# *Housing Market Responses to Rising Interest Rates*

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***For:***

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## Introduction

This report has been prepared by Will Dunning Inc. at the request of the Canadian Home Builders' Association ("CHBA"). It discusses the impacts that a rise in interest rates might have on the new construction housing market in major urban markets of Canada, using data from one – Edmonton – as an example. Data sets of this kind are typically available for other urban markets, permitting similar analysis.

The overall conclusions are as follows:

- As a driver of housing starts, job creation is much more powerful than interest rates.
- In most situations, higher interest rates would tend to result in a small reduction of total housing starts.
- But, within that falling total, there would tend to be a shift away from the highest-priced housing options (single-detached homes) towards lower-cost options.
- There is a large caveat attached to this: if interest rates rise because the economy has become stronger (and if this strength is found locally), then housing activity won't necessarily be reduced by very much.
- In a weak local economy, a rise in interest rates could have a more substantial impact compared to a community that is seeing strong job growth.
- Finally, regardless of the amount of change in housing activity that occurs, the adjustments will occur through elaborate processes, which take quite some time to play out.

## The Economic Theory

At the core of this discussion is the idea that housing starts happen because there is a need to expand the housing stock, to accommodate an increasing number of households.

The main cause for a need for more housing stock is that there is an increase in the number of people who can afford to establish new households. For most new households the primary driver is that they have found a job: they have sufficient income to cover the cost of housing, and they have confidence in the stability of their situation and in their ability to afford their housing costs in future.

While employment is the primary factor that enables people to form households and purchase or rent housing, the cost of housing is also relevant: the housing choices made by a new household will be influenced by the overall cost of housing in the community in which they want to live. Thus, interest rates and the level of affordability will affect the choices they make with respect to housing features (whether they own or rent, and the physical features of the housing they select). Depending on the level of costs, some people who have stable employment situations will decide not to form new households, and therefore there is not new housing demand associated with their improved employment situation.

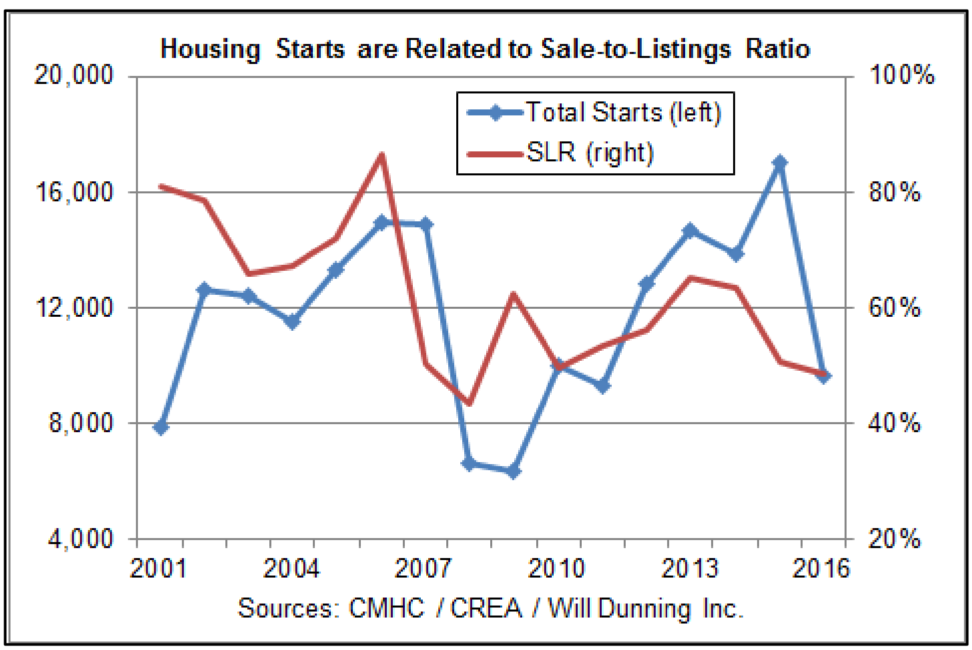
It should be noted that in talking about the "cost of housing" here, the reference is to the monthly cost (for rent, or for the monthly costs associated with home ownership), not to the selling prices or construction costs of the housing. The monthly costs are, of course, influenced by the price of the housing, but in combination with the level of interest rates.

This theory of the housing market holds that housing demanders will, in general, attempt to meet their needs firstly in the existing housing stock (in the existing rental market and the resale housing market). But, not all of the demand will be satisfied within the existing inventory. The distribution of the demand between existing housing and new housing varies over time.

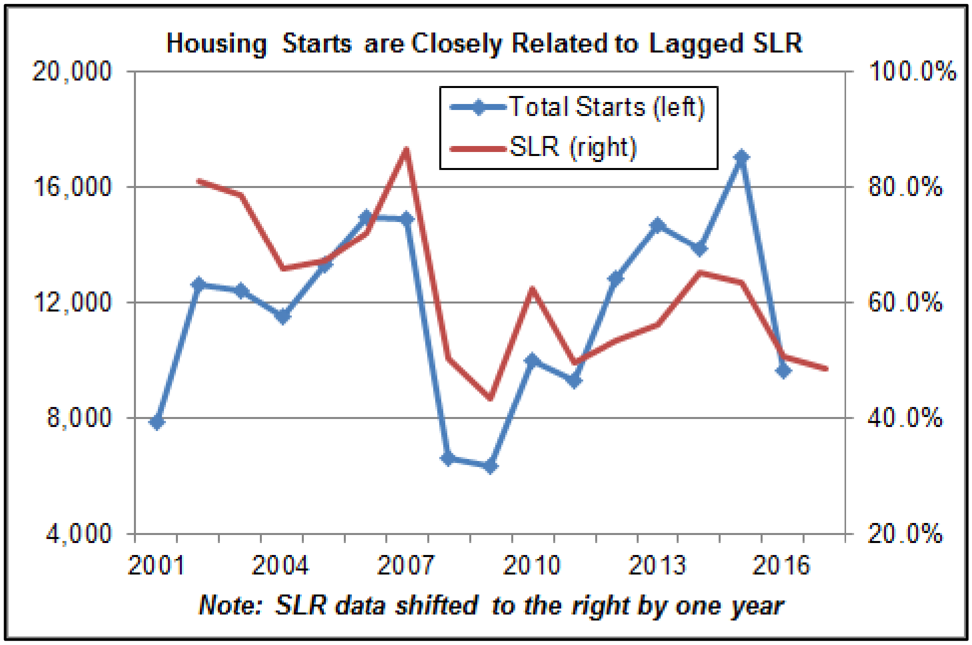
How that distribution gets settled can be understood as a matter of pure economics:

- The balance between supply and demand determines what happens to prices.
- If demand strengthens relative to supply, prices will accelerate (increase at a faster rate).
- That price acceleration will encourage more people to buy (or rent) new homes.
- Higher prices mean improved profitability, which will also encourage housing suppliers (builders and investors) to offer more new housing.
- The balance between supply and demand can be usefully summarized using the ratio of sales to resale market listings.

The chart below shows the sales-to-new-listings ratio for a sample market – in this case Edmonton – which is calculated using data published by the Canadian Real Estate Association ("CREA"). The chart also shows data on housing starts for the CMA (from Canada Mortgage and Housing Corporation, or "CMHC"). While this might not be immediately apparent, there is a strong relationship between the two data sets. Out of the 16 years shown for this particular market, there are just four years for which the lines don't fit well together: 2001, 2007, 2009, and 2015. What is happening in those cases is that when the SLR changes suddenly, housing starts don't change instantly. But, housing starts do show the expected adjustment the next year (i.e. the SLR fell in 2007, starts fell the following year; the SLR rose in 2009, starts rose the following year; and the SLR fell in 2015, starts fell in 2016). In other words, there is actually a quite strong relationship, once we understand that starts "lag behind" changes in the SLR.



A second version of this chart (below) shows the same data, except that the SLR data is shifted by one year. At the right-hand end of the chart, the SLR for 2016 is shown alone: this data point may help us predict what will happen to housing starts in 2017. Since the SLR for 2016 was below the long-term average (and slightly lower than the prior year), it suggests that this particular market's housing starts will be below average in 2017, and may fall slightly compared to 2016.




## *What about Interest Rates?*

This discussion seems to attach only minor importance to interest rates, since it says that the most important factor for housing starts is the state of balance between supply and demand in the resale market. Secondly, it says that demand is driven chiefly by job creation.

This analysis does conclude that interest rates have little direct effect on construction of new homes (especially for owner-occupied homes; construction of investment properties is a different matter, as is discussed in the third bullet point below). But, interest rates do have important effects through indirect channels:

- Changes in interest rates affect demand for resales: when interest rates rise, fewer people can afford to buy homes and therefore they will stay in rentals for longer than they would otherwise. This reduction in demand will cause the SLR to be lower, which will mean less price growth: consequently, fewer people will buy new homes and builders will be less incented to build new homes.
- Higher interest rates will negatively affect job creation which will reduce housing demand. However, the direct effect of interest rates on employment is usually not very strong: for example, a change in interest costs will have little direct effect on companies' decisions to build new productive facilities. Those decisions are influenced more by their expectations about their ability to sell their goods and services, and the prices that they can attain. Within any economic sector, how strongly interest rates affect investment depends in part on how significant interest costs are relative to sales revenues (or to other costs).

- In the case of investment in new residential rentals, financing costs amount to a very high percentage of revenues. Therefore, this investment activity is strongly influenced by a combination of interest rates and the amount of expected rental revenue. It is also influenced by expectations about price growth. As a result, the SLR does not positively influence construction of new apartments (contrary to the very strong positive effects that are seen for the low-rise housing forms).
- Changes in interest rates can have strong indirect effects on job creation. Some of this results from the very strong interactions between housing activity and the broader economy, such as:
    - There is a "circular relationship" between reduced housing activity, which reduces job creation, which has further negative effects on housing activity, etc.
    - Reduced housing demand means slower growth of house prices, which impairs consumer confidence, which in turn means reduced consumer spending and slower job growth, which causes further slowing of housing activity, etc.
    - These kinds of interactions can be called "feedback loops". They can take quite long periods of time to fully play out, so that it can take several years before housing starts show the full effects of changes in interest rates.

Changes in interest rates have little direct impact on housing activity in a given community. The decision to form a new household and then to buy or rent a property is determined mainly by the individuals' employment situations (as well as by other conditions in their lives). However, a separate part of the decision – what exactly to buy or rent – is influenced by costs.

If rising interest rates mean that a person can no longer afford a preferred option that they could previously afford, for most people the impact is to take a less-expensive option. There are few people who totally leave the playing field. Thus, demand in terms of numbers of transactions (sales or rentals) isn't affected very much by rising interest rates. What does change is the "volume" of housing that is bought or rented, in terms of total square feet, total dollar value, or some other quantum. This adjustment to higher interest costs includes a downshift in the housing types that are consumed: fewer new single-detached homes may be required, with activity shifting to construction of lower-cost housing forms.

With respect to apartments, there are other considerations:

- For potential investors, higher interest costs change the calculations about rates of return, and therefore apartment construction can be significantly affected by higher interest rates.
- This can be partially offset, to the extent that in the home ownership sector the down–shifting to lower cost options might mean more purchases of apartments.
- On the other hand, among those who are knocked out of the market by higher interest costs, many will have been interested in the lower end of the home ownership market, and this will negatively affect construction of apartments (and possibly town homes).

## *Changes in Interest Rates Reflect Economic Conditions*

Interest rates have been remarkably low for a prolonged period because of subpar economic performances, which are resulting in employment levels that are lower than is socially desired, low wages and slow wage growth, and inflation rates that are below target levels. Expectations that interest rates will rise in the coming years reflect two sets of opinions: that "output gaps" have been reduced, and therefore there will be more inflationary pressures in future, and secondly, that at current interest rates, inflation will tend to exceed the target level.

Thus, we should expect that interest rates will increase on a sustained basis only if economic conditions remain strong, so that job creation continues at a healthy rate and inflation rates are at or above the target levels. In that case, the amount of new housing construction will tend to be determined primarily by job creation rather than by the level of interest rates (although as noted earlier, there will be changes in the types of housing constructed).

The chief analytical challenge, therefore, is not predicting how much housing activity will change as a result of higher interest rates, but how will job creation be affected (which will in turn affect housing demand). If policy makers and financial markets get it "just right" and find interest rates that allow healthy job growth to continue in the long term, the effects on housing activity (resales and new construction) would be trivial, especially for new construction of owner-occupied housing. However, construction of new rentals might be impaired, since the balance between interest costs versus rental revenues would be upset.

There is the risk, however, that policy makers and financial markets get it wrong, setting interest rates too high and impairing the economy more than is desired. In that case, weakened employment would impair housing activity. We can find examples of significant over-shooting of interest rates (such as the end of the 1980s, which resulted in a half-decade of weak economic performance and depressed housing activity). In the present, for more than a half decade, discussions about interest rates have essentially been about whether they have been under-shooting (too low) compared to their optimal levels.

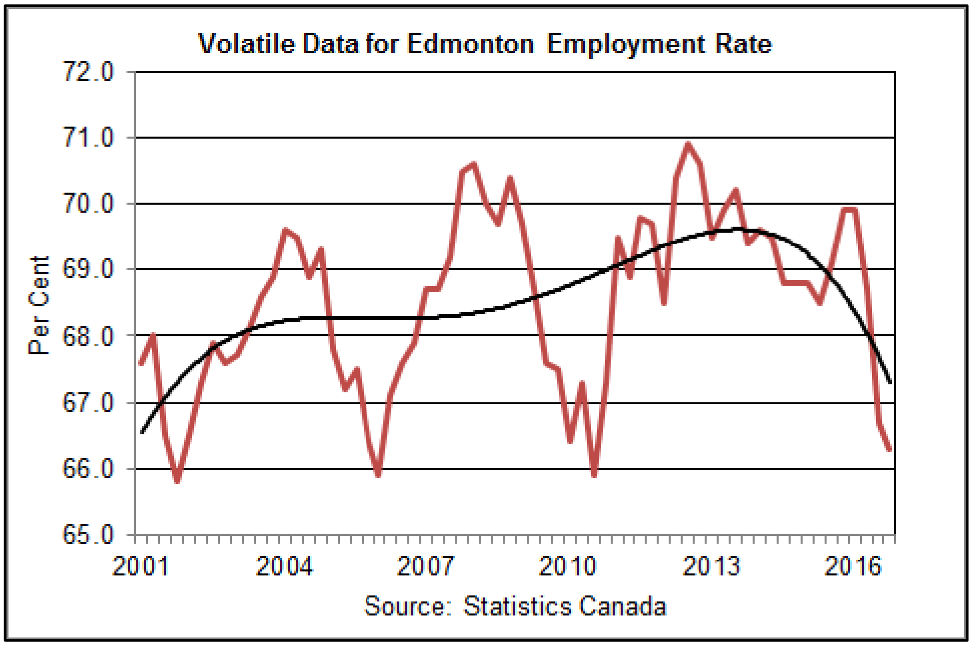
Interest rates are determined at a national level, and do not vary locally, even though economic trends do differ locally. Therefore, the impacts of changing interest rates on housing markets will vary locally, depending on two sets of local conditions.

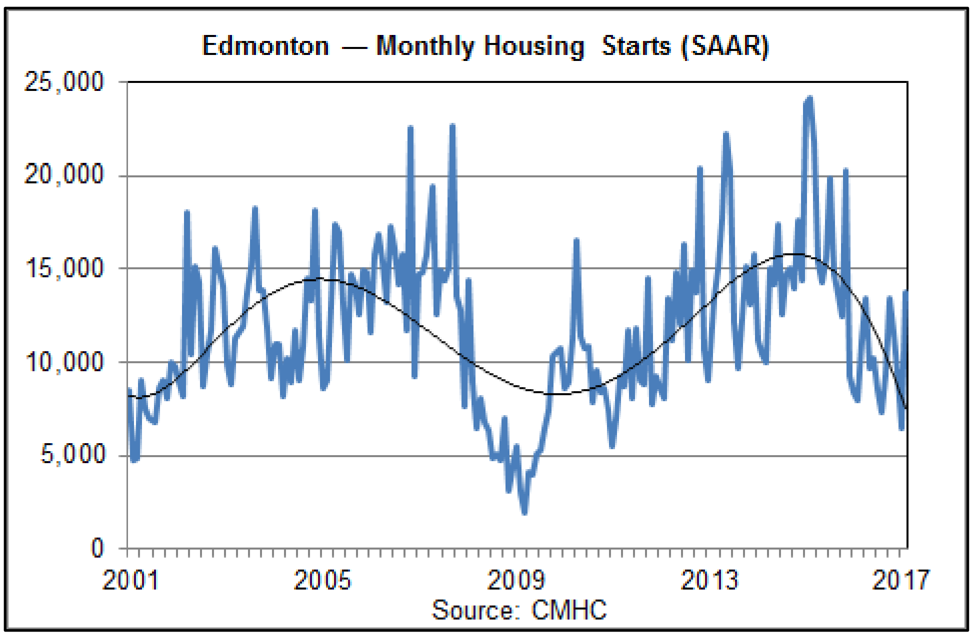
- In a community that is already relatively weak in terms of job creation, the need to construct new housing is already constrained. Any further effects on the economy from higher interest rates will further dampen housing demand.
- Secondly, and relatedly, how interest-rate sensitive is the local economy?

In the sample case of Edmonton, the local economy has clearly weakened, with the plunge in the price of oil that began almost three years ago. Unfortunately, the employment data from Statistics Canada is notoriously volatile for individual urban areas and we can't know for sure how much weakening has occurred. The chart at the top of the next page (of the percentage of this community's adults who have jobs) does include a trend line, but this is just one of many possible guesses about what the reality might be.

Housing market data do hint that in this particular case, there has been quite a sharp loss of jobs:

- CMHC reports that the apartment vacancy rate for October 2016 was 7.1%, up very sharply from 1.4% in 2013.
- Data from CREA shows that resale activity (in units sold) was 13% lower in 2016 than in 2013 (although activity has improved during the last few months, following from improved oil prices).
- Total housing starts in 2016 (10,036 units) were 32% lower than in 2013. However, as can be seen in the second chart, it does appear that starts may have stabilized, at an average of 10,000 units (as a seasonally-adjusted annual rate, or "SAAR") during the last 15 months.


Volatile Data for Edmonton Employment Rate
72.0
71.0
70.0
69.0
68.0
67.0
66.0
65.0
Per Cent
2001
2004
2007
2010
2013
2016
Source: Statistics Canada


Edmonton — Monthly Housing Starts (SAAR)
25,000
20,000
15,000
10,000
5,000
0
2001
2005
2009
2013
2017
Source: CMHC

## The Strong Linkage between Resales and New Housing Construction Has Policy Implications

This brief is not intended to make policy statements, but there is one policy issue that is related and is always worth repeating.

New housing construction can only occur to the extent that it is cost-competitive with resales. Therefore, when costs rise for new construction, it is at a disadvantage vis-à-vis resales. In a competitive market and though the magic of economics, prices will adjust in the resale market. New construction will be impaired until a sufficient price adjustment has occurred in the resale market.

The upshot is that when actions of government result in higher costs for new construction (via charges, fees, taxes, and indeed regulations) prices don't rise just for new homes. Eventually, they rise for existing homes as well. In other words, these government-imposed costs are not paid just by home builders, or by the buyers of new homes. They affect everyone. They reduce affordability and access to housing for all of us.

During the past decade and a half, the average resales house price has increased by 185% in Canada (an average of 7.2% per year). For our case study of Edmonton, the figures are: a total rise of 177%, or 7.0% per year. Increasing government-imposed costs have made a non-trivial contribution to those house price increases.

## About Will Dunning and Will Dunning Inc.

Will Dunning is the principal of Will Dunning Inc. He has specialized in the analysis and forecasting of housing markets since 1982. This includes 15 years in various market analysis positions at Canada Mortgage and Housing Corporation. In addition to being an independent economic consultant, he acts as the Chief Economist for Mortgage Professionals Canada and occasionally consults to the Canadian Home Builders' Association. Other clients include associations, governments, non-governmental organizations, financial institutions, investors and asset managers, and home builders.