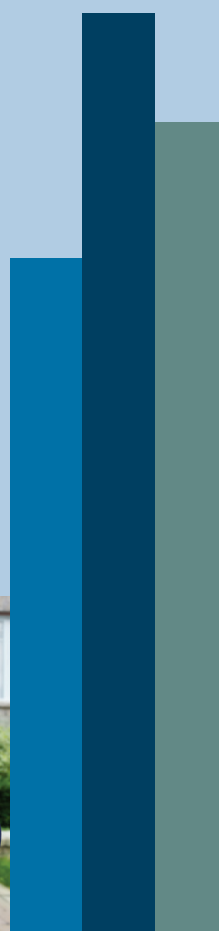


HOUSING MARKET ASSESSMENT

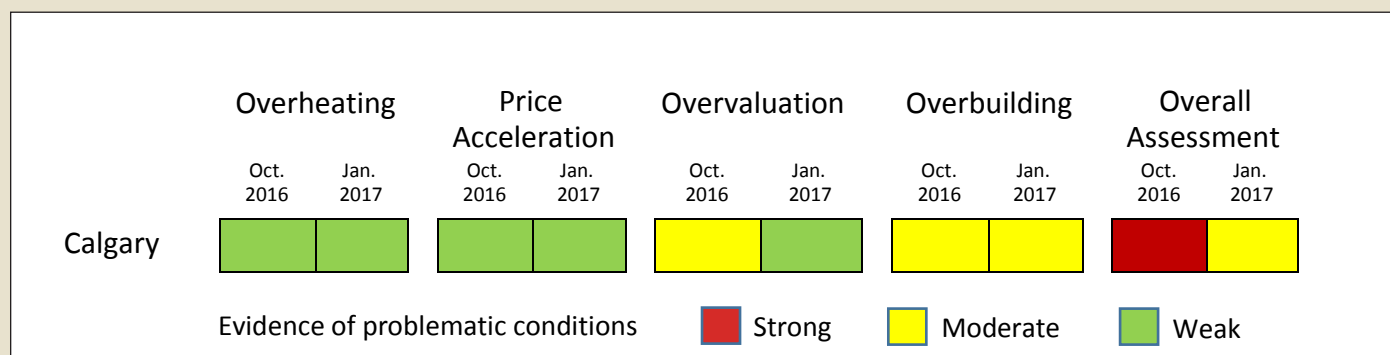
Calgary CMA

Date Released: First Quarter 2017



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Highlights



- With a change in the assessment for overvaluation, the overall assessment for Calgary has moved from strong to moderate evidence of problematic conditions¹.
- As house prices have moved closer in line with economic and demographic fundamentals, the assessment for overvaluation has changed from moderate to weak evidence of problematic conditions.
- There was weak evidence of overheating and price acceleration.
- Moderate of evidence of problematic conditions was detected for overbuilding as the vacancy rate in October 2016 increased to seven per cent, surpassing the threshold of 5.2 per cent.
- The Housing Market Assessment (HMA) analytical framework considers four factors to assess the evidence of problematic housing market conditions: overheating; acceleration in the growth of house prices; overvaluation; and, overbuilding. A brief summary of the framework is presented on page 6 of this report.

HMA Overview²

As Canada's authority on housing, CMHC contributes to market stability by providing information on potential imbalances that could affect housing markets. With the Housing Market Assessment (HMA), CMHC offers information and analysis that can help Canadians make more informed decisions.

The HMA combines the results from a technical framework with insights gained through CMHC's Market Analysts' knowledge of local market conditions. These insights position

CMHC to provide additional context and interpretation to the results of the HMA framework.

The HMA framework detects problematic market conditions in local housing markets by identifying imbalances. An example would be the detection of overbuilding, a situation in which the inventory of unsold new homes accumulates due to supply outpacing demand. Such an imbalance could be resolved by an adjustment in house prices. As an example, lower prices would help resolving an excess supply imbalance by supporting stronger demand and/or reducing

supply. However, other unexpected developments that do not originate from the housing market could accentuate or reduce an imbalance.

Colour codes indicate the level of evidence of problematic conditions. The HMA is a comprehensive framework that considers the intensity of signals of imbalances (that is, how far the indicator is from its historical average), and the

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¹ Results are based on data as of the end of September 2016 and local market intelligence up to end of December 2016. CMHC continuously monitors market developments and will issue HMA updates on a quarterly basis.

² A detailed description of the framework is available in the appendix of the [National edition](#).

persistence over time. Generally, low intensity and persistence are associated with potentially weaker evidence of problematic conditions. As the number of intense and persistent signals increases, the associated evidence of problematic conditions becomes stronger.

In Detail

Overheating

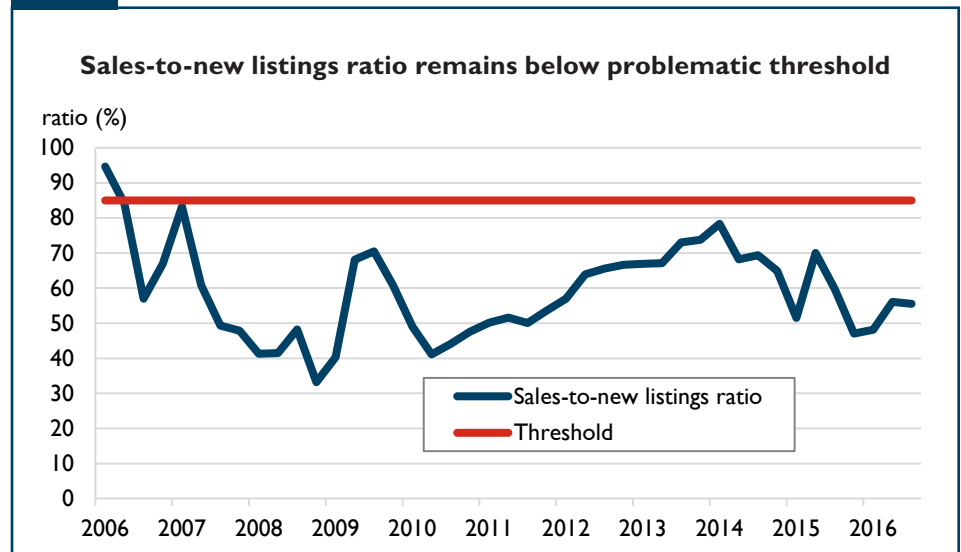
The balance between housing supply and demand has not changed significantly as CMHC's HMA framework continued to identify weak evidence of overheating in Calgary. The seasonally adjusted sales-to-new listings ratio was 56 per cent in the third quarter, relatively unchanged from the previous quarter, and well below the problematic threshold of 85 per cent. While down from the same period a year earlier, seasonally adjusted sales

"House prices in Calgary have been adjusting, and are closer in-line with economic and demographic fundamentals. The young adult population has posted modest gains. As such, the assessment for overvaluation has changed from moderate to weak evidence of problematic conditions."



Richard Cho
Principal, Market Analysis (Calgary)

Figure 1



Source: CREA, calculations (threshold) by CMHC
Last data point: 2016Q3

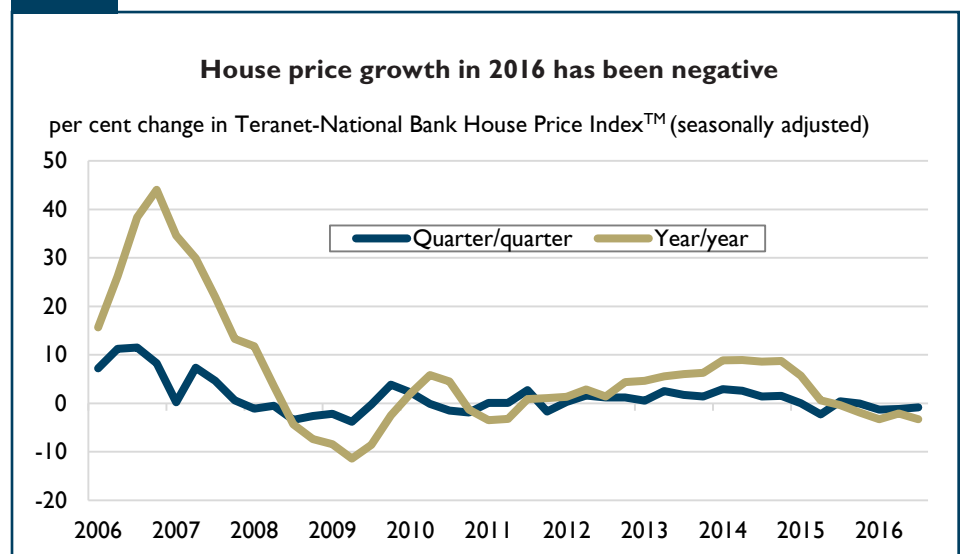
in the third quarter remained stable compared to the second quarter of 2016. In addition, there has not been a substantial increase in the number of existing home owners listing their houses on the market. After the first nine months of 2016, new listings were at 34,386, down 0.6 per cent from the same period a year earlier. On a seasonally adjusted basis, new

listings in the third quarter of 2016 were up only one per cent from the quarter earlier.

Price Acceleration

Weak evidence of price acceleration was detected in Calgary. The Teranet-National Bank House Price Index™ seasonally adjusted was

Figure 2



Source: Teranet and National Bank, CMHC calculations
Last data point: 2016Q3

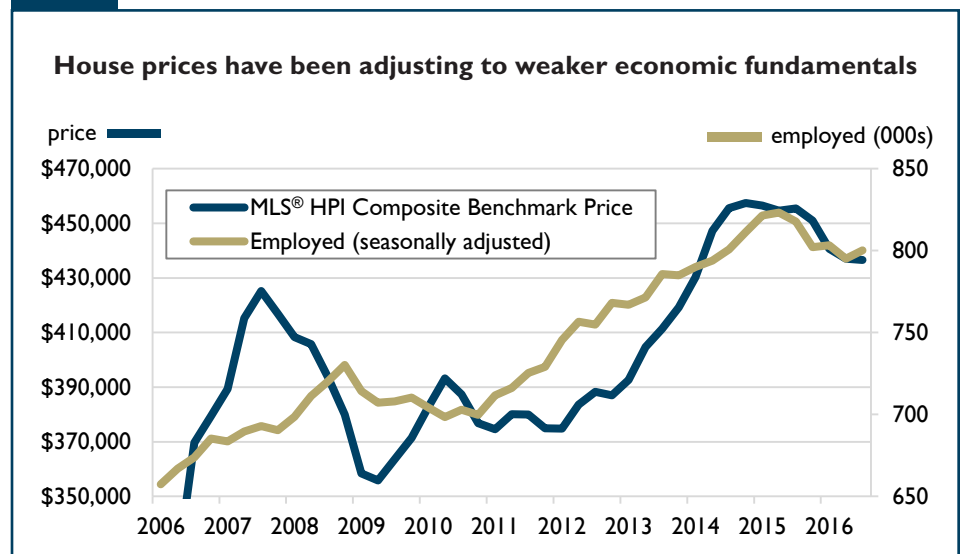
177.13, compared to 178.61 in the second quarter, and down 3.3 per cent year-over-year. The resale market throughout 2016 has largely favoured the buyer, and as a result, house prices have moderated. Supply of existing and new homes increased in 2016, while weaker labour market conditions impacted demand. Other indicators have also pointed to a decline in price growth in Calgary. The MLS® HPI³ Composite Benchmark Price was \$436,000 in the third quarter of 2016, a decline of 4.1 per cent from the same quarter a year earlier, down slightly from the second quarter of 2016.

Overvaluation

The assessment for overvaluation has changed from moderate to weak evidence of problematic conditions. House prices in Calgary have been adjusting and have moved closer in line with economic and demographic fundamentals. Total employment on a seasonally adjusted basis has started to stabilize in 2016 following a decline during the second half of 2015, and the young adult population (24-34 year olds) has grown, albeit modestly.

House prices in 2016 have started to stabilize, after declining from their peak in 2014. The MLS® HPI Composite Benchmark Price was \$436,600 in the third quarter of 2016, down from a high of \$457,500 in the fourth quarter of 2014. While the Benchmark Price in the third quarter declined 4.8 per cent from the peak in 2014, it was only down 0.1 per cent from the previous quarter. Similarly, the seasonally adjusted Teranet-National Bank House Price IndexTM was 177.13 in the third quarter of 2016 after reaching a peak of 186.75 in the first quarter of 2015.

Figure 3



Source: CREA, Statistics Canada

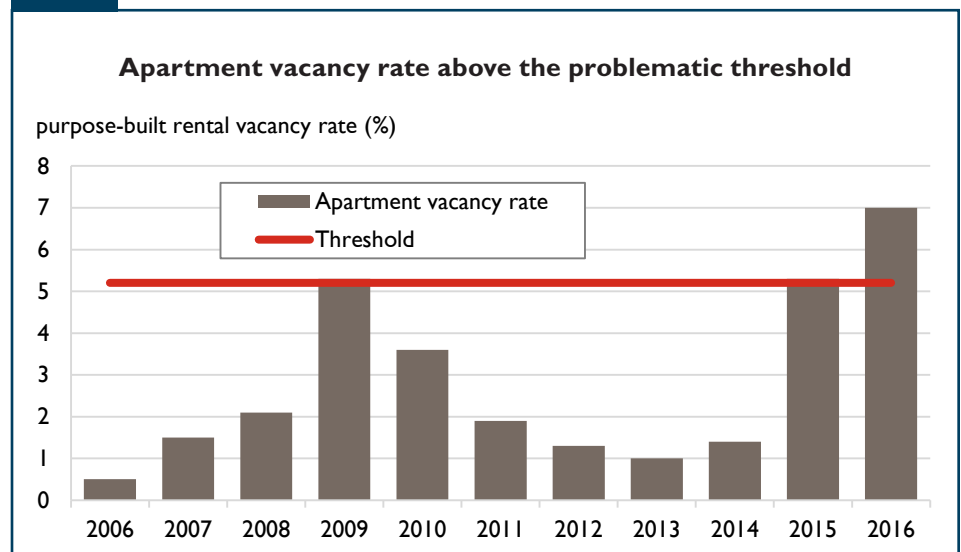
Last data point: 2016Q3

Overbuilding

CMHC's HMA framework detected moderate evidence of overbuilding, due to a rise in the apartment vacancy rate. The apartment vacancy rate reached seven per cent in October 2016 from 5.3 per cent

in October 2015, and remained above the problematic threshold of 5.2 per cent. Increased supply in both the primary and secondary rental markets combined with the economic slowdown contributed to the rise in the vacancy rate.

Figure 4



Source: CMHC, calculations (threshold) by CMHC

Last data point: October 2016

³ Home Price Index

Despite steadily increasing in 2016, the number of complete and unsold units per capita was still below the problematic threshold in the third quarter. The number of complete and unsold units in inventory (ownership tenure) was at 1,276 units in September, up from 607 in the same month a year earlier. The increased inventory is largely attributed to the multi-family segment of the market. While total inventories have risen to elevated levels, the upward pressure on inventories is expected to ease as the number of units under construction has been declining.

Overview of the Housing Market Assessment analytical framework

To obtain an accurate picture of the overall state of the housing market, it is important to consider multiple data points and lines of evidence rather than relying on just one measure or indicator.

The Housing Market Assessment (HMA) analytical framework provides a comprehensive and integrated view that relies on a combination of signals from several indicators to assess housing market conditions.

Specifically, the framework considers four main factors that may provide an early indication of potentially problematic housing market conditions: (1) overheating when demand outpaces supply; (2) sustained acceleration in house prices; (3) overvaluation of house prices in comparison to levels that can be supported by housing market fundamentals (listed below);

and, (4) overbuilding when the inventory of available housing units is elevated.

For each factor, the framework tests for: (1) the presence or incidence of signals of potentially problematic conditions, but also considers; (2) the intensity of the signals, i.e. how their magnitude compares with their historical average or how consistent they are with known or suspected house price bubbles, such as for Toronto in the late 1980s and early 1990s; and, (3) the persistence of signals over time.

Generally, a situation in which we detect few signals with low intensity or lack of persistence is associated with weak evidence of problematic conditions. Conversely, as the intensity, number, and/or persistence of the signals increases, the likelihood of a factor becoming problematic increases.

The framework takes into account demographic, economic, and financial determinants of the housing market such as population, personal disposable income, and interest rates to detect potentially problematic housing market conditions. The framework also takes into account developments in both resale and residential construction markets.

The framework was developed on the basis of its ability to detect problematic housing market conditions in historical data, such as the house price bubble Toronto experienced in the late 1980s and early 1990s. The ability of the HMA to detect current problematic conditions relies on the assumption that historical relationships between prices and fundamental drivers of housing markets have not changed.

Housing Market Assessment Factors

Overheating

Overheating is caused by demand significantly and persistently outpacing the supply of housing. The sales-to-new listings ratio is used as an indicator to assess possible overheating conditions in the existing home market. To identify problematic overheating conditions, the framework compares the sales-to-new listings ratio to thresholds. When demand is strong relative to supply, house prices typically grow at a faster rate. Sustained overheating conditions on the existing home market may lead to acceleration in house prices for existing and new homes. However, as supply and demand begin to balance out, indicators of overheating (and acceleration) would begin to soften and house prices would gradually moderate.

Acceleration in House Prices

Under balanced market conditions, house prices are expected to increase over time, in line with increases in households' cost of

living. House price acceleration occurs when the growth in house prices strengthens over time on a persistent basis. Acceleration in house prices over an extended period can cause their pace of increase to depart from the overall price inflation and eventually lead to overvaluation.

To assess acceleration in house prices, the HMA framework uses a statistical test* that was developed to identify periods of accelerating asset prices.

Overvaluation

Overvaluation is detected when house prices remain significantly above the levels warranted by fundamental drivers of housing markets such as income, population, and actual and expected financing costs.

The HMA framework uses combinations of different house price measures and models to estimate house price levels warranted by fundamental drivers.

The difference between observed house prices and their estimated levels consistent with housing market fundamentals allows for an estimation of the degree of over- and undervaluation. The use of different price measures and models improves the reliability of results.

Overbuilding

Overbuilding is detected when the supply of readily available housing units significantly exceeds demand. In such a context, downward pressure on house prices would occur until the excess supply is eventually absorbed.

To assess overbuilding conditions in the housing market, the HMA framework uses two indicators that relate to the supply of readily available housing units: the rental vacancy rate, and the inventory of completed and unsold housing units per 10,000 population. The HMA framework compares the current level and recent trends in these indicators with thresholds.

Note 1: Colour codes indicate the level of evidence of problematic conditions. The HMA reflects a comprehensive framework that not only tests for the presence or incidence of signals of potentially problematic conditions, but also considers the intensity of signals (that is, how far the indicator is from its historical average) and the persistence of signals over time. Generally, low intensity and persistence are associated with a lower potential of upcoming problematic conditions. As the number of persistent signals increases, the evidence of a problematic condition developing increases.

Note 2: Results at the CMA level are not segmented by housing type or neighbourhood. They represent an assessment of the entire CMA. However, specific CMA reports provide further detailed analysis of these markets.

Note 3: The colour scale extends to red only for those factors that have multiple indicators signaling significant incidence, intensity and persistence of potentially problematic conditions. As a result, only overvaluation and overbuilding can receive a red rating, since they are assessed using more than one indicator.

Note 4: To ensure the framework is as current as possible, on a regular basis, we undertake a model selection process whereby our house price models for overvaluation are tested for statistical significance at the national and CMA level. The result of this process may change the number of indicators of a problematic condition from the previous assessment.

* See Phillips, Wu and Yu (2008) "Explosive Behaviour in the 1990s NASDAQ When Did Exuberance Escalate Asset Values?" for further details on the methodology.

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