

# HOUSING MARKET ASSESSMENT

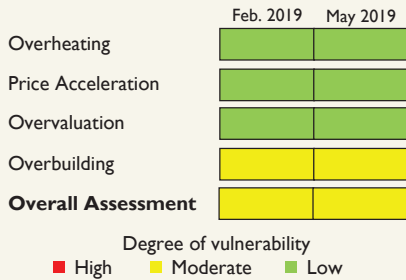
Calgary CMA

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## Highlights

### Results Overview Calgary CMA



- CMHC's HMA Framework detected a moderate degree of vulnerability in the overall assessment for Calgary<sup>1</sup>.
- Evidence of overbuilding remained moderate as new home absorptions continued to decrease at a faster rate than completions, keeping inventories elevated.
- Although the economic recovery remains slow in Calgary, the decline in house prices have kept valuations in line with economic fundamentals.

## HMA Overview<sup>2</sup>

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 and contribute to an orderly adjustment of housing market imbalances.

The HMA is an analytical framework that provides a comprehensive view of housing market vulnerabilities. It should be noted that it intends to identify imbalances in the housing market; it is not aimed at being a framework to identify long-term fundamental affordability challenges. It considers four main factors: overheating, price acceleration,

overvaluation and overbuilding. Overheating is detected when sales greatly outpace new listings in the market for existing homes. Price acceleration is signaled when the growth rate of house prices increases rapidly. Overvaluation indicates that house prices are elevated compared to price levels supported by personal disposable income, population, interest rates, and other fundamentals<sup>3</sup>. Overbuilding is flagged when the rental apartment vacancy rate and/or inventory of newly built and unsold housing units are significantly above normal levels.

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

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

Colour codes indicate the degree of market vulnerability. The HMA is a comprehensive framework that considers both the intensity (magnitude) and the persistence of signals of imbalances. Generally, low intensity and persistence are associated with low evidence of vulnerability. As the number of intense and persistent signals increases, the associated degree of vulnerability becomes higher.

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<sup>1</sup> Results are based on data as of the end of December 2018 (the annual rental apartment vacancy rates are from October 2018) and local market intelligence up to the end of March 2019.

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

<sup>3</sup> Other fundamental factors include mortgage-borrowing capacity of households, required minimum down payment, and labor productivity.

## In Detail

### Low Evidence of Overheating

CMHC's HMA framework continued to detect low evidence of overheating in Calgary in the fourth quarter of 2018. While Calgary continues to deal with a housing supply and demand imbalance created from the 2014 oil price shock and recent slow economic recovery, there have been some signs of support in the market. New listings and new home production levels are generally slowing down as market participants adjust to lower demand. At the same time, more affordable options in the market are experiencing demand growth. This combination will help move the market towards balance, however it will take time as inventories remain elevated and overall demand is still well below historical levels. Resales in the fourth quarter of 2018 were 16% lower than the year before. New listings declined year-over-year, but at a slower rate than sales, which kept the sales-to-new listings ratio (SNLR) at levels below the critical threshold of overheating.



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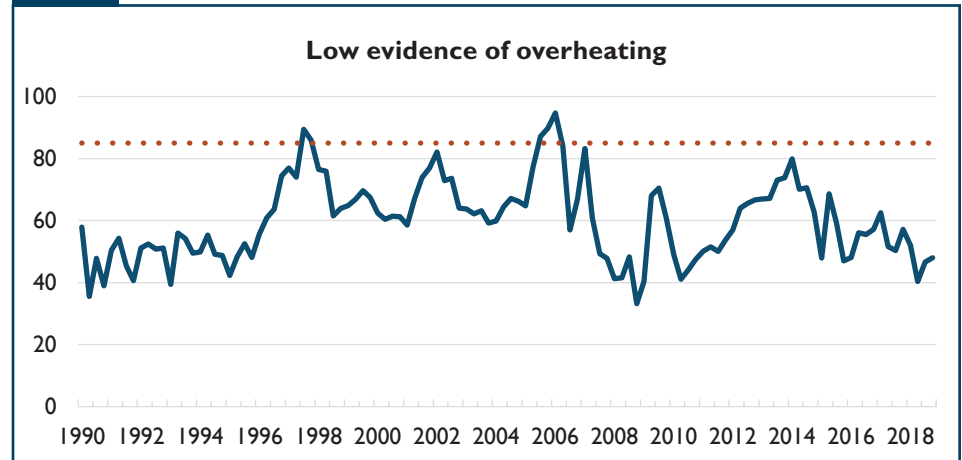
*"While overbuilding continues to persist, there are some signs of support in the market. New listings and new home production levels are generally moving lower and more affordable options in the market have been experiencing demand growth. These trends help put the market on a path toward balance, however it will take time as inventories remain elevated."*

### Low Evidence of Price Acceleration

Downwards pressure on house prices due to persisting buyers' market conditions kept the price acceleration indicator at low in the fourth quarter of 2018. On a

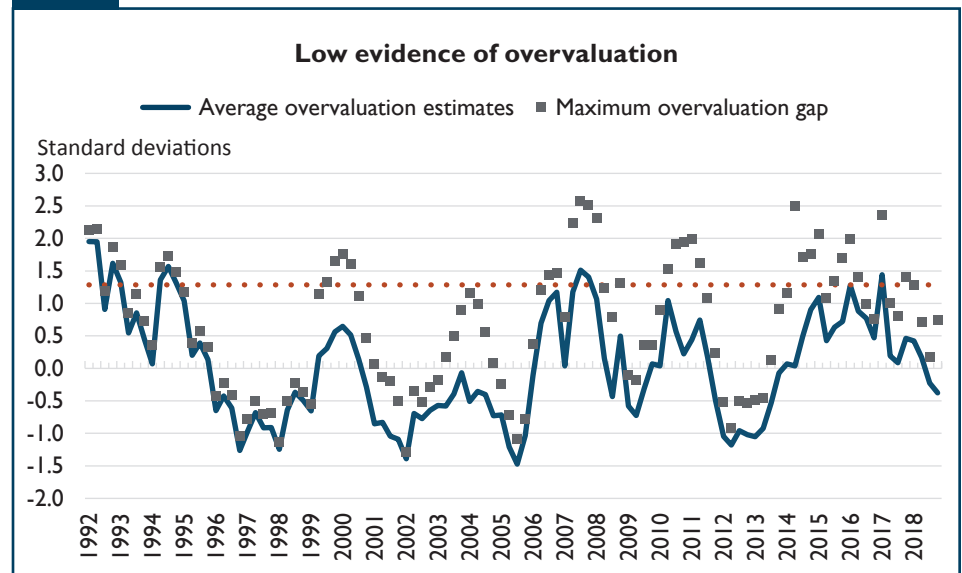
year-over-year basis, the real Teranet<sup>®</sup> house price index and the average MLS<sup>®</sup> price both decreased by 5.0%. The real new housing price index decreased by 3.9%. Recent monthly data indicates that price acceleration is unlikely to be present in the first quarter of 2019 as the supply-demand disconnect persists.

Figure 1



Sources: CREA and calculations (threshold) by CMHC

Figure 2



Sources: CREA, Statistics Canada and calculations by CMHC.

Note: The average estimate of overvaluation is the average gap between actual house prices and price levels estimated from a group of selected models. Baseline models include demand, supply, hybrid, and affordability models, each of which is estimated using four measures of house prices to generate sixteen unique estimates of overvaluation. The selection of models is conducted with a set of cointegration tests, and the selected models are estimated with Dynamic Ordinary Least Squares (DOLS). The maximum overvaluation gap is obtained from the model that has the largest gap between the actual price and the estimated price. The threshold is fixed at a critical value of 1.29 for a confidence level of 80%. Overvaluation is signaled when overvaluation estimates lie above the threshold.

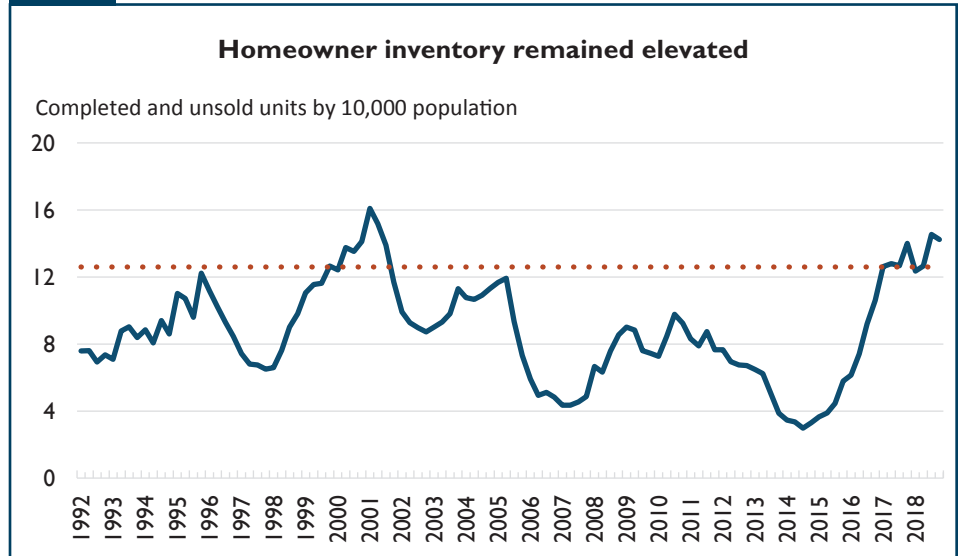
## Low Evidence of Overvaluation

There continued to be low evidence of overvaluation in Calgary in the fourth quarter of 2018. Although Calgary continues to struggle with weak economic fundamentals, such as a high unemployment rate and a lack of growth in real personal disposable income, the decline in house prices have kept valuations in line with predicted levels. All six overvaluation models selected were below the critical threshold and the average estimate of overvaluation moved lower compared to last quarter.

## Moderate Evidence of Overbuilding

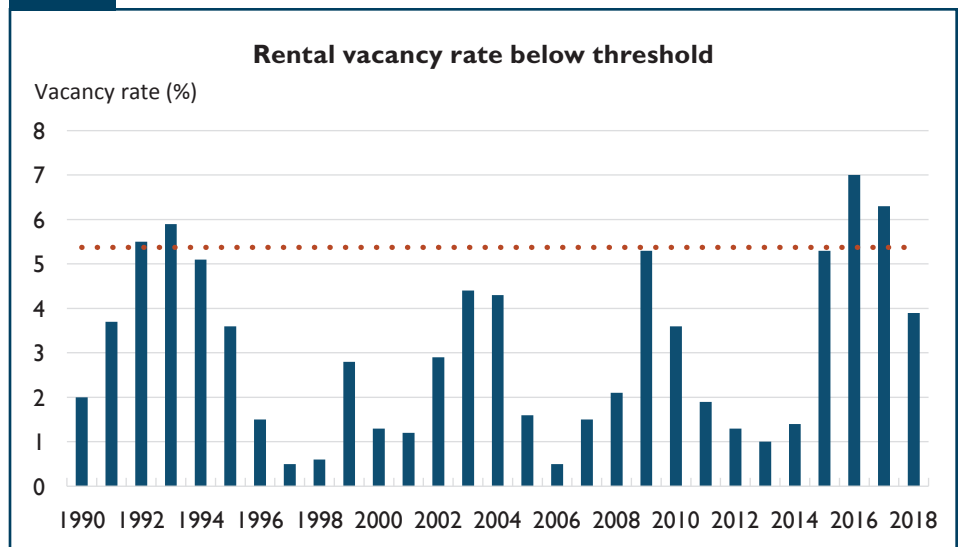
Moderate evidence of overbuilding in Calgary continued to persist. Builders are generally slowing down production in the ownership market, however new home sales continued to decrease at a faster rate, keeping inventories elevated. The exception was condominium apartments, where inventories have been trending downwards since their peak in December 2017. Prospective buyers in Calgary face a number of demand headwinds, such as a high unemployment rate, a lack of growth in real personal disposable income, and higher interest rates, which has prompted buyers to seek more affordable options in the market.

Figure 3



Sources: Statistics Canada and CMHC

Figure 4



Source: CMHC

## 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. The Housing Market Assessment (HMA) analytical framework provides a comprehensive and integrated view that relies on a combination of signals from several indicators to detect imbalances in housing markets.

Specifically, the framework considers four main factors that may provide an early indication of vulnerability in the housing market: (1) overheating when demand outpaces supply in the existing home market; (2) sustained acceleration in house prices meaning that the rate of increase in prices is itself increasing; (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 the intensity (magnitude) and the persistence of signals. Generally, a situation in which we detect few signals with low intensity or lack of persistence is associated with a low degree of vulnerability. Conversely, as the number, intensity, and/or persistence of the signals increases, so does the evidence of imbalances in the housing market.

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 vulnerability. The framework also takes into account recent developments in both resale and residential construction markets.

The framework was developed on the basis of its ability to detect vulnerable 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 vulnerabilities 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 in the resale market. The sales-to-new listings ratio is used as an indicator to assess possible overheating conditions. To identify signs of overheating, 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 on the existing home market may lead to acceleration in house prices for existing and new homes.

### Acceleration in House Prices

House price acceleration occurs when the growth rate in house prices continuously increases. Acceleration in house prices over an extended period would

lead prices to unsustainable levels, hence increasing housing market vulnerability. To assess acceleration in house prices, the HMA framework uses a statistical test\* that was developed to identify periods of accelerating growth in 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—based on economic theory—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 signs of overbuilding in the housing market, the HMA framework uses two indicators that relate to the supply of readily available housing units: the rental apartment vacancy rate, and the inventory of completed and unsold housing units per 10,000 population. The HMA framework compares the current levels and recent trends in these indicators with thresholds.

**Note 1:** Colour codes indicate the degree of market vulnerability. Overheating and price acceleration are each assessed with a single indicator. Colour scales for these factors vary between green and yellow only. Overvaluation and overbuilding are assessed with multiple indicators. Their colour scales, as well as the colour scale for the overall assessment, change among green, yellow and red to reflect different degrees of imbalances.

**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:** 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 showing vulnerability 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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