

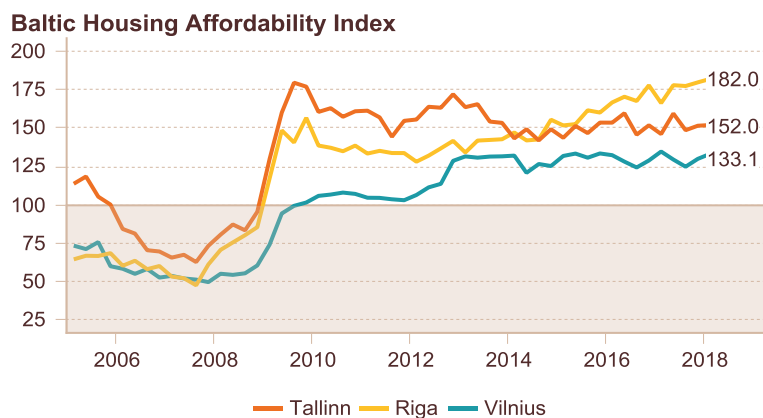
June 8, 2018

# Baltic Housing Affordability Index

The housing affordability index (HAI) increased to 182.0 in Riga and 152.0 in Tallinn, but decreased to 133.1 in Vilnius

- In Tallinn, the HAI rose by 5.9 points in the first quarter of 2018, compared with the same period in 2017, as very rapid wage growth offset apartment price and interest rate increases.
- In Riga, the HAI improved by 15.8 points as brisk wage growth and a decline in interest rates surpassed an increase in apartment prices.
- In Vilnius, the HAI decreased by 1.5 points as fast wage growth could not outweigh apartment price growth and an increase in interest rates.
- The time needed to save for a down payment decreased by a month and three weeks in Tallinn, by around two months in Riga, and by three weeks in Vilnius, to 28.5, 23.6, and 34.4 months, respectively.

The housing affordability index (HAI) is calculated for a family whose income is equal to 1.5 of 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 costs. When the HAI is at least 100, households can afford their housing, according to the established norm. The higher the number, the greater the affordability.



Source: Swedbank Research & Macrobond



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## Components of HAI: apartment prices, interest rates, and wages

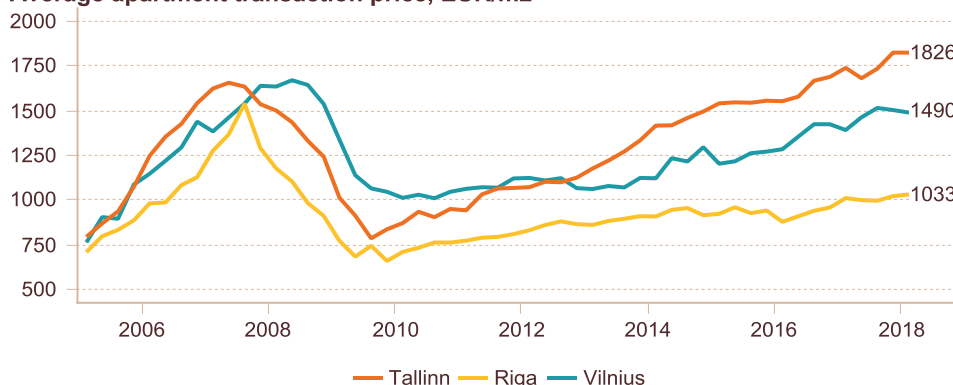
### Apartment prices

In the first quarter of 2018, growth in annual apartment transaction prices gained pace in Vilnius but eased in Tallinn and Riga. In Vilnius, prices of both newly built apartments and apartments built more than two years ago picked up in the first quarter of this year. However, the price growth of new apartments outpaced significantly that of older ones. Slower price growth in Soviet-era apartments determined a more moderate average price growth in Riga. Yet, the slowdown in the Soviet-era apartment price growth is likely only temporary. In addition, price growth in the new economic apartment segment remained elevated. Apartment price growth in Tallinn was not broad based. Slower apartment price growth in Tallinn was due to the deceleration of the price growth in the city centre to 1.6% on an annual basis. This was caused by the base effect, as last year in January prices in the city centre grew by 22.1% on an annual basis. Therefore, the deceleration of the price growth was temporary, and preliminary data show 8% and 10.8% growth in April and May, accordingly.

**Annual growth,  
1<sup>st</sup> quarter, %**

**Tallinn: 4.9  
Riga: 2.0  
Vilnius: 7.0**

**Average apartment transaction price, EUR/m<sup>2</sup>**



Source: Swedbank Research & Macrobond

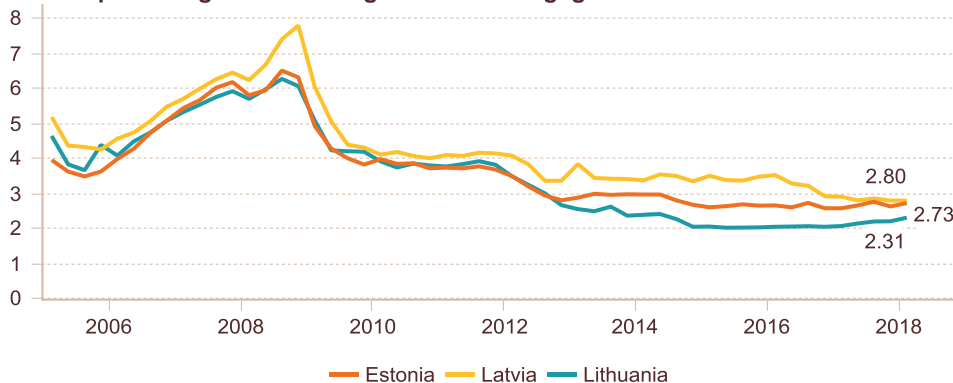
### Interest rates on mortgages

While mortgage interest rates increased in Estonia and Lithuania on an annual basis, interest rates in Latvia decreased. In Lithuania, the recent rise in mortgage interest rates could have been related to a possible increase in the number of higher-risk borrowers and still-high demand for mortgages as well as the announced introduction of the anti-cyclical capital reserve requirement on commercial banks by the Bank of Lithuania, which will become effective by the end of this year. In Latvia, the interest rates continued declining, mainly on the back of competition among banks but also because of the still somewhat dormant, yet gradually increasing, mortgage demand. The six-month euro interbank offered rate (EURIBOR), which is most commonly used for mortgage interest rates, declined from -0.24% in the first quarter of 2017 to -0.27% in the first quarter of 2018.

**Annual growth,  
1<sup>st</sup> quarter, basis points**

**Estonia: +15  
Latvia: -11  
Lithuania: +24**

**Annual percentage rate of charge for new mortgages to households**



Source: Swedbank Research & Macrobond

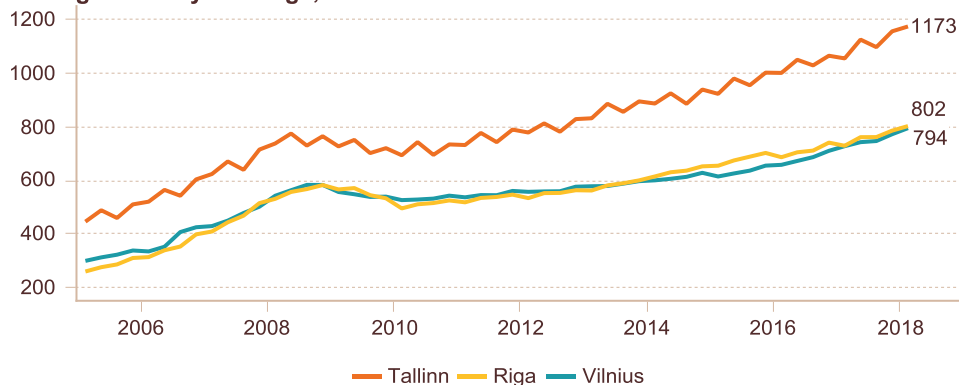
**Average net wages**

Annual average net wage growth gained pace in all Baltic capitals in the first quarter of 2018. Tight labour markets and changes in the country tax codes were the main drivers of this faster growth. In all countries, nontaxable income allowances increased as of 2018, with an especially broad and large hike for the majority of employees in Estonia. In Latvia and Lithuania, minimum wages were hiked by around 13% and 5%, respectively. In addition, in Latvia, the personal income tax rate was lowered for most of the employed.

**Annual growth,  
1<sup>st</sup> quarter, %**

**Tallinn: 11.3**  
**Riga: 10.1**  
**Vilnius: 9.2**

**Average monthly net wage, EUR**



Source: Swedbank Research & Macrobond

The HAI value of 152.0 in Tallinn means that the net wages of a household in this city are 52.0% higher than required to afford an apartment, according to our norm (mortgage costs account for 30% of the net wages of a household that earns 1.5 of the average net wage). Meanwhile, in Riga, household net wages are 82.0% higher — and, in Vilnius, 33.1% higher — than required to fulfill the norm.

**Months to save for the down payment**

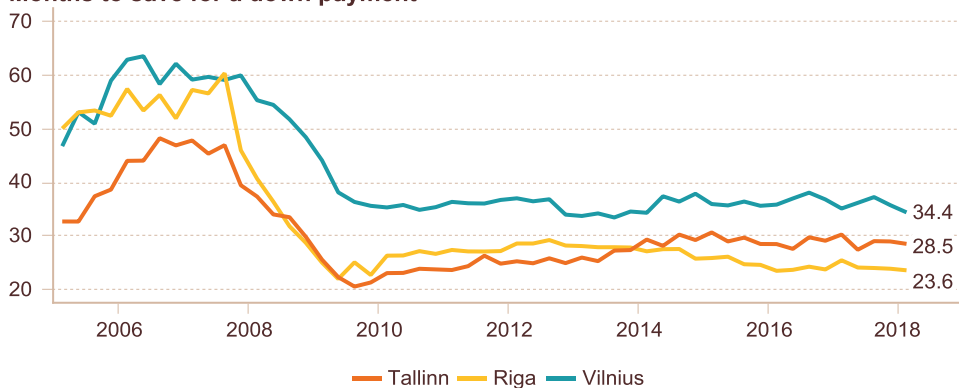
The number of months needed to save for a down payment, which equals 15% of an apartment price, decreased in all Baltic capitals over the year. Wage growth's outpacing of apartment price growth determined the decrease in all capitals.

It is assumed that a household saves 30% of its net wage every month for a down payment.

**Annual growth,  
1<sup>st</sup> quarter, months**

**Tallinn: -1.7**  
**Riga: -1.9**  
**Vilnius: -0.7**

**Months to save for a down payment**



Source: Swedbank Research & Macrobond

**Housing affordability index: method**

**Purpose** Measure changes in household buying power, primarily as this relates to apartment purchases, but also act as an indicator for existing housing.

**Norm** Household mortgage costs, according to our definition, should not exceed 30% of net wages of a household.

**Definition of housing affordability index** Actual income in relation to income required to meet the "norm," where mortgage costs account for 30% of net wages of a household. If the index = 100, households are using 30% of their net wages. If the index > 100, household buying power exceeds the norm. And if the index < 100, household buying power is below the norm. The index is calculated according to the following formula:

$$HAI = \frac{AverageINC}{NINC} * 100$$

where

$$NINC = \frac{PMT}{30\%}$$

*HAI* – housing affordability index  
*AverageINC* – 1.5 of average monthly net wages  
*NINC* – net wages that would satisfy the "norm"  
*PMT* – monthly mortgage payment.

**Variables**

- Three-month average prices of apartments of average size (55 sq. m.) in capital cities.
- Average net wages of a household, equal to 1.5 of average monthly net wages in capital cities.
- Three-month average interest rates and other related charges (or annual percentage rate of charge - a rate that comprises an interest component and a component of other charges) for new housing loans to households issued in euros -- produce the monthly mortgage cost, assuming a 15% down payment and 30-year term.

**Limits** The housing affordability index includes mortgage costs but excludes taxes and subsidies, including property tax and interest deductions. The index provides an indication of the situation for households composed of one or two working people who, combined, earn one-and-a-half times the average monthly wage; however, it does not reflect conditions for individual households. The index does not provide any direct guidance for business decisions, including lending and interest rate decisions. It reflects household buying power, based on apartment purchases that have been made, but says nothing about opportunities for apartment sales.

The housing affordability index is of an informative nature and reflects macroeconomic developments, rather than banks' decisions and lending policies or possible decisions made by individual households.

**Periodicity** Quarterly

**Geography** Tallinn, Riga, Vilnius

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