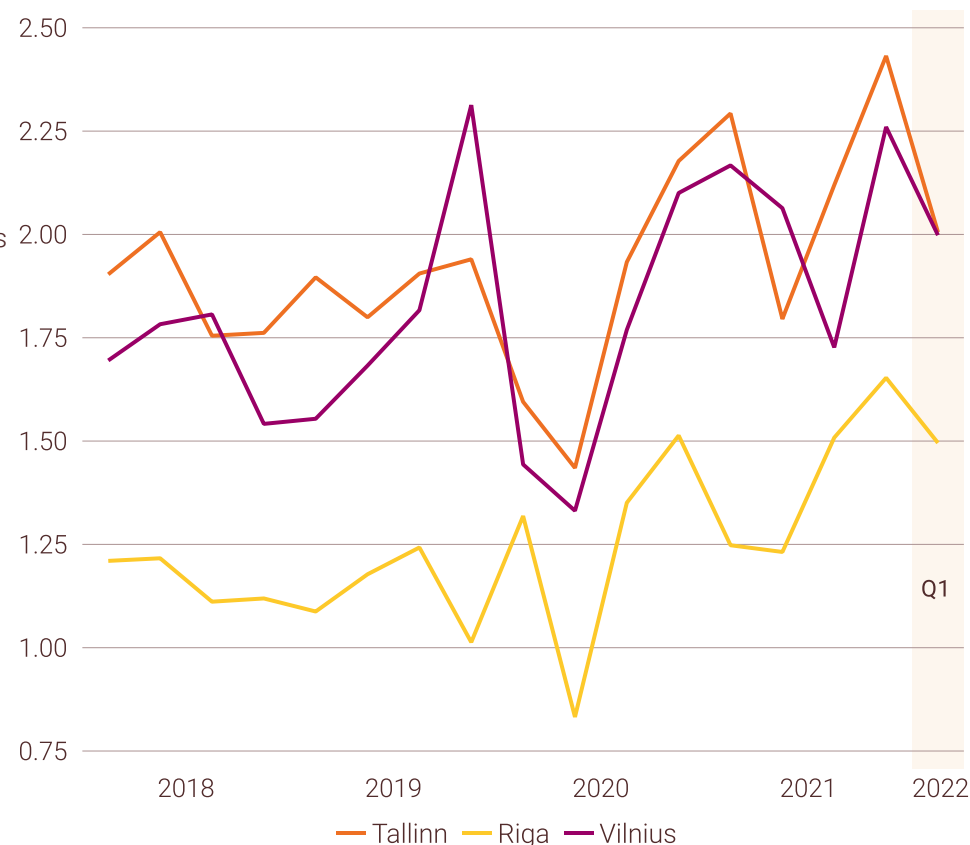
In Tallinn, strong demand, a shortage of new flats, and higher construction costs are driving price growth. The high inflation, while raising prices of rental flats due to demand by refugees from Ukraine, has also attracted increased investment in real estate. Demand remains strong in Tallinn; however, there is a good chance that prices are overvalued and worsening affordability might start weighing on demand. The HAI for newly built apartments has already reached a level where an apartment is not easily affordable for a household receiving 1.5 the net wage income.

In Vilnius, market activity levels normalised in the first quarter. Secondary market sales decreased, but the persistence of the drop cannot be evaluated yet. The high uncertainty leaves little room for concrete conclusions or forecasts on future market activity. Current market prices are also deemed to be slightly overvalued in Vilnius.

In Riga, market activity remains strong: transaction activity has increased, supported by the high number of apartment buildings finished at the end of last year. Market activity increased the most in newly built apartments outside the city; this activity is likely to continue to increase as buyers might be rushing to close deals before prices rise even higher. Developers are becoming more sensitive to cost overruns, applying higher premiums to prices in forthcoming developments. In rare cases, developers have cancelled reservations to increase prices. More and more developers are cautiously monitoring the situation in the market, as construction costs keep rising and they are unwilling to suffer losses.

### Transaction activity in Baltics

Transactions per 1000 residents



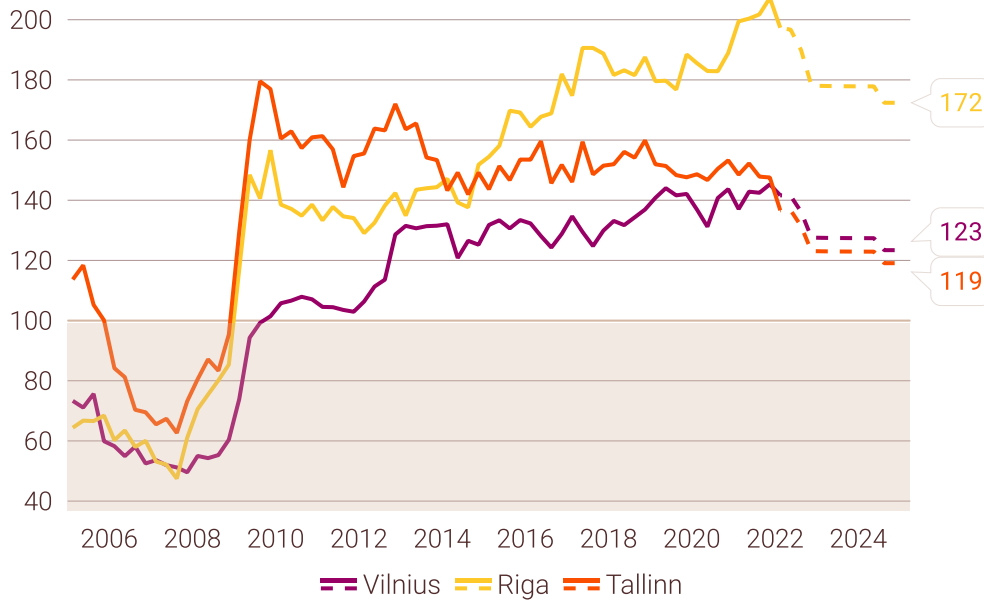
Sources: Swedbank Research & Macrobond

# In fight with inflation, affordability will suffer

## Three scenarios with different interest rate hikes examine potential developments of future affordability

### Baltic Housing Affordability Index

Swedbank scenario: 6M euribor



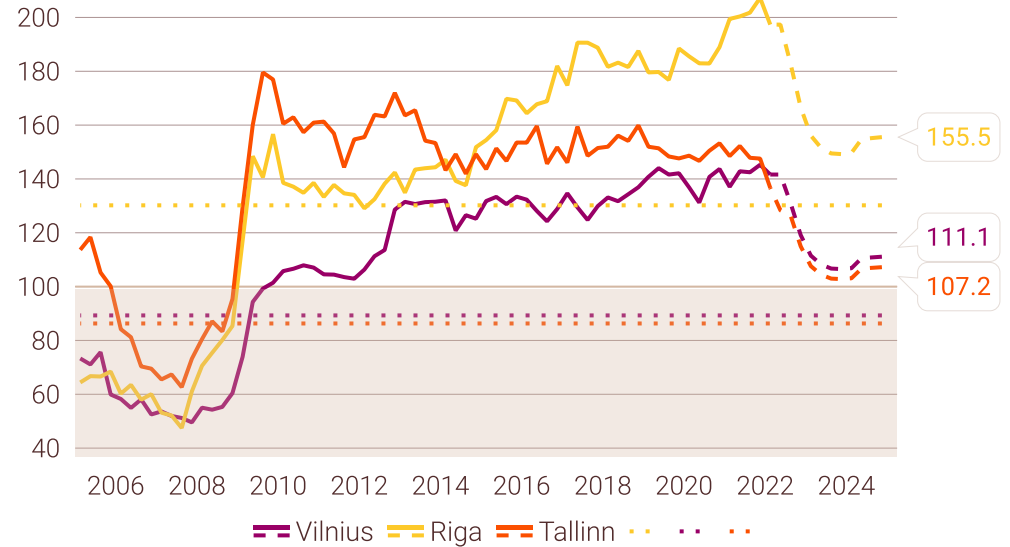
Sources: Swedbank Research & Macrobond

The actions of the European Central Bank (ECB) to combat high inflation in the euro area are lifting the Euribor (euro interbank offered rate) interest rates and eventually will raise the cost of mortgage servicing for households in the Baltics. Most mortgage loans are based on flexible interest rates – a higher Euribor will affect most borrowers. We have modelled two possible scenarios of the impact of a future increase of the Euribor on housing affordability, leaving other components unchanged. Both scenarios assume wages and prices remain at the level of the first quarter of 2022 and assess only the impact of rising interest rates.

The housing affordability projected with Swedbank’s six-month Euribor forecast shows a rather gradual decline. Markets have priced in a steeper rise of the Euribor (we use three-month Euribor EUREX futures), assuming a more hawkish ECB. Thus, this shows a more pronounced drop in affordability. Mortgage

### Baltic Housing Affordability Index

Market expectations scenario: 3M euribor futures



Horizontal dotted lines indicate affordability in each capital city in extreme hiking environment where interest rate on mortgages equals 6%. Colours correspond to the ones indicated in the legend. Sources: Swedbank Research & Macrobond

contracts in all the Baltics are mostly tied to the six-month Euribor, which historically has been somewhat higher than the three-month Euribor.

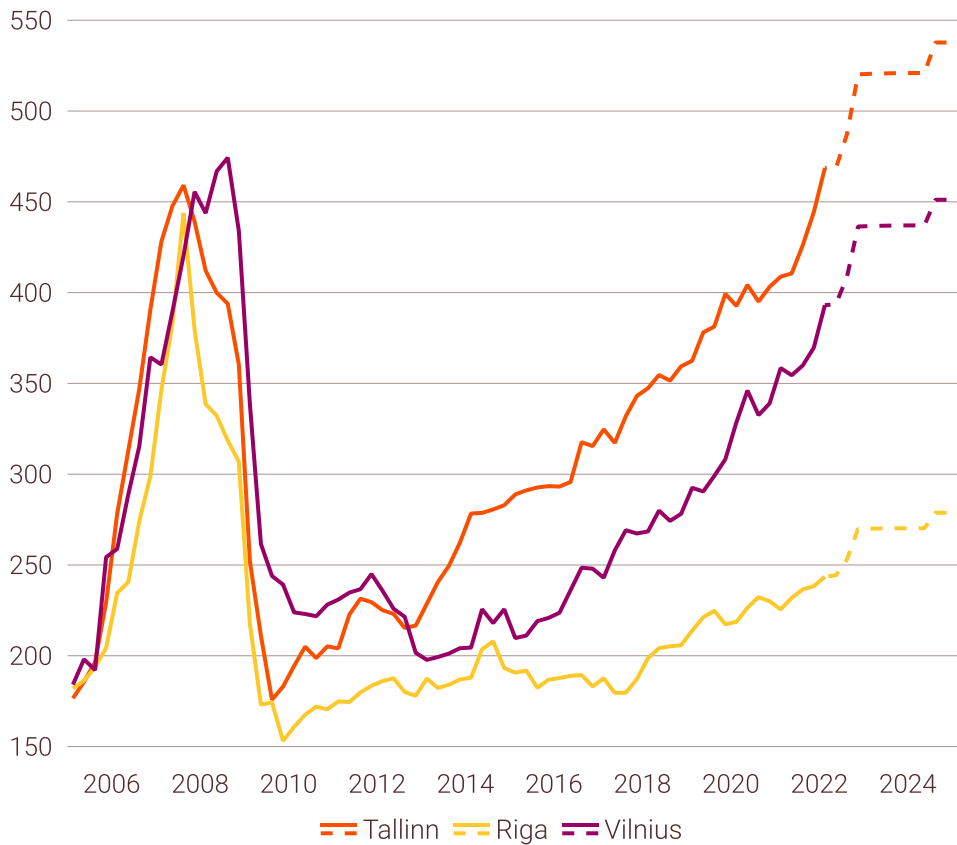
In addition, an extreme or risk scenario with a 6% mortgage interest rate (Euribor rate + loan margin) has been added. Historically, the highest six-month Euribor reading has been around 5.5%. This scenario examines the effects of a severe rate increase, which currently possesses an extremely low probability. The extreme scenario shows that affordability in Tallinn, Riga, and Vilnius drops to 86.3, 130.2, and 89.3, respectively, with the effect of increased interest rates (and other components unchanged). While this scenario is highly unlikely, it indicated that housing would become unaffordable in Vilnius and Tallinn in the case of very aggressive hiking by the ECB.

# Rising interest rates will bite already suffering purchasing power

## Monthly mortgage payments will take up larger part of income

### Monthly mortgage payment

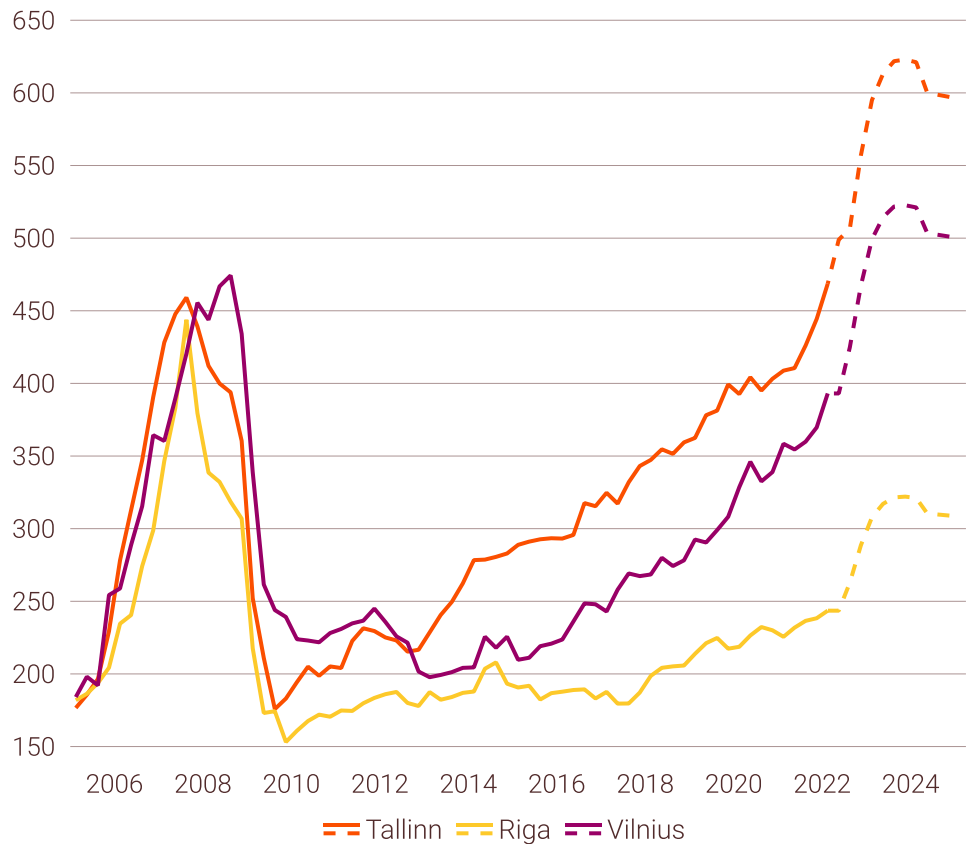
New loans only, swedbank scenario: 6M euribor



Sources: Swedbank Research & Macrobond

### Monthly mortgage payment

New loans only, market scenario: 3M euribor



Sources: Swedbank Research & Macrobond

# Baltic Housing Affordability Index: Methodology

## Objective

The Baltic housing affordability index (HAI) measures the degree to which households can afford buying an apartment with a mortgage loan in the Baltic capitals.

## Norm (the main assumption)

Household monthly mortgage payments do not exceed 30% of household income.

## Variables

- Average apartment price per m<sup>2</sup>: three-month average apartment transaction price per m<sup>2</sup> in Baltic capitals.
- Household income: 1.5 of average monthly net wages in Baltic capitals.
- Mortgage interest rate: three-month average annual percentage rate of charge (including interest rate and other related charges) for new housing loans to households, issued in euros, in the Baltics.

## Other assumptions

- Average apartment size: 55 m<sup>2</sup>.
- Down payment: 15% of total apartment price.
- Term: 30 years.
- Saving rate for down payment: 30% of household income.

## Calculation of HAI

The HAI shows actual household income in relation to the income that meets the norm. Thus, if the HAI equals 100, a household uses 30% of its income to service mortgage payments. If the HAI exceeds 100, the household has higher income than required to satisfy the norm. And if the HAI is below 100, the household does not have sufficient income to fulfil the norm.

$$\text{HAI} = \frac{\text{AverageINC}}{\text{NINC}} \times 100 \quad \text{where } \text{NINC} = \frac{\text{PMT}}{30\%}$$

where AverageINC – household income;

NINC – household income that satisfies the norm; and

PMT – monthly mortgage payment.

## HAI of new-project and renovated apartments

The calculation of HAI of new-project and renovated apartments for Riga is intended to improve the comparability of affordability levels across the three capitals because it considers new-project and renovated apartments – types of apartments more commonly purchased in Tallinn and Vilnius. It takes into account housing affordability in newly built and renovated apartments (i.e., done after 2000 outside the city centre).

All variables and assumptions, except for the average apartment transaction price, remain the same. That is, for the calculation of HAI for new-project and renovated apartments, the average apartment transaction price of newly built and renovated apartments (i.e., done after 2000) outside the city centre is used.

The new index and associated apartment price variable are represented by a yellow dashed line in the graphs of the report.

## Limitations

The HAI provides an indication of the average household situation, not that of a particular household. Household income and mortgage interest rates faced by a particular household may differ from those presented in the report. The HAI accounts for mortgage costs but excludes taxes and subsidies, including property tax and interest deductions. It also does not consider other household expenses that could affect the household's ability to service mortgage payments, such as rent, lifestyle, or existing liabilities. The HAI does not provide any direct guidance for business decisions, including lending and interest rate decisions.

The average apartment price per m<sup>2</sup> reflects past transactions and does not necessarily indicate the potential affordability or price of apartments in the future. Differences in apartment segment structure and the physical condition of newly built apartments at the time of purchase might affect the comparability of the average apartment price per m<sup>2</sup> across the Baltic capitals.

The HAI is of an informative nature and reflects macroeconomic developments, rather than banks' decisions and lending policies or the potential behaviour of individual households.

## Change of data

A data revision was made in the fourth quarter of 2019 for Riga. The history of wages, prices, and transaction counts was changed in 2011.

## Frequency

Quarterly



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