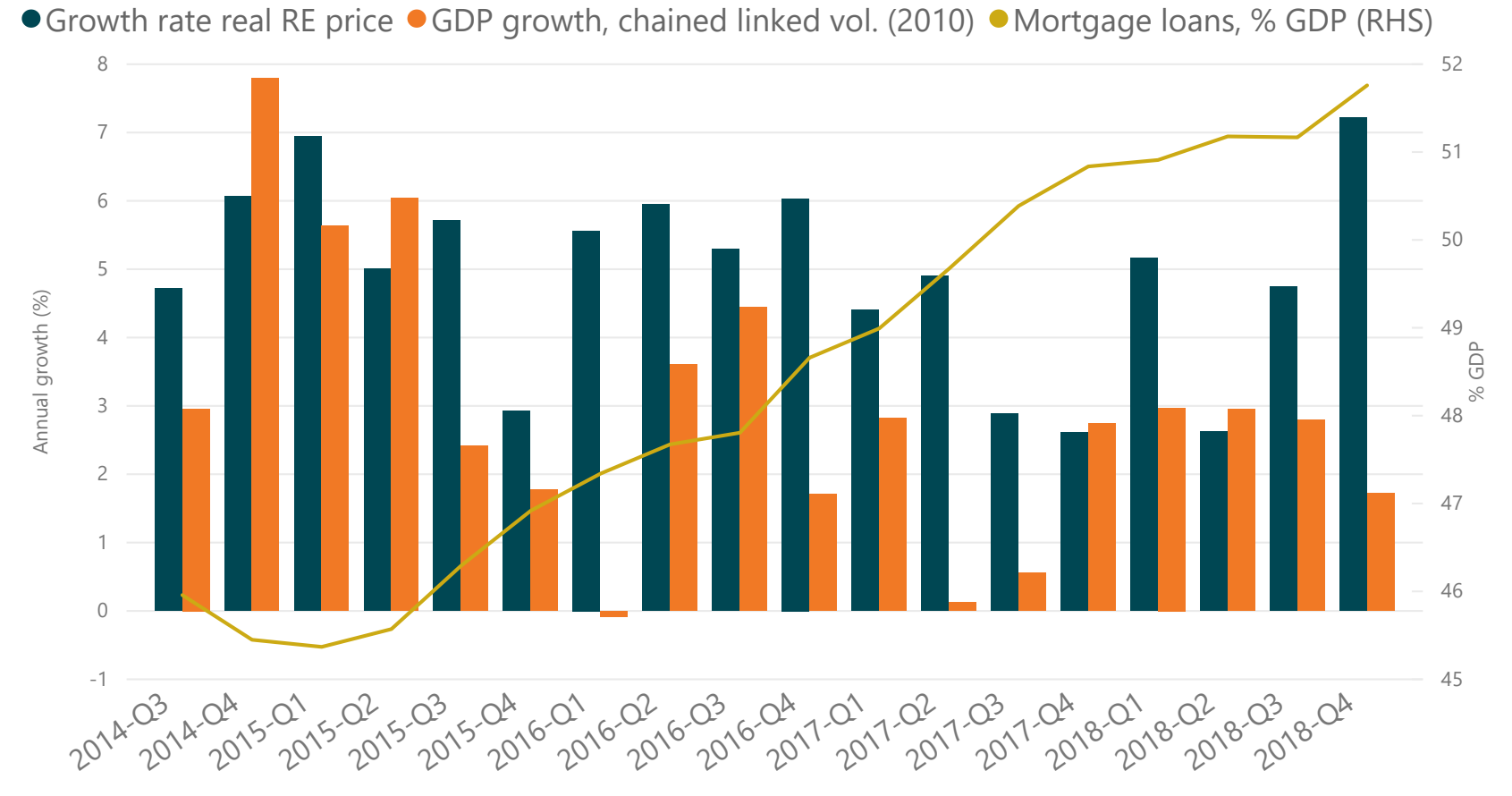
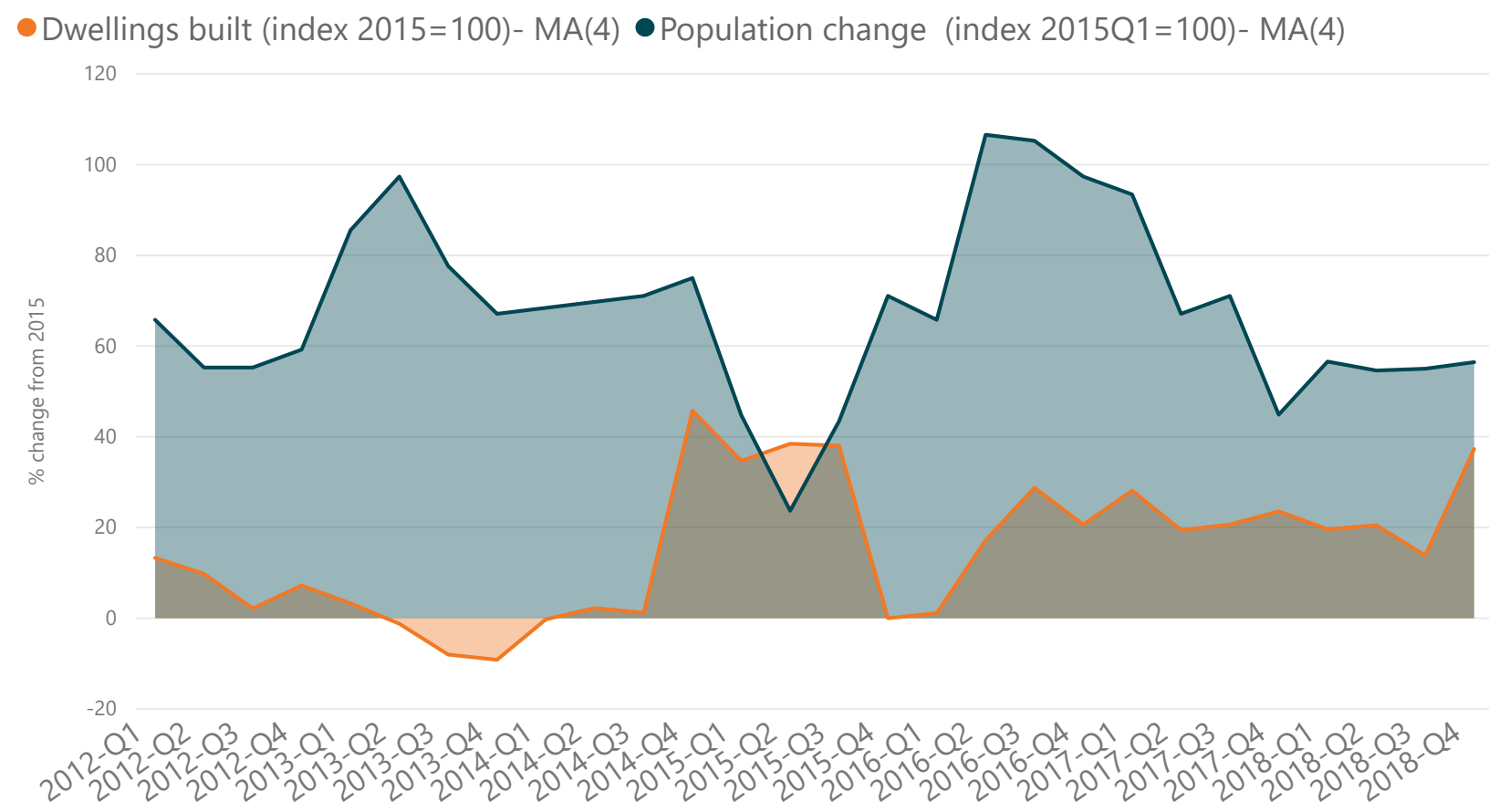


In the fourth quarter of 2018, real house prices grew at an annual rate of 7.2%, the largest increase in house prices recorded over the last 5 years while real economic growth stalled at 1.7%. Total mortgage credit as a share of GDP has been continuously increasing for more than 3 years. It grew by 10% in 3 years, reaching 52% of nominal GDP in the fourth quarter of 2018. This note considers different vulnerabilities stemming from real estate developments in Luxembourg. Measures of residential property price overvaluation show significant heterogeneity, ranging between -7% and 56% in the fourth quarter of 2018. The different valuation methods exhibit strong dispersion which suggests ample uncertainty. House affordability fell in the fourth quarter of 2018 while household indebtedness remained high in 2017. Household debt represented 171% of income in 2017. Despite a fall in the share of loans granted with variable interest rates for house purchase, household interest rate risk in Luxembourg remained at an elevated level given historically low mortgage rates. New mortgage credit with variable interest rates represented 43% of total mortgage credit in February 2019. Furthermore, bank exposure per capita to real estate increased by 20% in 2018Q4 compared to last quarter. Finally, banks reported having unchanged lending standards in the second quarter of 2019.

Housing, economic growth and credit

Real estate prices in real terms grow rapidly amid a large population growth, although new dwellings' growth rises and GDP growth is moderate



According to Eurostat, the number of building permits granted in the fourth quarter of 2018 was 37% higher as compared to an average quarter in 2015. The net quarterly population increase in the fourth quarter of 2018 was 56% higher as compared to the first quarter of 2015. Despite the increasing numbers of building permits since 2015, they do not, on average, compensate for the fast growing population. (The numbers in the figure are moving averages.)

Eurostat data shows that real GDP increased at an annual rate of 1.7% in the fourth quarter of 2018 and (real) real estate prices rose at a rate of 7.2% in the fourth quarter of 2018 (ECB data). After a 2.8% rise in the third quarter, the economy grew at a slower pace in the fourth quarter of 2018, while (real) real estate prices annual growth reached a peak. According to BCL and ECB data, outstanding mortgage credit accounts for 52% of nominal GDP in the fourth quarter of 2018, a share that is continuously increasing.

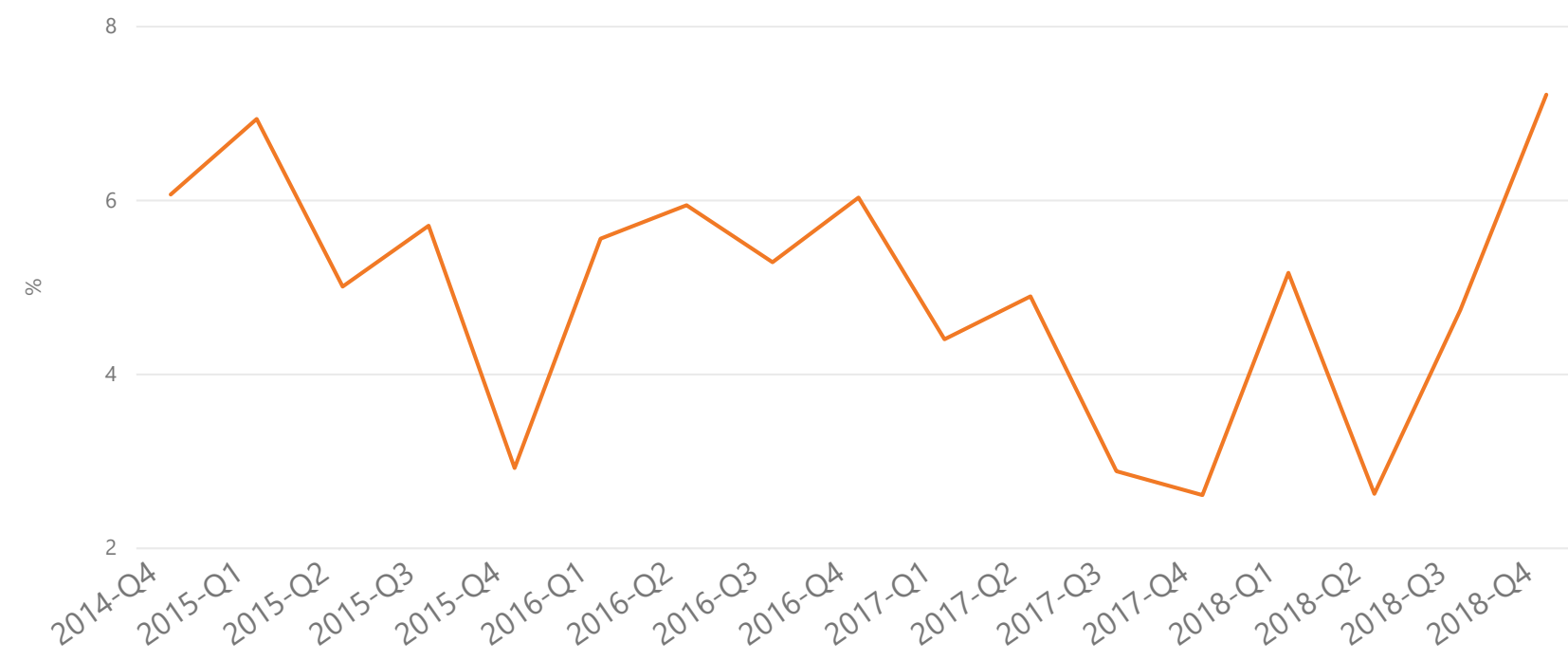
Vulnerabilities

Residential property prices

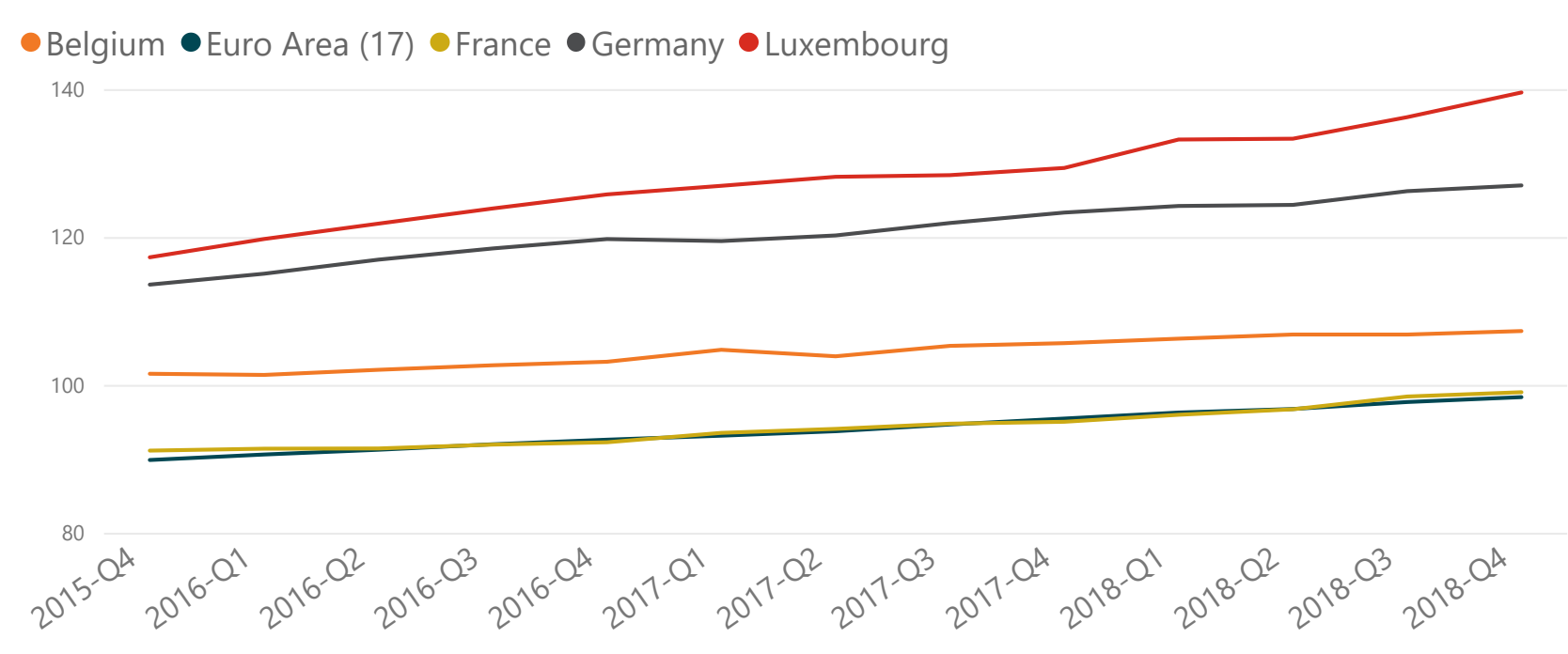
Price overvaluation analysis

Measures of residential property price overvaluation show significant heterogeneity, ranging between -7% and 56% in 2018Q4.

Real residential property prices, annual growth



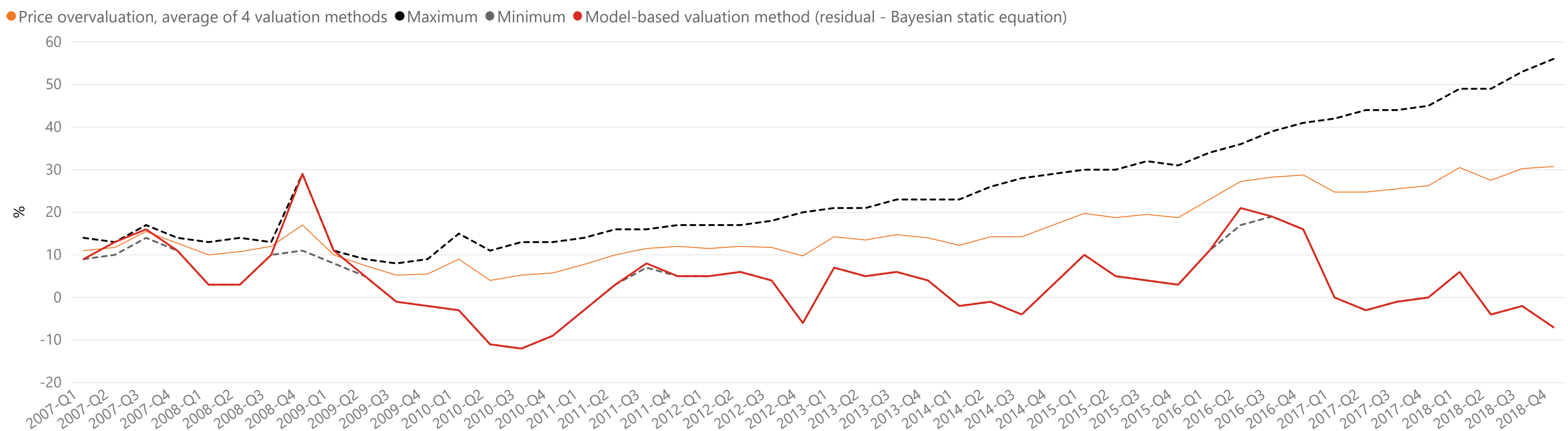
Price to rent



In the fourth quarter of 2018, real residential property prices grew at a faster pace than in the third quarter. According to ECB data, residential real estate prices grew at a rate of 7.2% in real terms (deflated by the Consumer Price Indices from Eurostat) compared to 4.9% on average over the last five years. It is the strongest quarter of growth since 2008.

In the third quarter of 2018, the OECD reported that prices of newly built and existing dwellings are rising faster than rental values in Luxembourg, which may indicate a potential overvaluation of house prices. The quarterly price to rent index, a measure of profitability, is 135.51 in Luxembourg in the third quarter of 2018, reaching an all time high. This value is noticeably above the one for Belgium, France, Germany and the Euro Area.

Price overvaluation in Luxembourg

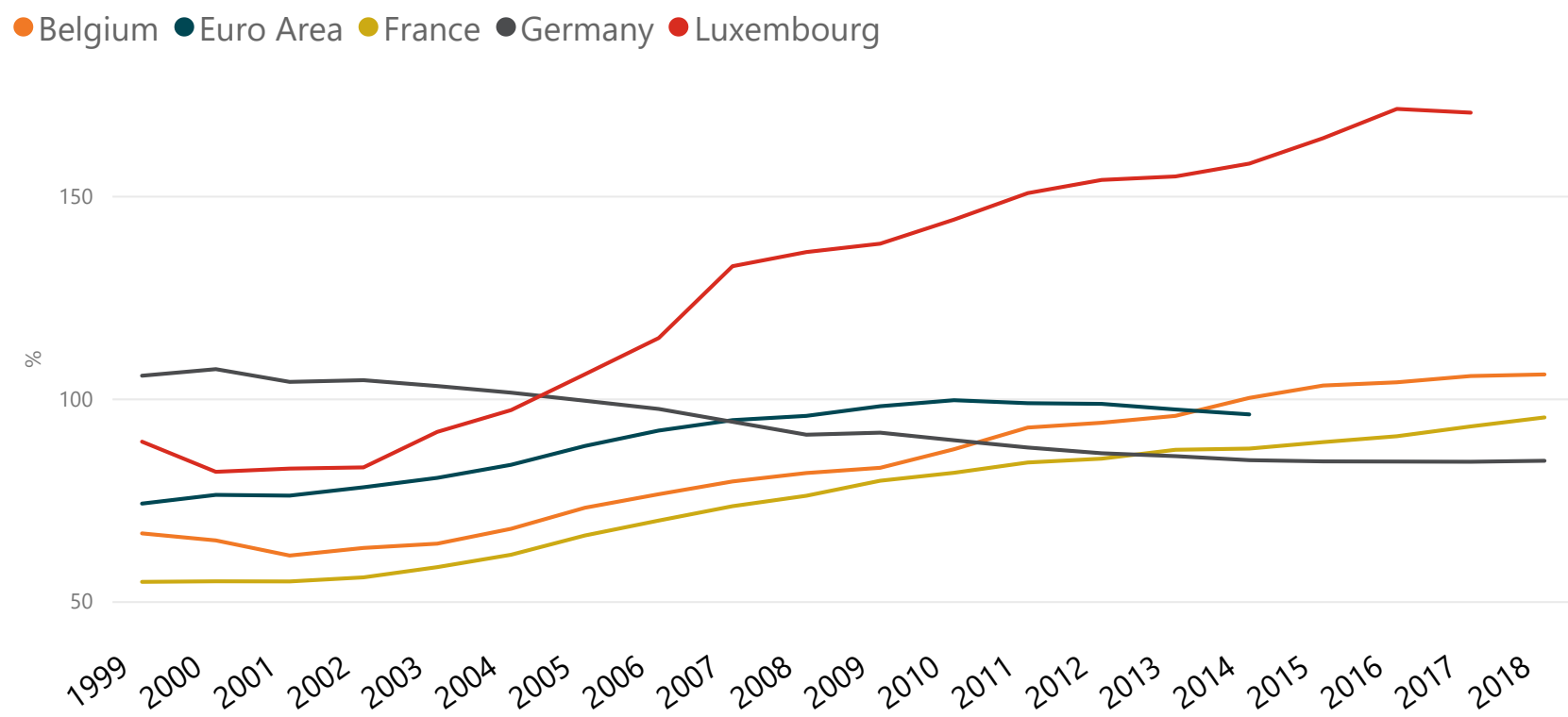


The four valuation indicators (price-to-rent ratio, price-to-income ratio, asset pricing approach and a Bayesian estimated inverted demand model) show large and increasing dispersion that suggests ample uncertainty regarding the equilibrium price level of Luxembourgish residential real estate (ECB data). The minimum and maximum valuation methods show a significant heterogeneity in measurement as the different valuation estimates range from -7% to 56%.

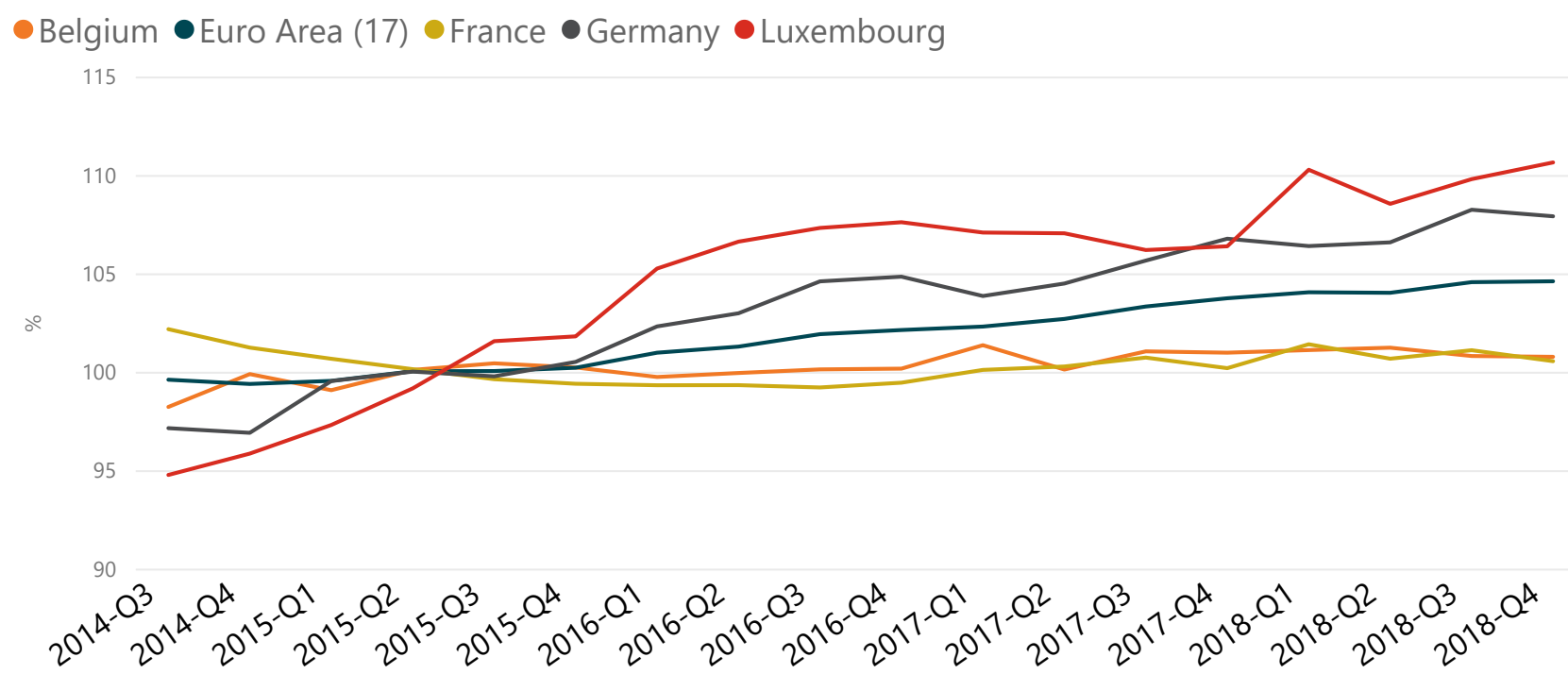
Households

Household indebtedness remains high in 2017 as house prices grow faster than income in 2018Q4

Household debt to income



Price to income

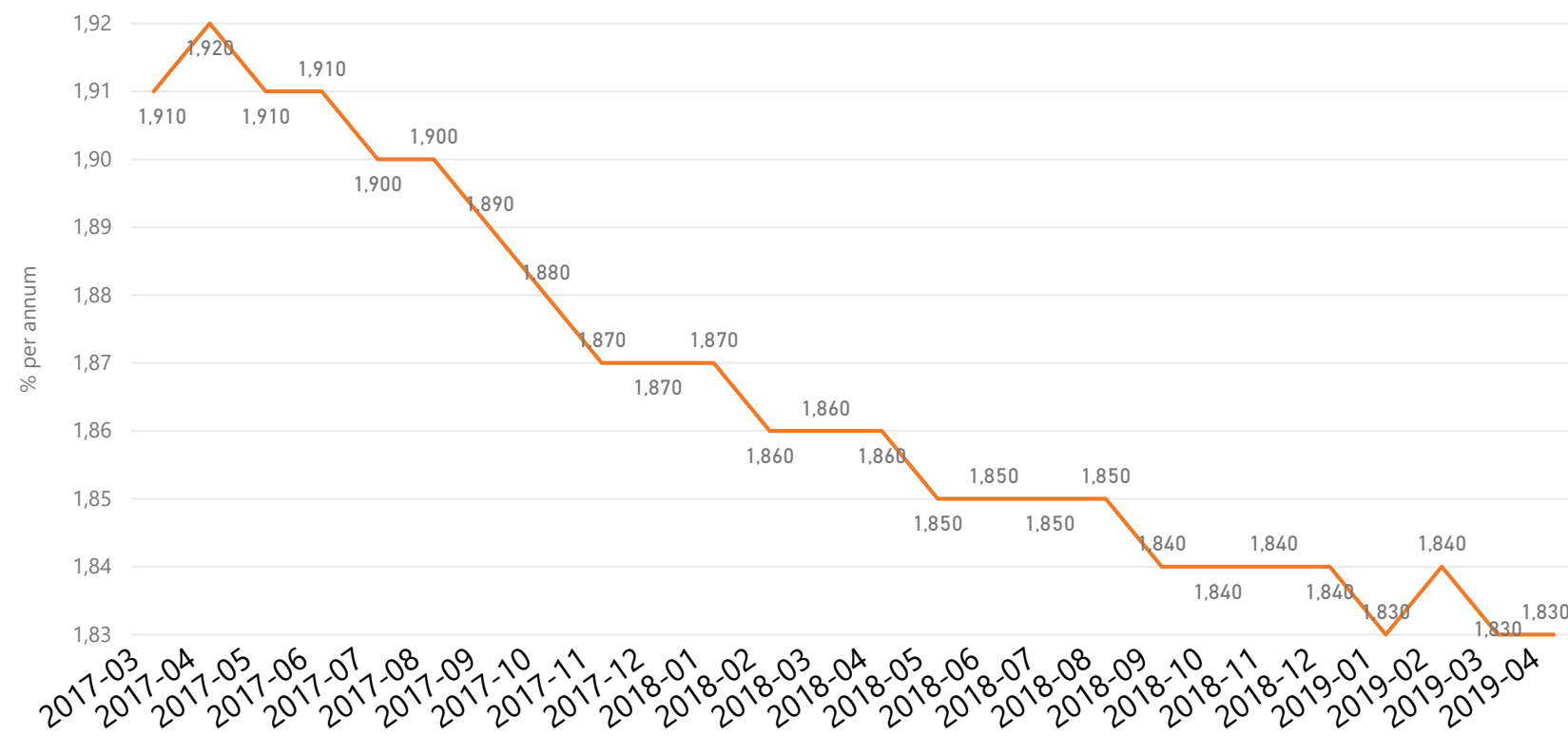


According to the OECD debt to income ratio, household indebtedness slightly decreased in 2017, after reaching an all time high in 2016. Indebtedness was at 170% of annual disposable income in 2017. Neighboring countries and the Euro Area average ratios are all below 110%. Furthermore, the price to income ratio, a measure of affordability, in Luxembourg, is at 110,68 in the fourth quarter of 2018. It increases by 0.84 points compared to the third quarter of 2018. Hence, real estate is becoming less affordable in Luxembourg. The ratio is higher than in neighboring countries and above the Euro Area average.

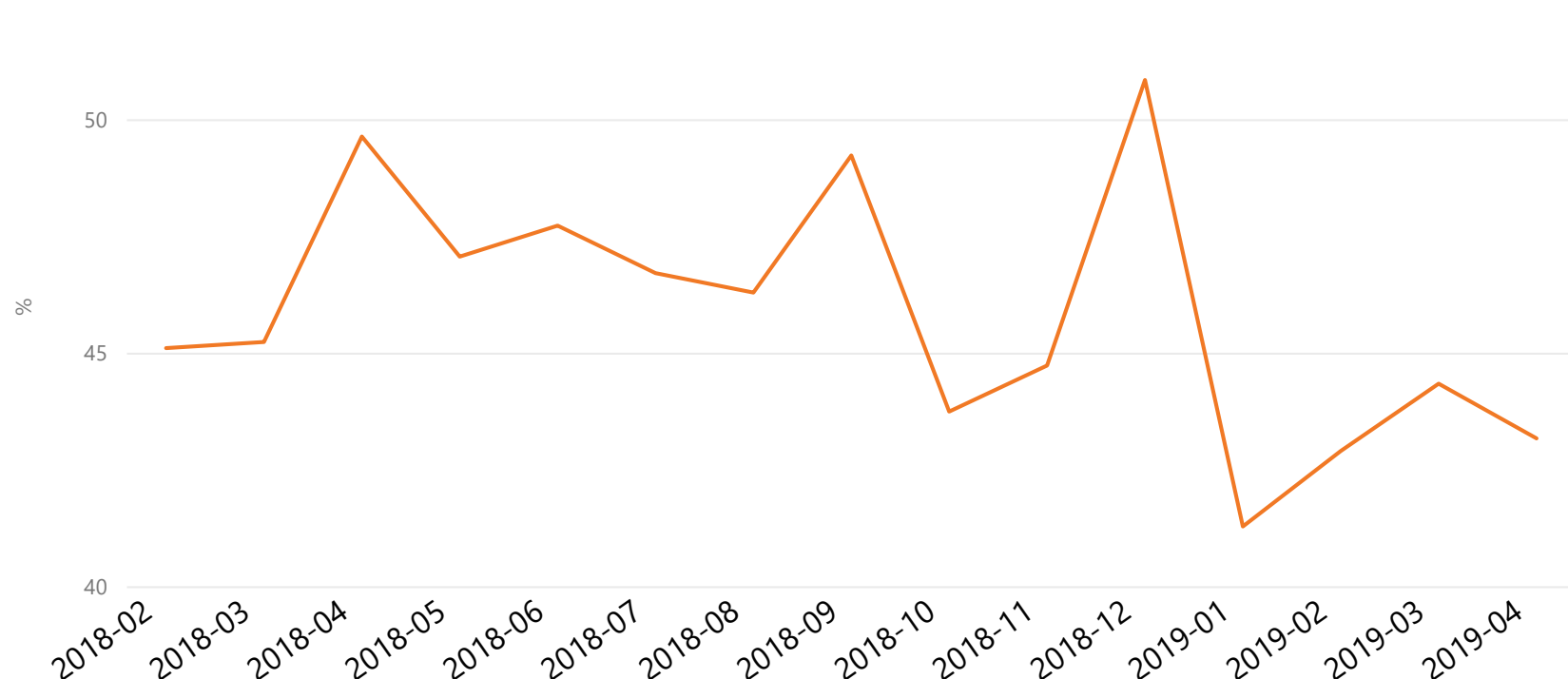
Interest rate risk

Against the decrease in the share of loans with variable interest rates, interest rate risk remains elevated amid the risk of interest rate rise.

Bank interest rates for house purchase



Share of variable interest rate in RRE lending

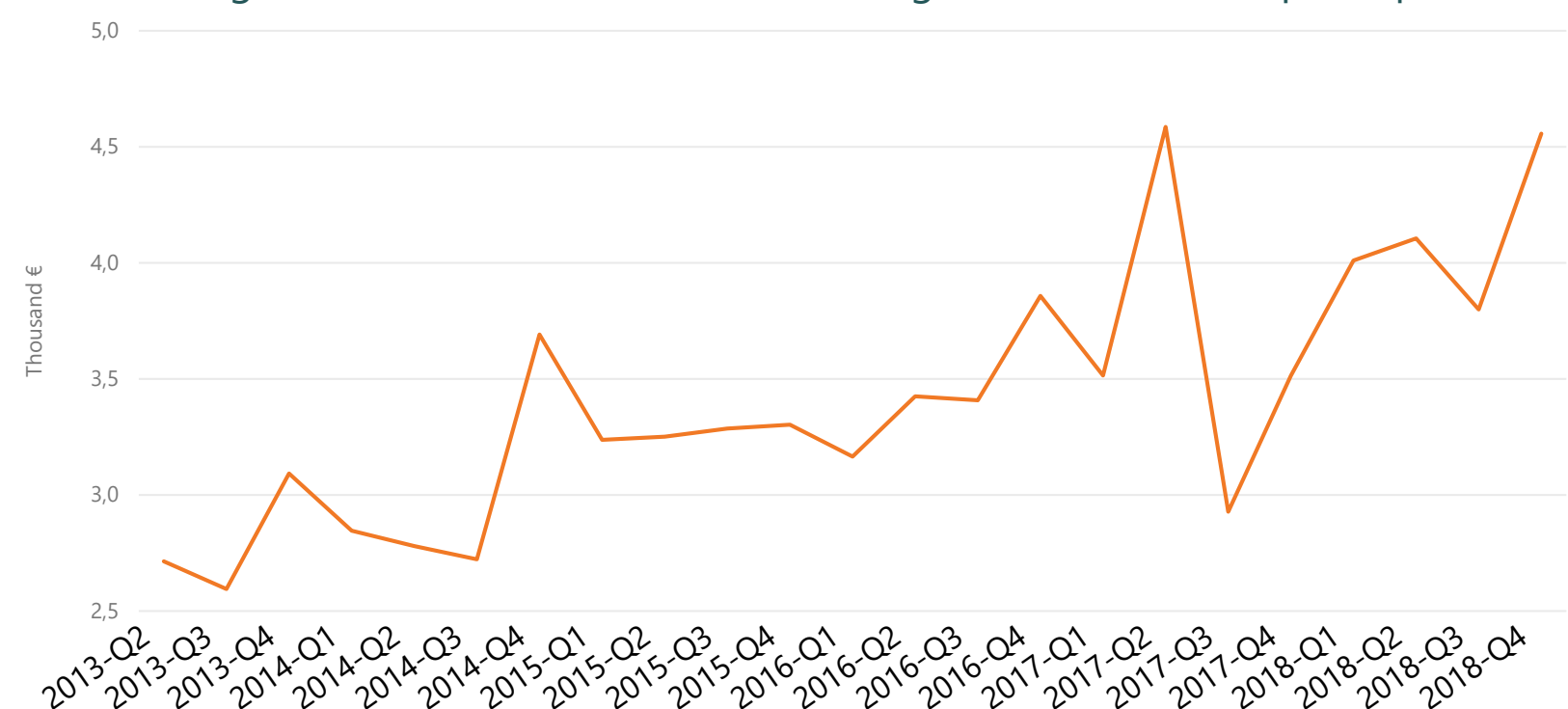


The ECB reported that bank interest rates for loans to households for house purchase with an original maturity of over five years (outstanding amount) remained the same over the month of April 2019, marking the twenty third consecutive month of stagnation or fall (except for one episode in February 2019). The interest rate is at 1.83% which is its historical lowest level. The share of new loans with variable interest rates in total new loans decreased by 1 percentage point to 43% between March and April 2019, reducing the overall interest rate risk stemming from low interest rates. This share, reported by the ECB, is lower than the 2018 average.

Credit supply and bank exposure

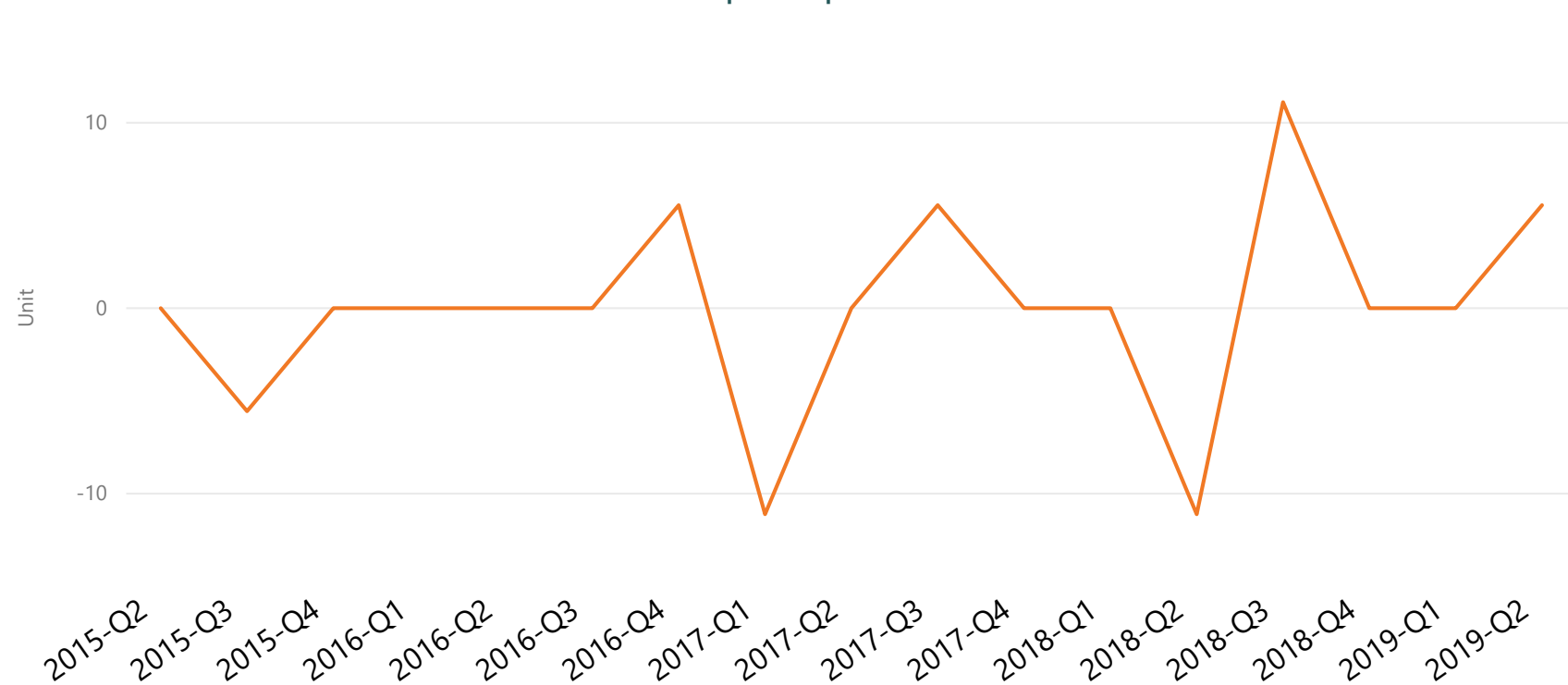
Banks granted more mortgage loans per capita in 2018Q4 amid loosening credit standards. In 2019Q2, banks reported unchanged credit standards compared to 2019Q1 although bank risk perception increased.

Loans granted for real estate in Luxembourg, in real terms and per capita



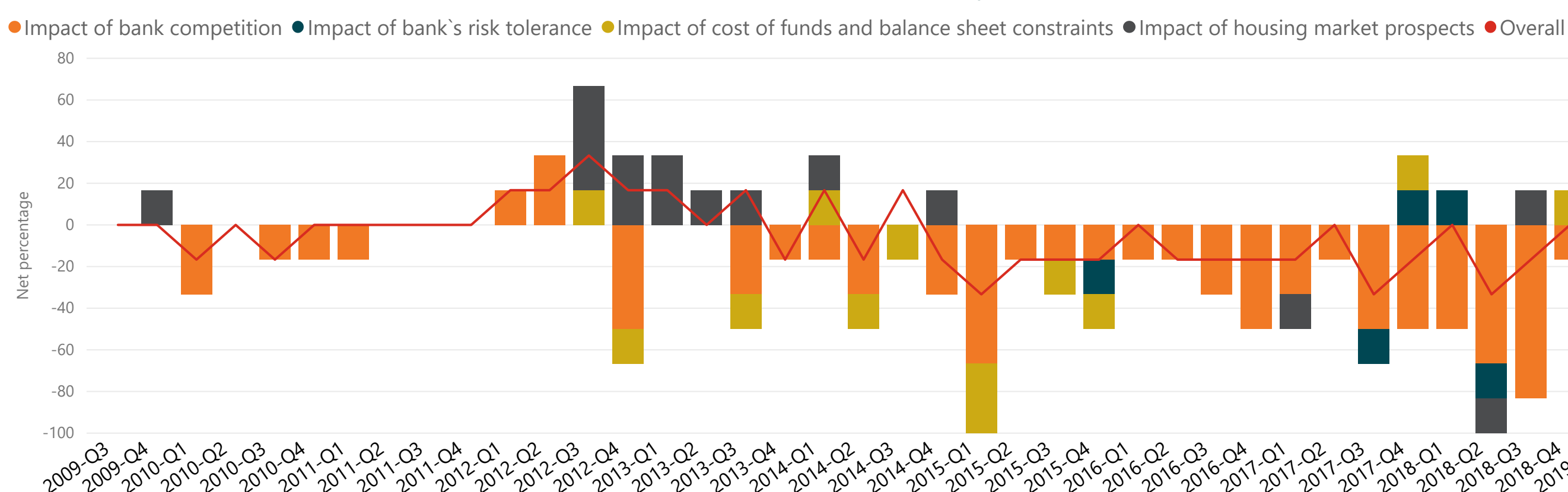
According to BCL loan data and the ECB GDP deflator, € 4.6 thousand were granted per capita in loans for real estate purchases in Luxembourg during the course of the fourth quarter of 2018. This number is overall increasing since 2012.

Bank risk perception index



In the second quarter of 2019, banks in Luxembourg reported increased risk perception compared to the first quarter of 2019. The ECB Bank Lending Survey index of risk perception peaked at 5 Units in the second quarter of 2019.

Bank credit standards for house purchase



The series Overall from the Bank Lending Survey (BLS) displays the difference between the share of banks in Luxembourg reporting a tightening of credit standards applied to mortgage loan approval and the share of banks reporting an easing. In the second quarter of 2019, overall, banks reported having unchanged bank lending standards as compared to the first quarter of 2019. The impact of the cost of funds on decreasing lending standards outweighed the impact of increased bank competition and decreased bank risk tolerance on rising bank lending standards.

Last updated on: 19/07/2019