

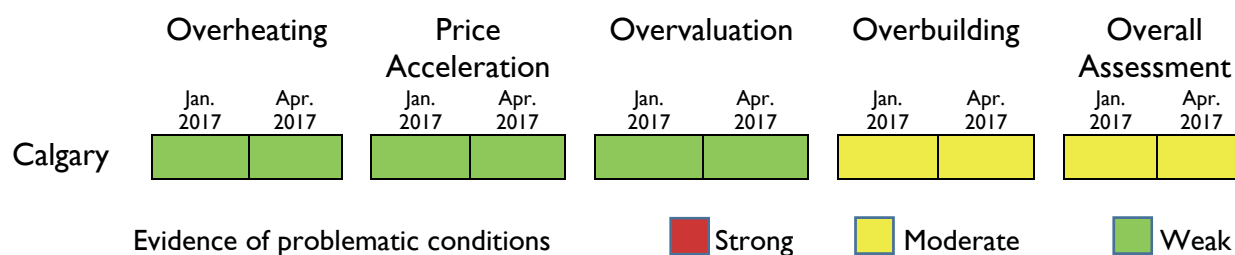
HOUSING MARKET ASSESSMENT Calgary CMA

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Highlights



- The overall assessment for Calgary was moderate evidence of problematic conditions¹, unchanged from the previous assessment
- Due to an elevated apartment rental vacancy rate, there was moderate evidence of overbuilding
- While the assessment for overbuilding continues to be an area of concern, the evidence of problematic conditions for overheating, price acceleration and overvaluation was weak.
- 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 5 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 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.

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¹ Results are based on data as of the end of December 2016 and local market intelligence up to end of March 2017. 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](#).

In Detail

Overheating

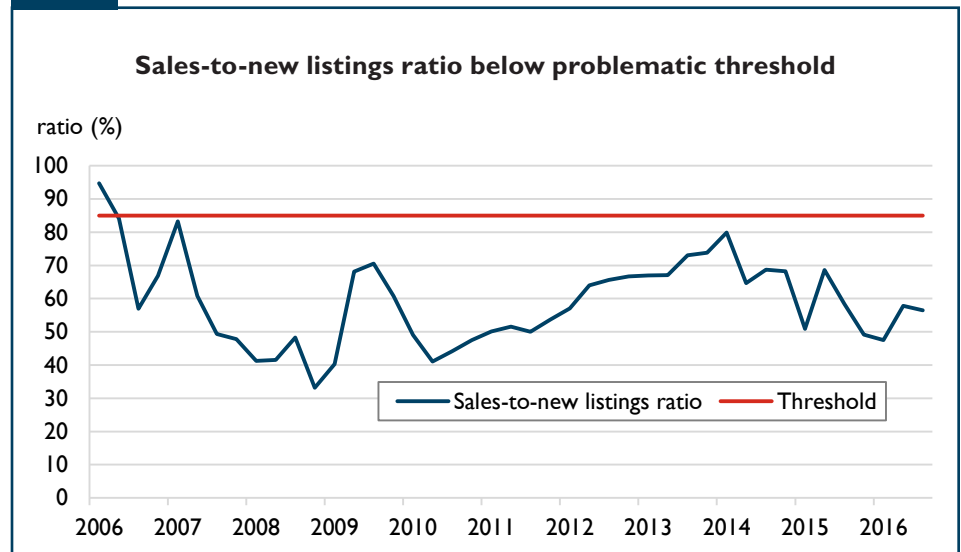
The seasonally adjusted sales-to-new listings ratio has been relatively stable over the last couple of quarters. In the fourth quarter of 2016, the sales-to-new listings ratio on a seasonally adjusted basis was 57 per cent compared to 58 and 56 per cent in the second and third quarter, respectively. As the ratio is below the problematic threshold of 85 per cent, the assessment for overheating is weak. While economic conditions and consumer sentiments have improved from the previous year, the rise in sales have been modest. Seasonally adjusted sales in the fourth quarter totalled 5,775

“Resale market activity has been rebalancing as economic and demographic fundamentals have improved. Modest gains in employment and income as well as growth among the young adult population has helped support housing demand. While the evidence of problematic conditions for overheating, price acceleration and overvaluation have been weak, the assessment for overbuilding continues to be an area of concern.”



Richard Cho
Principal, Market Analysis (Calgary)
Prairie and Territories Region

Figure 1



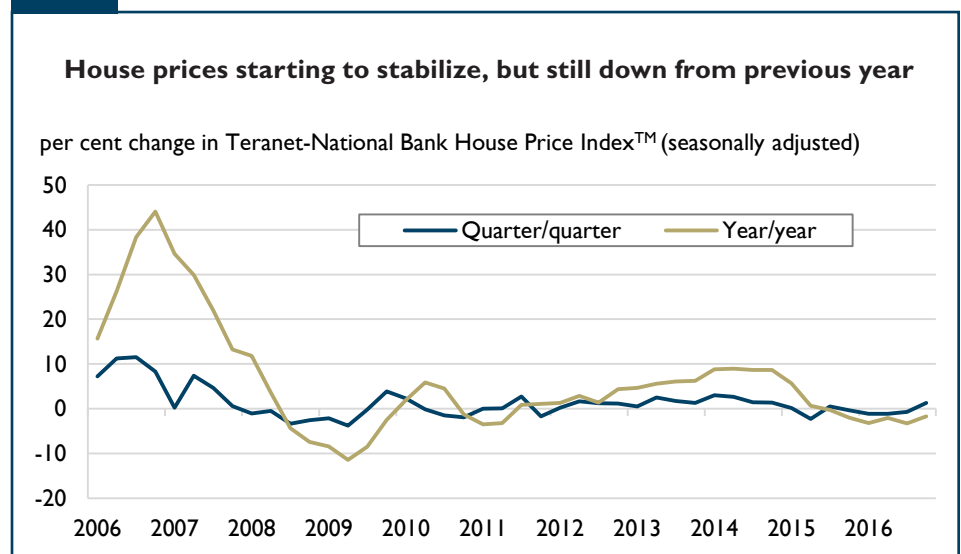
Source: CREA, calculations (threshold) by CMHC
Last data point: 2016Q4

units, up slightly from 5,740 in the previous quarter. While sales have increased, the pace of new listings has not changed dramatically. New listings, on a seasonally adjusted basis, totalled 10,098 units in the fourth quarter, down slightly from 10,163 in the third quarter.

Price Acceleration

CMHC's HMA framework detected weak evidence of price acceleration in Calgary. The sales-to-new listings ratio in the last couple of quarters has been below elevated levels, and price growth has been modest. Following four consecutive quarters of decline, the seasonally adjusted

Figure 2



Source: Teranet and National Bank, CMHC calculations
Last data point: 2016Q4

Teranet-National Bank House Price Index™ increased 1.3 per cent from the third to the fourth quarter of 2016. Resale market conditions have been shifting from buyers' to balanced conditions due to a stable supply of active listings and improvements in housing demand. Despite the quarter-over-quarter rise, the seasonally adjusted Teranet-National Bank House Price Index™ was still down 1.7 per cent from the same period a year earlier.

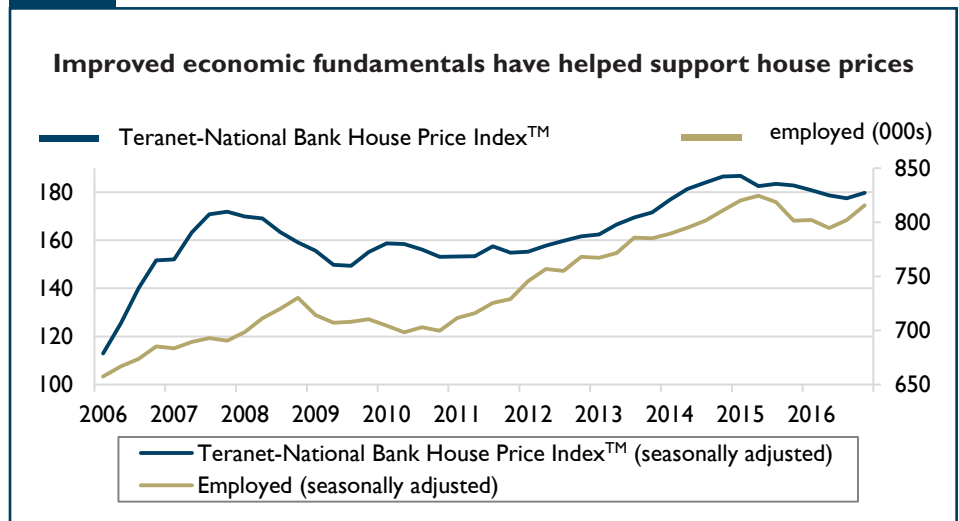
Overvaluation

House prices in Calgary have been moving closer in line with economic and demographic fundamentals. Full-time employment and disposable income posted a year-over-year gain in the fourth quarter of 2016, while the population between the ages of 25 and 34 also increased. As such, these factors have contributed to an improvement in consumer sentiments and housing demand. While the housing market in Calgary has been rebalancing, the single-family market is further ahead compared to the row and apartment segments. Elevated supply of row and apartment units have also impacted prices for these types of units. Conversely, house prices for single-family units have been more stable in the last couple of months. Overall, there has been weak evidence of overvaluation in Calgary.

Overbuilding

CMHC's HMA framework for overbuilding considers both the rental apartment vacancy rate, and the number of complete and unsold units in inventory (ownership tenure) per capita. The rental apartment vacancy in October 2016 rose to seven per cent compared to 5.3 per cent in October 2015. The pace of rental market demand fell behind the increase in new supply,

Figure 3



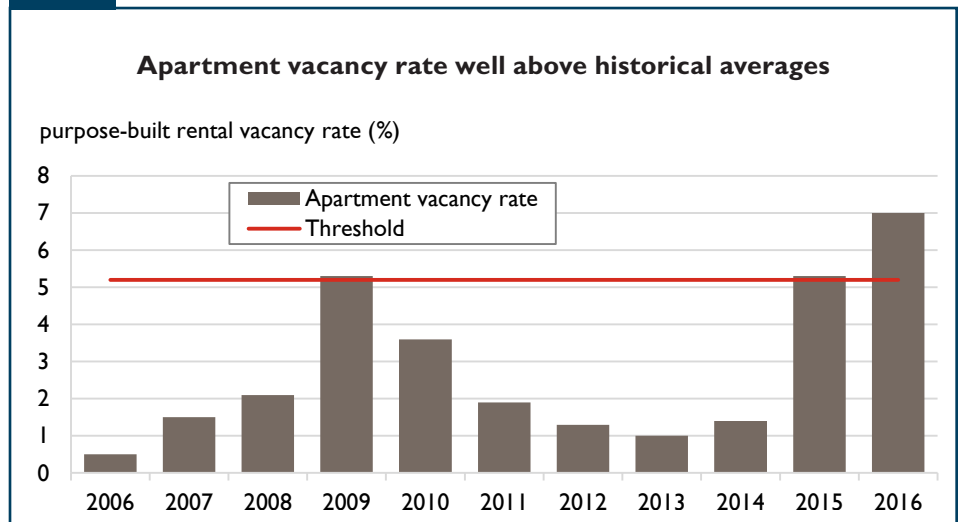
Source: Teranet and National Bank, Statistics Canada
Last data point: 2016Q4

pushing up the rental apartment vacancy rate above the problematic threshold of 5.2 per cent.

The number of complete and unsold units per capita (ownership tenure) has increased to elevated levels and is closely approaching the problematic threshold. Inventory of multiple units rose to 1,128 in December while single-detached units have been relatively more stable. A significant number of multiple units were under

construction at the start of the economic downturn. As housing demand declined, many of the units were left unsold when construction was completed. This led to a steady rise in inventories in 2015 and 2016. Despite the increase, the rise in multiple inventories has slowed down towards the end of 2016. In addition, the upward pressure on inventories has also eased, as the number of units under construction has declined.

Figure 4



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

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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