MORTGAGE
PROFESSIONALS
CANADA

Annual State of the Residential Mortgage Market in Canada

Prepared by
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1.0 Executive Summary

Each year in Canada, about 700,000 homes (new construction and resale) are purchased for owner-occupancy. Of these, 625,000 to 650,000 will require financing via a mortgage and/or a Home Equity Line of Credit ("HELOC"). The total associated amount of financing will be in the range of $185 billion to $200 billion. Just under one-half of these will be first-time buyers.

Each year, just over 1 million Canadian homeowners will renew mortgages. The total outstanding principals will be in the range of $160 billion to $170 billion.

In addition, each year, about 325,000 Canadian homeowners will fully pay off their mortgages.

This report has been prepared by Mortgage Professionals Canada (continuing a tradition of publishing semi-annual reports on the housing and mortgage market in Canada, which began in 2005). The objective for the reports is to create and share data that would not otherwise be available, on mortgage activity and consumers' attitudes, and to offer thought-provoking interpretations of trends in the housing and mortgage markets, and in the realm of government policies related to mortgages and housing. The reports are based largely on consumer surveys.

Overview of this Report

This report has been prepared for Mortgage Professionals Canada by Will Dunning, Chief Economist. It provides an overview of the evolving state of the residential mortgage market in Canada. Major sections of this report consist of:

- Executive Summary
- Seven Mortgage Policy Changes
- Mortgage Choices
- Financial Parameters
- Consumer Sentiment
- Consumers' Comfort with Technology
- Outlook for the Mortgage Market

The last 10 pages of this report provide quick reviews of resale housing market indicators for the provinces, using data from the Canadian Real Estate Association (CREA).

Data used in this report was obtained from various sources, including an online survey of 2,018 Canadians. More than half (55%) were homeowners with mortgages and the rest were renters (18%), homeowners without mortgages (22%), or others who live with their families and are not responsible for mortgage payments or rent (5%). The survey was conducted by Bond Brand Loyalty for Mortgage Professionals Canada during late October and early November.

Seven Mortgage Policy Changes

The housing market and its close relative the mortgage market continue to receive a great deal of attention in Canada, and for good reason. During the post-recession period, housing activity has been one of the most successful generators of new jobs in Canada. The housing market has provided great rewards within Canada, to individual homeowners as well as to the broader economy.

Concurrently, mortgage indebtedness has expanded very rapidly, due to the strength of housing demand and rapid price growth: during the 12 years that we have produced these reports, residential mortgage debt in Canada has tripled. According to the Bank of Canada, the total outstanding has now reached $1.5 trillion[1].

It is reasonable for governments and the public to consider the risks and the rewards associated with these very active housing and mortgage markets, and whether that debt is healthy and sustainable, or hazardous to our economic well-being.

At the same time, and as we have commented repeatedly in the past, given the leading role that housing is playing in the economy, regulations and policies must seek the right balance between risks and the rewards.

During the past decade, the federal government has announced seven sets of policy changes that have been intended to reduce mortgage borrowing. Those policies have achieved the government's objectives to varying degrees (as is discussed in the section "Seven Mortgage Policy Changes"). To the extent that the policies have worked as intended, they have also affected the broader economy, with the result that it is weaker than it would have been otherwise.

The most recent change, which was announced this October (by the Office of the Superintendent of Financial Institutions, or "OSFI"), and is now in the process of taking effect, requires that all residential mortgages by federally-regulated mortgage lenders be subjected to a "stress test" at interest rates that will be far above the actual contracted interest rates. This is in addition to a requirement announced a year ago for stress testing of all insured mortgages. In combination, these two policies will subject somewhere around 80% of all home purchases to a stress test.

As they are designed, the stress tests to not properly consider that they are testing today for events that will happen five years in the future, when many circumstances will have changed.

[1] This total includes not just the owner-occupied housing that is a focus of this report. It also includes residential investment property, vacation properties, and vacant dwellings. Within this report we have estimated that Canada's 9.7 million home owners owe a total of $1.287 trillion via mortgages and HELOCs.

Among these are that a substantial portion (about 15%) of the original principal will have been repaid and the borrower's income will have increased (typically, by about 10%). Therefore, the tests overstate how much payments will increase and understate the borrower's future ability to pay. A 2-point rise in the interest rate, five years in the future, can be simulated today by applying an increment of 0.75 point to the actual contract interest rate, rather than applying the full 2-point increment.

As is discussed in this report:

- This pair of policies is likely to have substantial depressive effects.
- As a result of the policies' excessive stringency (using interest rates that are too high), housing activity will be reduced to an unnecessary degree.
- Many Canadians will be unnecessarily prevented from achieving their housing goals, even though their goals will be reasonable – and indeed responsible – in their circumstances.
- The weaker housing market will cause the broader economy to be impaired unnecessarily.
- The consequences will build gradually over time.
- By the time of the next federal election in October 2019, about 200,000 Canadian families will have encountered sharp personal disappointment as the direct result of this pair of policies (they will either have significantly reduced their housing expectations in order to obtain financing, or been entirely prevented from buying a home).
- Moreover, it is possible that very large numbers of Canadians will be experiencing the negative consequences of a broader economic impairment.
- In addition, during the period of almost two years, as many as 200,000 Canadians who renew mortgages will fail the stress test, and this may limit their ability to negotiate the lowest possible interest rates.

The federal government (OSFI/Department of Finance) has not commented in any detail on what impacts it expects from this policy, in terms of housing market effects or consequences for the broader economy. Impact analysis ought to be a standard accompaniment to major government policies like these. The analysis studies could be published either by the Minister of Finance or by an independent agent such, as the Parliamentary Budget Office.

Mortgage Choices

Mortgage Types and Amortization Periods

For homeowners with mortgages, fixed-rate mortgages remain most popular. For homes that have been purchased during 2016 or 2017, and have a mortgage, 72% have fixed interest rates, 24% have variable or adjustable rates, and combination mortgages have a 4% share.

For mortgages on homes purchased during 2014 to 2017, 81% have contracted amortization periods of 25 years or less and 19% have extended amortization periods. For all mortgages (regardless of the date of purchase), 86% have contracted periods of no more than 25 years.

For homes purchased during 2014 to 2017, the average contracted amortization period is 21.5 years.

Canadians are highly motivated to repay their mortgages as quickly as possible. These surveys find consistently that each year about one-third of mortgage holders take actions that will shorten their amortization periods (making lump sum payments, increasing their regular payment to more than is required, or increasing the frequency of payments). Among the most recent buyers, an even higher share (38%) have made these additional efforts.

The rate of mortgage arrears remains very low in Canada, and has fallen further, to just 0.24% (as of August). The most important (and difficult) cause of mortgage arrears is a reduction of income (most often due to job loss). Arrears that are caused by higher interest rates are much easier to fix (for example, by adjusting the required payment through an amendment of the amortization period).

Among borrowers who took out a new mortgage during 2016 or 2017, 46% obtained the mortgage from a Canadian bank and 39% from a mortgage broker. Other categories accounted for 15% of new mortgages.

Financial Parameters

Interest Rates

Looking at interest rates, the survey data indicates that:

- The average homeowner mortgage interest rate is 2.96%, a small drop from the average of 3.02% recorded a year ago.
- For mortgages on homes purchased during 2017, the average rate is 2.90%.
- For mortgages renewed this year, the average interest rate is 2.68%.
- Looking further, for borrowers who renewed a mortgage during 2017, one-half (51%) saw their interest rate drop. Among all borrowers who renewed in 2017, on average their interest rates fell by 0.19 percentage points.
- Mortgage rate discounting remains widespread in Canada. So far this year, the average actual rate for 5-year fixed-rate mortgages (2.72%) has been 2.00 percentage points lower than "posted" rates (which have averaged 4.72%).

Home Equity

Mortgage Professionals Canada's study posed several questions that yielded estimates of homeowner equity:

- On average, home equity in Canada is equivalent to 75% of the value of the homes.
- Among homeowners who have mortgages (but not HELOCs), on average, their home equity represents 62% of the value of the homes.

- For owners with both mortgages and HELOCs, the equity ratio is 58%.
- For owners without mortgages but with HELOCs, the equity share is 81%.
- 91% of homeowners in Canada have 25% or more equity in their homes.
- For the most recent buyers (2014 to 2017) the average equity ratio is 53%.

Equity Takeout

About 9% of homeowners (about 860,000 out of 9.7 million) took equity out of their home in the past year. The average amount is estimated at $54,500. These results imply that the total amount of equity takeout during the past year has been $47 billion, of which $28 billion was via mortgages and $17 billion was via HELOCs.

The most common use of funds from equity takeout is for purchases ($10.7 billion), followed by home renovation or home repair ($9.0 billion), debt consolidation and repayment ($8.7 billion), $8.4 billion for investments, and $4.2 billion for "other" purposes. Equity takeout is most common among homeowners who purchased their home during 2000 to 2009.

Home Renovations

More than one-half (53%) of Canada's homeowners have renovated their current homes. This includes 22% who have renovated during 2014 to 2017. On average, they spent $34,000.

Sources of Down Payments by First-time Homebuyers

In the past, these surveys have consistently shown that down payments by first-time buyers have averaged close to 20% of the purchase prices. In the fall 2017 survey, however, it is estimated that for the most recent buyers (2014 to 2017), the average has increased to 26%. It appears that more of these buyers increased their down payments to more than 20%, to avoid the need for mortgage insurance. The new data continues to show that for first-timers who bought earlier, down payments averaged close to 20%.

First-time buyers obtain their down payments from multiple sources. The largest source of funds for down payments is personal savings (52% for all first-time buyers and 54% for buyers who purchased their first home during 2014 to 2017). Funds from parents and other family members (in the form of loans and gifts) have been a small part of down payments, averaging 14% for all first-time buyers. This share was stable until recently, rising to 18% for recent buyers (2014 to 2017). Loans from financial institutions have been a larger source of down payments, at a share of 21%. Other sources include via withdrawals from RRSPs (including via the Home Buyers' Plan), with a share of 9% for all periods of buying and 7% for the most recent buyers. The share from RRSPs rose after the Home Buyers' Plan was created in 1992, but has fallen during the past decade.

The Rising Cost of Down Payments

For new homebuyers, monthly mortgage costs have been relatively stable compared to incomes, as interest rates have fallen. But, the rapid rise in house prices means that required down payments have increased relative to incomes. As a simple illustration of this, a 20% down payment on an average priced house is now equal to 105 weeks at the average wage in Canada. This is a doubling compared to 15 years ago.

This is not to say that it takes 105 weeks to save a down payment – the actual period depends on individual circumstances, including what percentage of income can be saved. Actual periods for saving down payments will generally be considerably longer, which causes most first-time buyers to resort to multiple sources of funds in addition to their savings.

Homeownership as "Forced Saving"

Mortgage payments are a blend of interest payment and repayment of principal. As interest rates have fallen, the share of the payment that goes to principal has increased sharply. At today's rates, and assuming a 25-year amortization period, about one-half of the first payment is principal repayment. A decade ago the share would have been one-quarter.

There are several implications of this. Rapid repayment of principal means that, once the mortgage loan is made, risk diminishes rapidly. It may also help to explain why consumers consider mortgages "good debt".

Repayment of mortgage principal can be seen as "forced saving". Under current conditions, with one-half or more of the payments going to principal, this represents quite high percentages of the borrowers' incomes as a "saving rate".

The "net cost" of homeownership (which should include interest costs, but not the principal repayment) is now low in historic terms (in relation to incomes, and indeed relative to the cost of renting equivalent accommodations). This goes a long way to explaining the continued strength of housing activity in Canada, despite rapid growth of house prices.

Another important implication of this analysis is that in analyzing housing affordability, it is important to use the interest rates that can actually be found in the market. Most affordability analyses use the posted rate, which gives a distorted impression of the current level of affordability, and of how current affordability compares to the past.

A Falling Homeownership Rate

As of 2016, the homeownership rate in Canada was 67.8%, a substantial drop from the 69.0% rate seen in 2011. Ownership rates fell sharply for the youngest (first-time buyer) age groups – by more than 4 percentage points for the three youngest ages.

This disappointing change can be attributed to:

- The increased difficulty of saving down payments.
- The elevated rate of "forced saving".
- Five sets of mortgage insurance policy changes by the federal government that have made it more difficult to buy.

All of these factors will continue to weigh on buyers. In addition, the stress test that will be required by the Office of the Superintendent of Financial Institutions ("OSFI") will suppress homebuying.

All things considered, it appears highly likely that the homeownership rate will fall further during the coming years.

Consumer Sentiment

In this section, consumers were asked to indicate their level of agreement or disagreement with six different statements. A score of 10 would indicate complete agreement while a rating of 1 indicates complete disagreement.

Consumers generally agree (average score of 7.15) with a statement that "low interest rates have meant that a lot of Canadians became homeowners over the past few years who probably should not be homeowners".

But, responses to questions about personal circumstances – ability to weather a potential downturn in home prices (average rating of 7.09) and low levels of "regret" about their own mortgage choices (a low average of 3.67) – paint a different picture. As individuals, Canadians have behaved cautiously. It is not immediately obvious how this contradiction can be resolved. Perhaps the responses to the first question reflect what they are seeing in the media and hearing in comments from opinion leaders, more so than reflecting actual behavior.

There is a strong belief that "real estate in Canada is a good long-term investment" (7.15) and agreement that mortgages are "good debt" (6.94).

This section of the report includes a comprehensive aside[2] on "regret" about mortgage choices, which draws two conclusions:

- Firstly, people's regret diminishes over time as they get used to the debt (and because, through repayment, the debt becomes less risky to themselves).

[2] The author found this material to be extremely interesting and therefore provided an in-depth analysis.

- Secondly, on top of that first effect, the overall level of regret seems to have fallen, even though the amounts of debt have expanded very rapidly. This may have occurred because rapid price growth has rapidly raised equity ratios, which makes the borrowers more comfortable.

By a very large margin, Canadian homeowners are happy with their decisions to buy their homes (90% are "happy"). To the extent that some of them regret the decision to buy, the regrets are about the particular property purchased (7%) rather than about homeownership in general (4%). This pattern holds for both recent buyers and those who purchased earlier.

Consumers' Comfort with Technology

The survey asked about comfort levels with five different technologies related to mortgages. Consumers are most comfortable with using text and instant messaging (6.44 on a 10-point comfort scale) and getting mortgage quotes online (6.04 out of 10), but are less comfortable with making online mortgage applications (4.77 out of 10), going online to get answers to everyday questions about their current mortgages (5.05 out of 10), and applying for mortgages online (5.10 out of 10). Comfort levels are greatest for the youngest age groups, which isn't surprising. Yet, in all age groups, including people aged 65 and older, there are significant shares who are highly comfortable with these technologies.

Outlook for the Mortgage Market

Growth of mortgage credit in Canada is driven by several factors. The most important is the volume of new housing that is completed and requires mortgage financing. The volume of completions reflects housing starts that have occurred in the past. The data on housing starts tells us that housing completions in 2018 will increase slightly compared to 2017. This factor, therefore, will tend to increase the growth rate for mortgage credit.

Another significant factor is that low interest rates mean that consumers pay less for interest and, therefore, are able to pay off principal more rapidly. Current low interest rates have, therefore, tended to reduce the growth rate for mortgage debt. Changes in interest rates have most of their impacts through mortgage renewals. Therefore, the interest rate increases that have occurred during the past half-year will affect the growth rate only very gradually.

Resale market activity and price growth tend to increase the growth rate for mortgages. But, resale activity is less powerful than completions as a driver of credit growth. Resale activity has slowed sharply since last spring, and is highly likely to slow even more, due to the mortgage stress tests. This is a dampening factor.

A further factor, which will persist for the long term, is that Canadians move away from slow growth communities to high-growth areas that have higher house prices and larger associated mortgages. This factor drives as much as a quarter of mortgage growth in Canada.

During the 12 years since we started producing these reports, mortgage credit growth in Canada has averaged 7.3% per year. The growth rate has slowed, and is currently 5.9% year-over-year (as of August). The growth rate is likely to slow a bit more, to 5.6% by the end of 2017. For 2018, with a continued high volume of housing completions, little change is expected (5.5% growth for mortgage credit).

By the end of 2017 total outstanding residential mortgage credit might be $1.52 trillion, and at the end of 2018 the total may be $1.60 trillion.

About Mortgage Professionals Canada

Mortgage Professionals Canada is the national mortgage broker channel association representing the largest and most respected network of mortgage professionals in the country. Its membership is drawn from every province and from all industry sectors. Through its extensive membership database, Mortgage Professionals Canada provides consumers with access to a cross-country network of the industry's most respected and ethical professionals.

The association ensures an effective and efficient mortgage marketplace by:

- Promoting consumer awareness of the benefits of dealing with the mortgage broker channel
- Advocating for member interests on legislative and regulatory issues
- Developing, monitoring and promoting responsible mortgage industry standards and conduct
- Providing timely and relevant information to members and mortgage consumers

About the Author

Will Dunning is an economist, and has specialized in the analysis and forecasting of housing markets since 1982. In addition to acting as the Chief Economist for Mortgage Professionals Canada, he operates an economic analysis consulting firm, Will Dunning Inc.

About Bond Brand Loyalty

Bond Brand Loyalty is a wholly owned subsidiary of Maritz Inc., the largest performance improvement company in the world, headquartered in St. Louis, Missouri. For more than 20 years, Maritz Inc. has been one of the largest providers of customer satisfaction research in North America, and a major supplier of research, helping clients understand Choice, Experience, and Loyalty to their brand. In Canada, Bond Brand Loyalty has been developing marketing research solutions for Canadian clients under the Thompson Lightstone and Maritz brands since 1977, and has grown to become one of Canada's largest full-service marketing research consultancies.

Disclaimer

This report has been compiled using data and sources that are believed to be reliable. Mortgage Professionals Canada, Bond Brand Loyalty, Will Dunning, and Will Dunning Inc. accept no responsibility for any data or conclusions contained herein.

The opinions and conclusions in this report are those of the author.

2.0 Seven Mortgage Policy Changes

During the past decade, there have been at least seven substantive policy changes related to residential mortgage lending. Each of these was restrictive, and would tend to reduce housing market activity in Canada. The first six of the seven changes were related to insured mortgages (and were announced by the federal Minister(s) of Finance). The seventh applies to all residential mortgages issued by federally-regulated financial institutions (and was announced by the Office of the Superintendent of Financial Institutions, or "OSFI").

1. *July 2008*
   - Reduce maximum amortization to 35 years from 40 years
   - Requirement for minimum 5% down payment
   - New loan documentation standards
   - Establishment of minimum credit scores

2. *February 2010*
   - Borrowers with variable-rate mortgages or fixed-rate mortgages with terms less than five years be qualified based on posted rates for 5-year fixed rate mortgages
   - Reduce maximum insured refinancing to 90% from 95%
   - Require 20% down payment for small rental properties

3. *January 2011*
   - Reduce maximum amortization to 30 years from 35 years
   - Reduce maximum insured refinancing to 85% from 90%
   - Withdraw insurance for Home Equity Lines of Credit

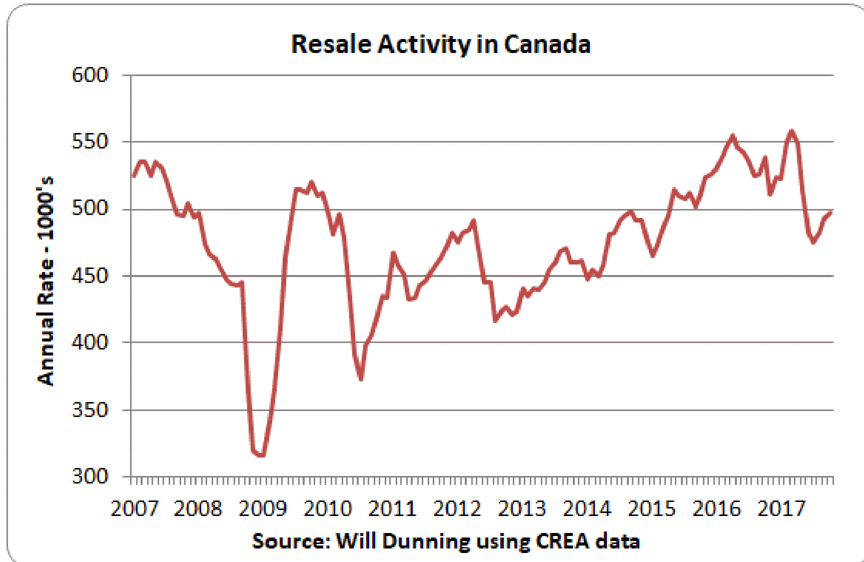
4. *June 2012*
   - Reduce maximum insured refinancing to 80% from 85%
   - Elimination of insurance for homes priced over $1 million
   - Reduce maximum amortization to 25 years from 30 years
   - Minimum credit scores for 39% GDS and 44% TDS ratios

5. *February 2016*
   - For homes priced above $500,000, the minimum down payment is 10 per cent on the portion of the price above $500,000.

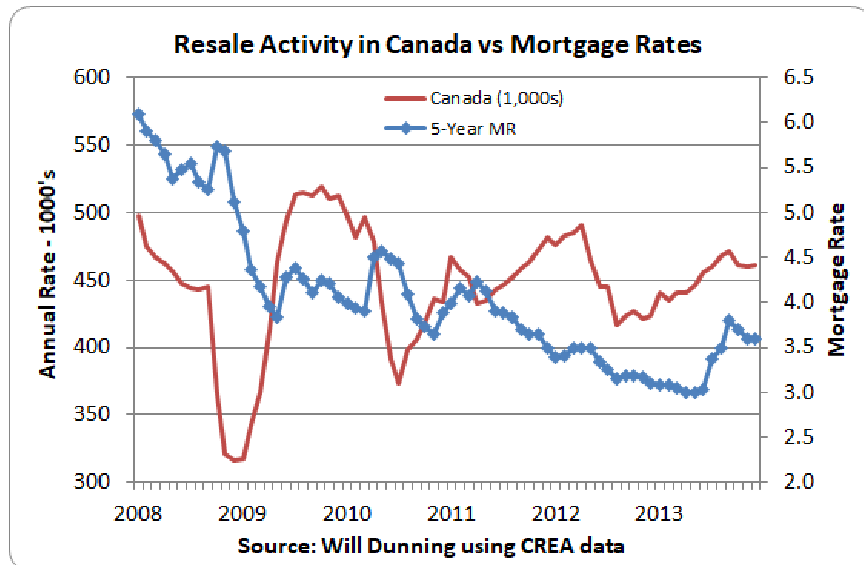
6. *October 2016*
   - All insured mortgages must be tested using the 5-year posted rate (this includes low-ratio portfolio insured mortgages).

7. <u>*October 2017*</u>
- All uninsured mortgages by federally-regulated financial institutions must be tested using the greater of two percentage points above the contracted interest rate or the 5-year posted rate.
- Lenders are expected to not engage in "co-lending" activities that would circumvent loan-to-value limits.

During the past decade, the resale housing market has been quite volatile, due to economic events (especially changes in interest rates). This makes it difficult to interpret the impacts of the policy changes.



The second chart shows resale activity for a compressed period (the start of 2008 to the end of 2013) in order to concentrate on the first four of the changes. The chart also shows the author's opinion-estimates of typical "special offer" rates for 5-year fixed rate mortgages, from major lenders (rates even lower than these could be negotiated). This data illustrates that many of the significant swings in market activity were associated with changes in interest rates.



<u>*July 2008*</u>

A sharp drop in activity occurred three months after the policy announcement, but this was due to the onset of the severe economic recession, rather than to the policy change. Activity rebounded very strongly starting in the spring of 2009. This was due to abatement of fears about the recession, as well as to the very sharp drop of mortgage interest rates that occurred late in 2008. The policy change was a minimal factor in these housing market events.

February 2010

A sharp, short-lived drop in activity began three months later, but this was related to a sudden rise in mortgage interest rates (the author's opinion-estimate of a typical 5-year fixed rate rose from 4.0% to 4.5%). Five months later, interest rates returned to 4.0% and housing activity recovered. The author's interpretation is that the swing in activity was entirely due to the interest rate movements and that this policy change was immaterial.

January 2011

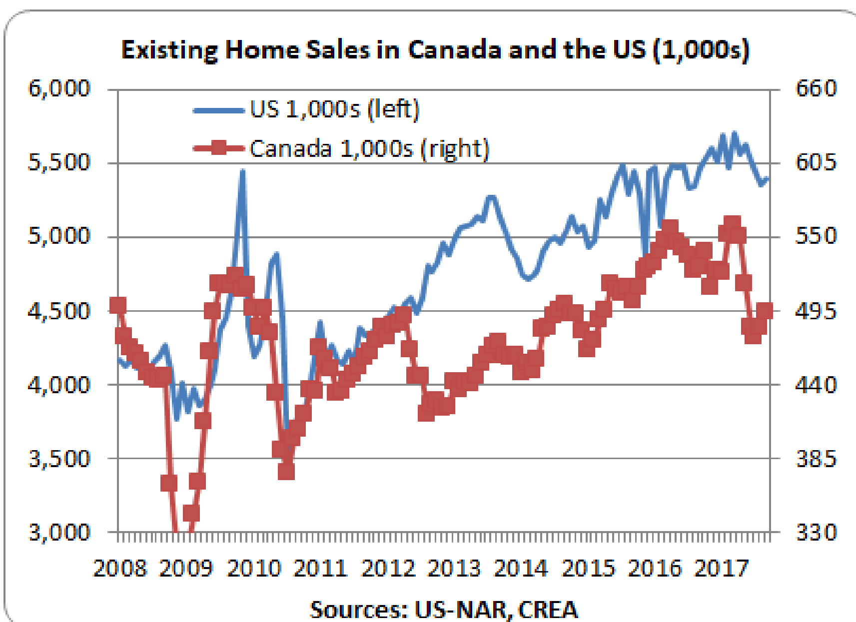
There were only minor changes in housing activity (and in interest rates), and this policy change was immaterial.

June 2012

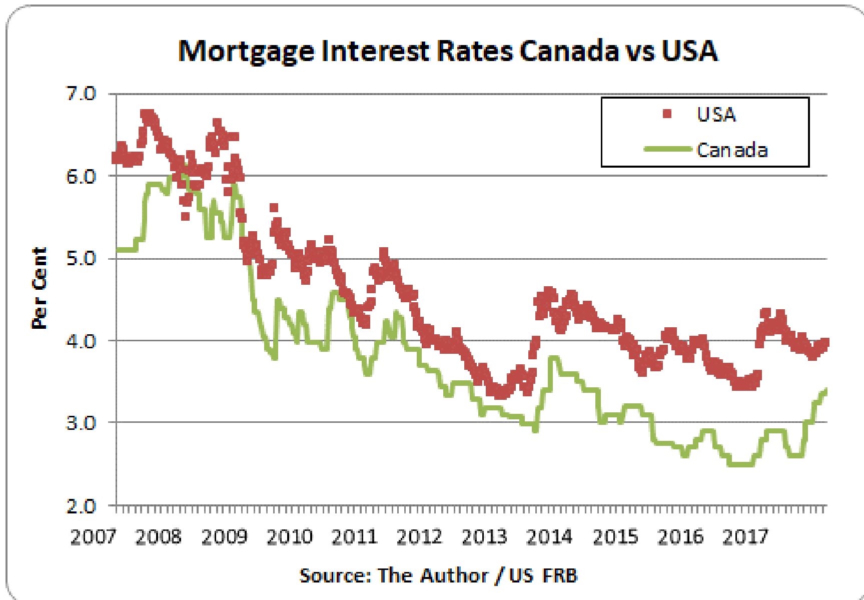
Activity fell sharply and was quite weak during the second half of 2012, but then recovered during the first three quarters of 2013. This (on top of the events that followed the 2008 and 2010 changes, which, as was argued above have been misinterpreted) has led to a conventional interpretation that impacts of policy changes might last for about a half year and then dissipate.

It must be noted that there were significant differences compared to 2008 and 2010. This time, there were no other events that caused housing activity to fall after the policy announcement. Unlike the 2010 episode, mortgage interest rates did not rise, they fell slightly during the second half of 2012, which should have supported stronger activity. Interest rates fell slightly more during the spring of 2013. By March 2013, they were a half-point lower than they had been at the time of the June 2012 policy announcement. If not for the drop of interest rates, the policy impacts would have been stronger and been obvious for a longer period of time.

Another way to illustrate this is to contrast resale market activity in Canada and the US, as seen in this chart. The population of Canada is roughly 11% of the US figure. Therefore, in this chart, resale activity in Canada is scaled (on the right side) at 11% of the US figures. The data shows that during 2008 until mid-2012, housing market trends in Canada and the US were highly similar. This



makes sense because economic influences were highly similar - both were in recovery, with employment rising slightly faster than the populations, and interest rates were moving in very similar ways[3]. Therefore, the sudden departure of housing market trends that started at mid-2012 was not due to economic factors but rather to the mortgage insurance policy change. Subsequently, resale market activity in Canada has remained quite weak relative to the US, which is strongly suggestive that the 2012 policy change had a substantial and prolonged impact.

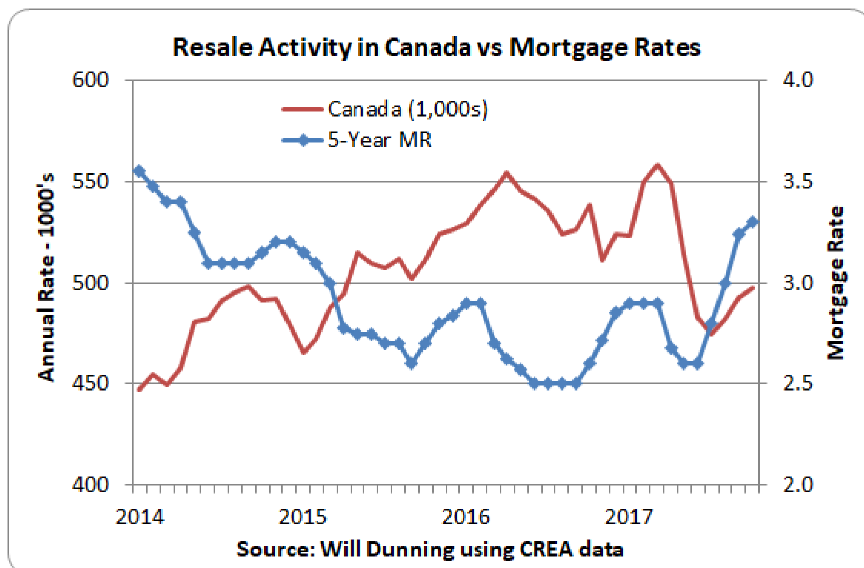


A third way to look at these policy changes is through simulations of impacts on actual mortgage borrowers. This was done late in 2012, using a very large database of mortgages. As we reported in our fall 2012 report, the first three policy changes (July 2008, February 2010, and January 2011) would have negligible impacts. On the other hand, the simulations indicated that the June 2012 change would have very substantial effects.

February 2016

This chart contrasts activity in the US and Canada for a more recent period (start of 2014 to the present).

The February 2010 policy change was expected to affect very few housing market transactions and it had no discernible impact. In fact, sales activity rose early in 2016, in response to falling interest rates.



[3] During the two years prior to June 2012, the spread between Canadian and US mortgage rates was relatively stable, with Canadian rates about 0.5 point lower than the US. Afterwards, the spread widened, to 0.92 in 2015 and 1.05 in 2016, which in part reflected that Canadian housing markets had weakened relative to the US.

October 2016

This policy change was expected to have a material impact, as it was estimated that one-quarter of previously-insurable mortgages would have failed the stress test. Some borrowers would be able to make adjustments to avoid the need for mortgage insurance and therefore to evade the stress test, such as:

- Buying lower cost properties
- Increasing down payments (through assistance from family or borrowing down payments)
- Borrowing from lenders that do not require insurance

Therefore, the reduction in housing activity was expected to be in the range of 6-10%. But, while this policy change was followed by sharp reductions in insured mortgage lending activity, there was no impact on housing activity. In fact, housing activity actually increased early in 2017 (due to a surge in Toronto and surrounding areas and a partial recovery in BC from the effects of the foreign buyers' tax). Therefore, the data (showing no drop of resale activity but a very large drop in insured mortgage lending) indicates that many buyers who were potentially impacted by this policy did manage to avoid insured mortgages and complete their desired purchases.

October 2017

This brings us to the recent announcement by OSFI that all uninsured mortgages issued by federally-regulated financial institutions must now be stress tested at "the greater of the five-year benchmark rate published by the Bank of Canada or the contractual mortgage rate +2%". In combination with the requirement for stress testing of insured mortgages, this means that a substantial portion of homebuyers (estimated at about 80%) will be subject to testing.

The spring 2017 survey by Mortgage Professionals Canada focused on recent and potential homebuyers, to gather information on their housing and mortgage choices and expectations. The survey data supported analysis of whether those potential buyers would actually be able to qualify for the mortgages that they needed. Initially, the analysis focused on homebuyers who would have down payments of less than 20%, who therefore would require mortgage insurance and would be subject to the mortgage insurance stress test. With the OSFI announcement that extends the stress testing to uninsured loans, the analysis has now been expanded.

This enhanced analysis (which uses data from the spring 2017 survey, and uses parameters that pertained at the time) finds that:

- Among prospective homebuyers, who have reasonable prospects of completing their desired transactions (they could qualify for the mortgages they would need based on their anticipated actual parameters, or they do not need a mortgage at all).
- 16% would fail the stress test and therefore would not be able to make their anticipated purchase because of the stress test.

- Looking at the 91% of these prospective buyers who would need a mortgage, 18% would fail the stress test. The analysis included 9% who would not need a mortgage (because they expect to make a 100% down payment).
- Based on the parameters that would exist today (especially including a posted rate that has increased by 0.35 percentage points and actual interest rates that are as much as three-quarters of a percentage point higher), the percentage who would fail a stress test today is likely higher than the 18% that was estimated earlier.

Some Borrowers Will Avoid the Stress Tests

It remains true that not all mortgage borrowers will be subject to the stress tests.

The provinces do not currently mandate stress tests for the financial institutions that they regulate (although federal government officials are clearly encouraging them to do so).

Credit unions are regulated by the provincial governments. According to data from the Bank of Canada, credits unions currently account for 12.8% of outstanding residential mortgage credit in Canada. That share has been essentially stable for the past 15 years. Credit unions have accounted for 12.7% of mortgage growth over the past 15 years and 13.8% over the past five years. People who borrow mortgages from credit unions and require mortgage insurance are still subject to the stress test. If 40% of credit union mortgages are insured, then the 12.8% share of the total mortgage market would, going forward, include 5.1% tested mortgages and 7.7% untested mortgages.

Mortgage investment corporations are not regulated by the federal or provincial governments and are therefore not required to do stress testing (although they may choose to do so). According to a report published by Canada Mortgage and Housing Corporation (CMHC) in August 2016[4], these lenders might (as of 2015) account for less than 1% of total mortgage credit outstanding in Canada. This is consistent with our survey data that shows less than 2% of mortgages are from "other" lenders.

In combination, credit unions and mortgage investment corporations might account for 14% of mortgage originations. Some of these will be insured and therefore require stress testing (perhaps 5 points out of the 14% share) and the remainder (9 points out of 14%) will be untested. Under current conditions, therefore, somewhere around 91% of new mortgages would be subject to stress testing.

[4] A link to download a summary of the report is available here: https://www03.cmhc-schl.gc.ca/catalog/productDetail.cfm?cat=198&itm=7&lang=en&sid=7e6j7tYsh6riDImbmjR9YZbRCnX1lnXzc8SExEB3pLFRTKWKnvVgQAv5f0eSvYk3&fr=1511198165979. A condensed summary can be found here: https://www.cmhc-schl.gc.ca/en/hoficlincl/observer/observer_094.cfm. Access the complete report here: ftp://ftp.cmhc-schl.gc.ca/chic-ccdh/Research_Reports-Rapports_de_recherche/eng_unilingual/RR_Growth_w.pdf.

Based on the parameters that existed in the spring, it has been estimated that 18% of mortgage borrowers who are stress tested, would fail the stress test.

In theory, if the lenders who are not required to conduct stress tests (who provide about 14% of mortgage financing) cater only to the 18% of potential borrowers who fail the stress test, then they could accommodate most of the people who fail; the tests would be irrelevant. However, that would require a huge “sorting” process, by which credit unions stop lending to people who could pass the stress test and lend only to those who would fail the test. It is difficult to imagine this occurring, since it would sharply raise their risks. It is possible that to some limited extent some of them might make that strategic choice, if the less-qualified borrowers would pay interest rates substantially higher than paid by qualified borrowers. Even in that event, the increased interest costs would dilute the benefit to the less-qualified borrowers, taking some of them out of the market. So, the availability of alternative sources might reduce the impact of the stress test from the 18% figure, but probably not by very much.

In all likelihood, diversion of mortgage lending to non-stress-testing lenders will have only a marginal impact.

Some Borrowers Will Adjust Their Expectations

Among those who fail the stress test for their preferred purchase, some will adjust their expectations and buy less expensive properties for which they could obtain mortgage finance.

It is frequently commented that the stress tests will require buyers to reduce their target prices by about 20%. However, most homebuyers borrow much less than their lenders would allow (based on a 32% Gross Debt Service Ratio). For example, according to data from CMHC, in the first nine months of 2016 (before the stress test took effect), 68.5% of its new insured mortgages had GDS ratios of 30% or less, and the average GDS ratio was 25.6%.

This means that for most home buyers, the necessary reduction in target prices will be less than the 20% figure that is often mentioned.

The data from our spring 2017 survey was re-examined, to look at prospective buyers who could qualify based on their actual interest rates but would fail the stress test. This new analysis calculated how much they would have to reduce their target purchase prices in order to pass the stress tests and qualify for the mortgage amounts that they would need. On average, these potential home buyers would need to reduce their target prices by $31,000, or 6.8%.

The table below summarizes the estimates.

- For about one-fifth, the required adjustments are quite small (less than 2.5%) and we should expect that a very large share of these will adjust successfully, by reducing their target prices and thereby qualify for the new mortgage amount that they need (or by increasing their down payments).

- For the remainder, the adjustments become increasingly difficult. We would expect that among those who need to reduce their target price by 10% of more, very few will be able to make the necessary adjustments (because they cannot find housing options acceptable to themselves at the revised target prices).
- Based on the figures shown, it is possible that among the mortgage borrowers who would fail the stress test for their preferred purchase, about 50% to 60% will be able to find an alternative for which they can qualify.
- Correspondingly, 40% to 50% of these would be unable to make sufficient adjustments.

Table 2-1
House Price Reductions Required
to Pass a Mortgage Stress Test

Required Price Reduction	*% Affected*
Less than 2.5%	21%
2.5-4.99%	20%
5.0-7.49%	21%
7.5-9.99%	16%
10-12.49%	15%
12.5% or more	7%
Total	100%

Source: Mortgage Professionals Canada survey, spring 2017; Analysis by the author.

Combining the Estimates

Combining the estimates that were developed above:

- 91% of buyers require mortgages.
- 91% of these will be stress tested.
- Among the buyers who would pass the stress test based on their actual interest rate, 18% would fail based on their preferred purchase (meaning that 82% would pass).
- Combining those three factors, about 15% out of all prospective buyers (that is, those who can qualify based on their actual interest rates, plus those who don't need a mortgage) would be disqualified by the stress test.
- Of these, 50% to 60% would adjust their expectations and make a different purchase.
- On the other hand, 40% to 50% would not be able to make any purchase.
- Combining the factors, this means that about 6% to 7.5% of all prospective home buyers won't be able to make any purchase.

Applying these estimates to about 700,000 home purchases per year:

- Each year, about 100,000 prospective buyers who could qualify for the required financing for their preferred home purchase (based on their actual conditions) will be disqualified from borrowing the mortgage they need, by the stress tests.
- Perhaps 50,000 to 60,000 per year will be able to make a different purchase, albeit one that is less attractive to them.
- Perhaps 40,000 to 50,000 per year will be entirely removed from homeownership.

It was concluded above that out of six prior policy changes that affect mortgage lending, five had negligible effects. Just one (the fourth, in the summer of 2012) had a substantive effect, and the impacts were prolonged. It appears that this new policy change is also likely to have substantive and prolonged consequences.

Impact of OSFI Stress Test Policy on Mortgage Renewals

The interpretation of the OSFI policy is that if a renewing mortgage borrower wants to transfer the mortgage to a different lender, then it must be stress tested (if that lender is federally-regulated). Renewals that occur at the existing lender do not need to be tested. There is concern that some renewing borrowers would fail the stress test and therefore be trapped at their current lenders, which could put them in a disadvantageous situation for negotiating the new interest rate.

Available data does not allow us to estimate what share of renewing borrowers might not be able to pass the stress test and thereby be put in potentially disadvantageous situations. We can observe that in typical situations, the stress testing will add 3 to 4 percentage points on top of the actual debt service ratios that will be faced at the time. Therefore, renewing borrowers whose actual GDS ratios are below 28% or 29% at the time of renewal and whose TDS ratios are below 36% or 37% should be able to pass the stress test.

The next two tables provide some renewal scenarios.

The first table applies to the majority of borrowers who renew in 2018: they will have taken a 5-year fixed rate mortgage, and therefore would have purchased in 2013. Their initial mortgage interest rate might have been 3.25%. Their renewal in 2018 might be at a slightly lower rate (3.0%). The stress test assumes an interest rate of 5.0%. Other assumptions include:

- At the time of renewal, the borrowers' incomes and non-mortgage costs would have increased, perhaps by 10%.
- In each case it is assumed that purchase price was $300,000.
- The buyers made a 20% down payment and took a $240,000 mortgage.
- Monthly payments are calculated based on a 25-year amortization period.
- At renewal, the remaining principal is just over $206,000.
- 20 years remain in the amortization period.

The scenarios assume a variety of starting positions (based on the initial GDS ratios). For each of these scenarios, the starting incomes differ (they are calculated based on all of these parameters for the scenarios, in order to result in the initial GDS ratios).

In the table, the calculations of GDS ratios are shown for each scenario. The monthly mortgage payment ("P" & "I") is added to assumptions about property taxes and heating costs to calculate "PITH". Then, PITH is divided by the income to calculate the actual and stress-test GDS ratios.

This analysis shows that:

- In all of these scenarios, the actual GDS ratios at renewal are lower than the initial levels (because interest rates and monthly mortgage payments have gone done, while income has increased).
- For a borrower whose initial GDS was 32%, the actual GDS at renewal would be 29.4%, but the stress test would calculate the GDS at 33.3%, and the renewing borrower would fail the stress test. This occurs despite the fact that the borrowers' actual GDS ratios will be lower than they were at the time the mortgages were initiated.
- For initial GDS ratios of 30% or lower, all of these scenarios would show the borrowers passing the stress test.

Table 2-2
Mortgage Renewal Scenarios
Renewal in 2018 After an Initial 5-Year Term

Initial GDS	*Activity*	*Monthly P & I*	*Taxes*	*Heat*	*PITH*	*Income*	*GDS*
Scenario 1							
32%	2013 purchase	$1,166.80	$250.00	$150.00	$1,566.80	$58,755	32.0%
	2018 (actual)	$1,141.19	$275.00	$165.00	$1,581.19	$64,630	29.4%
	2018 (stress test)	$1,354.43	$275.00	$165.00	$1,794.43	$64,630	33.3%
Scenario 2							
30%	2013 purchase	$1,166.80	$250.00	$150.00	$1,566.80	$62,672	30.0%
	2018 (actual)	$1,141.19	$275.00	$165.00	$1,581.19	$68,939	27.5%
	2018 (stress test)	$1,354.43	$275.00	$165.00	$1,794.43	$68,939	31.2%
Scenario 3							
28%	2013 purchase	$1,166.80	$250.00	$150.00	$1,566.80	$67,148	28.0%
	2018 (actual)	$1,141.19	$275.00	$165.00	$1,581.19	$73,863	25.7%
	2018 (stress test)	$1,354.43	$275.00	$165.00	$1,794.43	$73,863	29.2%
Scenario 4							
26%	2013 purchase	$1,166.80	$250.00	$150.00	$1,566.80	$72,314	26.0%
	2018 (actual)	$1,141.19	$275.00	$165.00	$1,581.19	$79,545	23.9%
	2018 (stress test)	$1,354.43	$275.00	$165.00	$1,794.43	$79,545	27.1%

Source: Analysis by the author.

In a second set of scenarios, a renewal occurs in 2018 after an initial 1-year term. The purchase price is higher ($400,000) and therefore the initial mortgage amount is $320,000. At renewal, the remaining principal will have been reduced to about $310,000, and 24 years remain in the amortization period. The initial mortgage interest rate in 2017 is assumed to be 2.25%, and the renewal rate in 2018 is the same as in the first set (3.0%), with the stress test rate at 5.0%.

In these scenarios, borrowers' actual monthly mortgage costs increase significantly, while there has been little time for their incomes to rise. Actual GDS ratios rise by 1.2 percentage points to 1.5 points in these scenarios. For some borrowers, this may be manageable; others may find it quite difficult.

The actual GDS ratios will be below 32% in all of the scenarios in which the initial GDS ratio was 30% or lower. But, the stress test calculations result in much larger rises . As a result, the borrowers fail the stress tests in all scenarios that have initial GDS ratios above 26%.

Table 2-3
Mortgage Renewal Scenarios
Renewal in 2018 After an Initial 1-Year Term

Initial GDS	*Activity*	*Monthly P & I*	*Taxes*	*Heat*	*PITH*	*Income*	*GDS*
Scenario 1							
32%	2017 purchase	$1,393.96	$333.33	$161.76	$1,889.06	$70,840	32.0%
	2018 (actual)	$1,509.96	$340.00	$165.00	$2,014.96	$72,256	33.5%
	2018 (stress test)	$1,843.24	$340.00	$165.00	$2,348.24	$72,256	39.0%
Scenario 2							
30%	2017 purchase	$1,393.96	$333.33	$161.76	$1,889.06	$75,562	30.0%
	2018 (actual)	$1,509.96	$340.00	$165.00	$2,014.96	$77,074	31.4%
	2018 (stress test)	$1,843.24	$340.00	$165.00	$2,348.24	$77,074	36.6%
Scenario 3							
28%	2017 purchase	$1,393.96	$333.33	$161.76	$1,889.06	$80,960	28.0%
	2018 (actual)	$1,509.96	$340.00	$165.00	$2,014.96	$82,579	29.3%
	2018 (stress test)	$1,843.24	$340.00	$165.00	$2,348.24	$82,579	34.1%
Scenario 4							
26%	2017 purchase	$1,393.96	$333.33	$161.76	$1,889.06	$87,187	26.0%
	2018 (actual)	$1,509.96	$340.00	$165.00	$2,014.96	$88,931	27.2%
	2018 (stress test)	$1,843.24	$340.00	$165.00	$2,348.24	$88,931	31.7%
Source: Analysis by the author.							

The initial impression from these scenarios is that most mortgage borrowers who renew in 2018 will pass the stress test with ease, due to a favourable combination of:

- Their initial term was for five years
- 14% of the principal will have been repaid
- Their incomes will have increased

On the other hand, a minority of borrowers will be renewing from shorter initial terms and there is more likelihood that they will fail the stress test, even though for most of them their actual GDS ratios will be less than the 32% threshold.

At this time, we do not have enough data to confidently express an opinion about how many renewing borrowers will fall the stress test, despite being able to afford their actual costs with reasonable comfort. Given that more than 1,000,000 mortgages are renewed each year, it is possible that the number so-affected will be in the range of 50,000 to 100,000 per year. These borrowers may find themselves unnecessarily vulnerable in their mortgage renewals, as they will be unable to negotiate with other federally-regulated mortgage lenders. And, there won't be enough opportunities for these borrowers to transfer to non-federally-regulated lenders, due to limited supplies of loanable funds. In some cases, these renewing borrowers may be forced to accept uncompetitive rates from their current lenders.

The Stress Tests Use the Wrong Interest Rate

The stress tests are responding to a risk that when mortgages are renewed, interest rates may have increased substantially, resulting in unaffordable increases in homeowners' costs and causing financial distress (for the borrowers personally, and for the financial system as a whole). Therefore, before mortgages are approved, borrowers should be tested for their ability to afford a higher interest rate in future.

The tests assume, essentially, that future interest rates will be 2 percentage points higher than at present.

These principles seem very reasonable.

Yet, it is important to acknowledge that the tests are concerned with events that will happen in the future – and usually five years in the future.

By the time a mortgage is renewed, much will have changed:

- If the borrower makes just the required payments, 14% or 15% of the principal will have been repaid during the first five years (based on a 25-year amortization period). The higher future interest rate will apply to a smaller dollar amount, and therefore the rise in the payment will be less than is being assumed in the stress test.
- More importantly, borrowers' incomes will have increased. Based on trends over the past five years, mortgage borrowers will typically have seen their incomes rise by 10%.
- Moreover, if interest rates do rise substantially, that will be associated with a stronger economy and it is probable that income growth will have been stronger than in the past.

The result is that a stress test that is done using current parameters (mortgage principals and borrowers' incomes) will over-estimate how much mortgage costs will increase and under-

estimate borrowers' ability to pay. Therefore, the stress test GDS ratios (and TDS ratios) that are calculated today will be considerably higher than the ratios that should be expected for the future mortgage renewal.

Taking these issues into account (that when a future renewal occurs, principal will have been repaid and income will have increased), then: a 2-percentage point increase for the mortgage interest rate, occurring five years in the future can be simulated today using an interest rate that is 0.75 points higher than the initial actual interest rate.

To conclude:

- Using the posted mortgage interest rate today in mortgage stress tests is excessively stringent, and will unnecessarily impair the housing market and therefore the broader economy.
- It will unnecessarily (and therefore unfairly) prevent large numbers of Canadians from achieving their reasonable housing goals.

A defensible way forward is to do stress testing based on actual contracted mortgage interest rates plus 0.75 percentage points.

3.0 Mortgage Choices

This section uses data from the consumer survey to highlight consumer choices in the mortgage market.

Dimensions of the Mortgage Market

There are currently about 14.36 million households in Canada[5], including:

- 9.70 million homeowners, of whom 5.93 million have mortgages. Of these, 1.52 million also have Home Equity Lines of Credit (HELOCs) and 4.41 million have a mortgage without a HELOC.
- 510,000 have no mortgage but do have a HELOC.
- 3.77 million homeowners have no mortgages. Of these, 490,000 have HELOCs and 3.28 million have neither a mortgage nor HELOC.
- There are about 4.60 million tenants and 60,000 households living in band housing.

Fixed-Rate Vs Variable-Rate Mortgages

As is shown in the table on the next page, the study found that 68% of mortgage holders (4.0 million out of 5.93 million) have fixed-rate mortgages, 28% (about 1.68 million) have variable-rate or adjustable-rate mortgages, and 4% (about 250,000) have "combination" mortgages, in which part of the payment is based on a fixed rate and part is based on a variable rate. As is shown in the first column of the table, among mortgages for homes that were purchased during 2016 or 2017, fixed-rate mortgages were chosen by 72%. For mortgages that have been renewed during 2016 or 2017, the fixed-rate share is higher, at 79%. During that period, the spread between fixed-rate mortgages and variable-rate mortgages (both on 5-year terms) has averaged about one-third of a percentage point. This spread can be seen as the cost of "insurance" that the monthly mortgage cost will be unchanged for five years. Based on a typical mortgage for a recent buyer (about $300,000) the cost of this "insurance" would be about $50 per month. With the cost of the insurance relatively low, and with increasing expectations this year that interest rates will increase (which did prove correct during the second half of the year) more mortgage holders opted for the security of a fixed rate.

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[5] These estimates households are based on data from the Statistics Canada's 2016 Census, updated using data on housing completions from Canada Mortgage and Housing Corporation. Previously, the updated estimates had been based on the 2011 National Household Survey. During 2011 to 2016, household growth was considerably less than had been anticipated, and there was a shift away from home ownership towards renting. Consequently, these revised estimates are discontinuous with prior editions of this report. The estimates of types of finance are derived from the consumer survey.

Table 3-1 *Percentages of Mortgages by Type,* *for New Purchase Mortgages and Recent Renewals*				
Mortgage Type	*Purchase During 2016 or 2017*	*Renewal or Refinance During 2016 or 2017*	*Did Not Purchase or Renew/ Refinance During 2016 or 2017*	*All Mortgages*
Fixed Rate	72%	79%	65%	67%
Variable or Adjustable Rate	24%	18%	31%	28%
Combination	4%	3%	5%	4%
All Types	100%	100%	100%	100%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.				

Mortgage Amortization Periods

Mortgage holders were asked several questions related to mortgage amortization, to profile their choices and expectations.

A large majority of residential mortgages in Canada have contracted amortization periods of 25 years or less. The first column of the next table indicates that 86% of mortgages have original contracted periods of no more than 25 years and 14% have contracted periods exceeding 25 years.

For homes that have been purchased recently (during 2014 to 2017), the proportion with amortization periods of 25 years has been reduced, but at 81% is still-high. The share with extended amortization periods has increased, to 19%. Since July 2012, the maximum amortization period for insured mortgages is 25 years, but uninsured mortgages can be amortized over longer periods.

Table 3-2 *Percentages of Mortgages by Length of Original Amortization Period*		
Amortization Period	*All Mortgages*	*Purchase During 2014 to 2017*
Up to 24 Years	37%	30%
25 Years	49%	51%
26-30 years	10%	16%
More than 30 Years	4%	3%
Total	100%	100%
Average Amortization Period	21.4	21.5
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.		

Actions that Accelerate Repayment

The Mortgage Professionals Canada survey asked homeowners who have mortgages about actions that can change the number of years it takes to pay off a mortgage. Three different actions were listed. The responses are summarized in the next table. One-third (34%) of mortgage holders (about 2.0 million out of 5.93 million) took one or more of these three actions during the past year. Mortgage holders who purchased their homes during 2010 or later are most likely to take one or more of these actions.

Table 3-3
Actions Taken in the Past Year to Shorten Amortization Periods, by Period of Purchase

Period of Purchase	*Increased Amount of Payment*	*Made a Lump Sum Payment*	*Increased Frequency of Payments*	*Took One or More of these Actions*	*Took None of these Actions*
Before 1990	8%	4%	2%	14%	86%
1990s	12%	3%	7%	21%	79%
2000-2004	15%	14%	2%	31%	69%
2005-2009	17%	18%	3%	31%	69%
2010-2013	19%	21%	6%	39%	61%
2014-2017	16%	18%	10%	38%	62%
All Purchase Periods	16%	16%	7%	34%	66%
Number Taking Action (1)	975,000	975,000	400,000	2,025,000	3,925,000

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.
(1) *total does not add to 5,930,000 due to rounding.*

The survey also collected data on the dollar amounts of increased payments and lump-sum payments. Various survey data can be combined to estimate total amounts.

- About 975,000 mortgage holders voluntarily increased their regular payments during the past year. The average amount of increase was about $440 per month, for a total of just over $5 billion per year. This is the effect of increases that were made during the past year. In addition, voluntary increases that were made in prior years continue to contribute to accelerated repayment of mortgages.
- Similarly, about 975,000 made lump-sum payments during the past year. The average amount was about $19,500, for combined repayment estimated at $19 billion.
- As shown above, 7% of mortgage holders (about 400,000) increased the frequency of their payments.

In addition, the survey has investigated lump sum payments made at the time that mortgages are fully paid-out. The data indicates that such payments are made about 40% of the time.

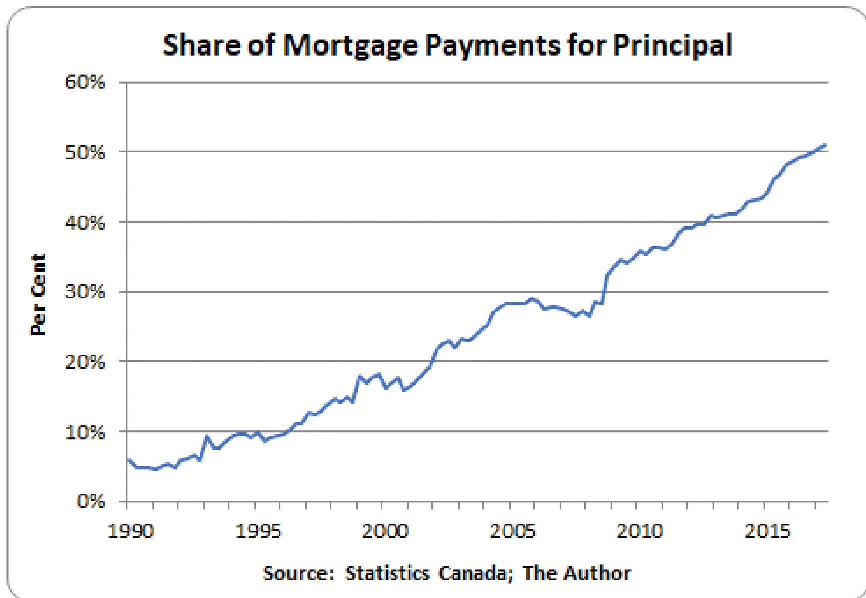
Applying this to about 325,000 mortgage retirements per year, 130,000 lump sums will be paid each year. At a typical amount of $40,000, the total would be just over $5 billion per year.

The survey data indicates that total regular mortgage payments average $1,486 per month. Based on other information gathered by the survey, it is estimated that of this $447 (30%) is for interest and $1,039 (70%) is repayment of principal.

Among the most recent buyers (2014 to 2017) the average monthly mortgage payment is $1,568, which includes $589 for interest (38% of the total payment) and $979 for principal repayment (62%).

Statistics Canada publishes estimates of mortgage payments that Canadians required to pay. The data includes the total payments as well as the associated interest components, and can be used to calculate the amounts of principal that are repaid, as well as the shares of the payments that are related to interest and principal.

The chart provides the estimates derived from the Statistics Canada data. As is shown, the data indicates that the share of mortgage payments that go to principal repayment has increased very sharply and now is just over one-half.

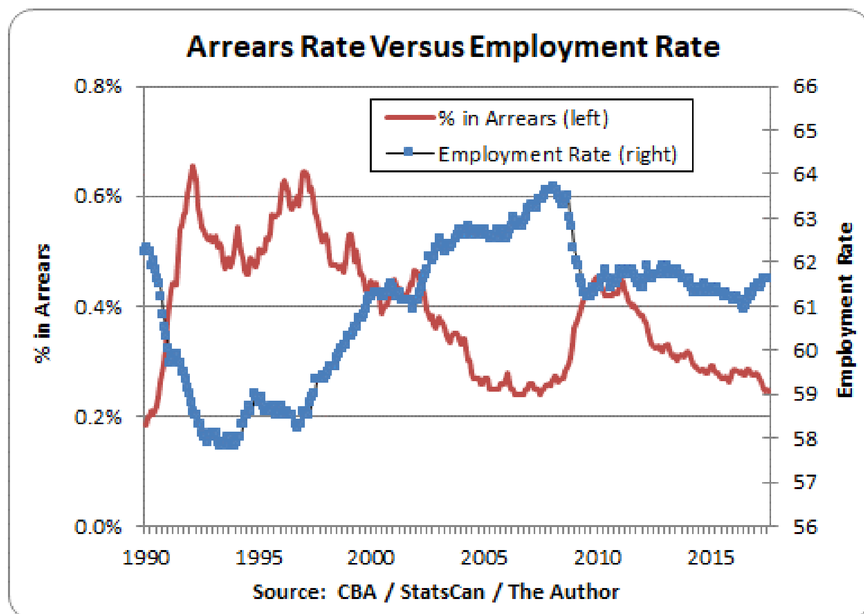


While this is a very substantial share it is less than has been calculated via our consumer survey, which indicates that at present an even higher share of the payments (70%) goes to principal repayment. The Statistics Canada estimates are based on "obligated" payments – the minimum amounts that consumers are required to pay based on their mortgage contracts. They do not take account of the considerable additional efforts that are being made by Canadian mortgage borrowers to retire their mortgages.

Mortgage Arrears

Data on mortgage arrears from the Canadian Bankers Association, which covers 10 major banks, shows that a very small percentage of Canadian mortgage holders are behind on their payments (this data shows mortgages that are three or more months in arrears). As of August 2017, the arrears rate of 0.24% (1-in-410 borrowers) is very low in historic terms.

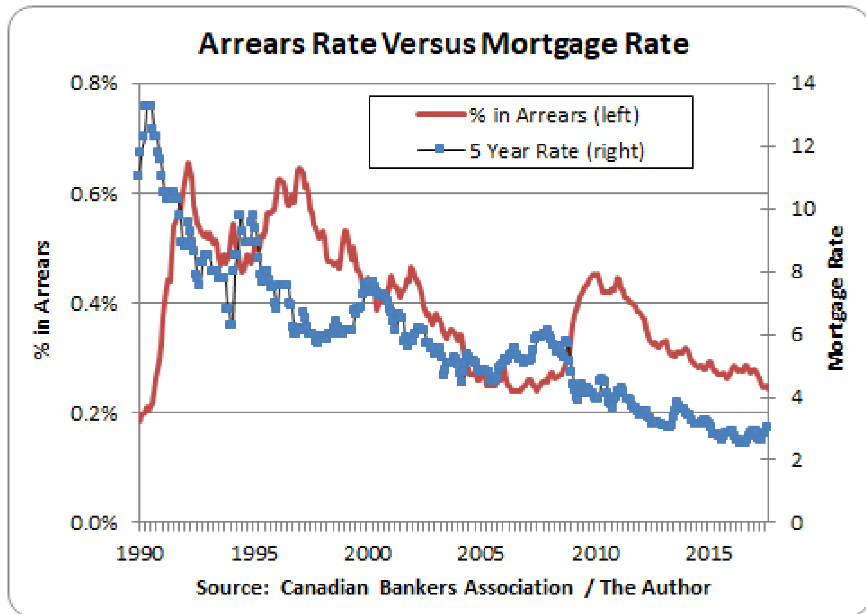
In Canada, most mortgage defaults are due to reduced ability to pay, especially due to job loss, but also income reductions due to reduced hours or reduced hourly pay rates. Marital breakdown can also reduce ability to pay.



The chart to the right shows the importance of changes in the employment situation. It contrasts arrears rates with the Canadian "employment rate" (the percentage of adults who are employed). This data shows very clearly that changes – up or down – in the employment rate are followed in a few months by changes in the arrears rate (in the opposite direction). That relationship did weaken during the recovery period after the recession of 2008-09, as the arrears rate fell rapidly despite the fact that the employment rate was relatively flat. This occurred because exceptionally low interest rates made it easy to work through challenges.

More recently, the relationship between the arrears rate and the employment situation has been reasserted - a strengthening of the employment rate that began about mid-2016 was followed by a drop in the arrears rate.

Defaults can also be caused by unaffordable rises in mortgage costs. Contrasting the arrears rate with mortgage interest rates hints that there is a relationship. Over the period shown in this chart, interest rates trended downwards and so did the arrears rate. But, in this chart there several major episodes in which the relationship is "wrong", including the late 1990s when interest rates were falling and the arrears rate was rising.



Statistical analysis[6] (looking at the combined effects of interest rates and the employment situation) shows that the employment situation is much more important than mortgage interest rates. This is because a problem with increased mortgage costs can usually be solved if the borrower has a steady income (for example, rescheduling payments by extending the amortization period), whereas problems caused by the loss of a job are much more difficult to address.

Types of Mortgage Representatives Consulted

Mortgage holders were asked from which type of representative they obtained their current mortgage on their primary residence.

For all current mortgages on homes, 61% were obtained from a bank (in the last column of data in the next table). Mortgage brokers had a 27% share, credit unions were the source for 8% of these mortgages, followed by 2% from life insurance or trust companies. Just 2% reported obtaining their mortgage via an "other" source.

For recent homebuyers (the first column of data), 46% of mortgages were obtained from banks, 39% from mortgage brokers, 12% from credit unions, just 2% from life insurance and trust companies, and 1% from "other".

[6] For the technically-minded: regression analysis that contrasts the arrears rate simultaneously with the employment rate and the mortgage interest rate results in a t-statistic of 24.5 for the employment rate (very strongly significant) but just 0.7 for the interest rate (far from being statistically significant). Based on the statistical analysis, a one point rise in the employment rate has an impact 54 times larger compared to a one point rise in the mortgage interest rate.

For renewals and refinances, there was a higher tendency to use banks (64%). One-quarter of renewals and refinances occurred via mortgage brokers (24%), 9% were from credit unions. Life insurance and trust companies, and "other" were negligible sources for renewals (combining for just 4%).

Table 3-4
Consumers' Use of Mortgage Representatives

Type of Mortgage Representative	*Purchase During 2016 or 2017*	*Renew or Refinance During 2016 or 2017*	*Not Active During 2016 or 2017*	*All Mortgage Holders*
Mortgage Representative from a Canadian Bank	46%	64%	62%	61%
Mortgage Broker	39%	24%	26%	27%
Mortgage Representative from a Credit Union	12%	9%	8%	8%
Mortgage Representative from a Life Insurance or Trust Company	2%	0%	2%	2%
Other	1%	4%	2%	2%
Total	100%	100%	100%	100%

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.

Measured as a share of total mortgage principals, for purchases during 2016 and 2017, banks account for 54%, mortgage brokers for 34%, and the other categories of mortgage professionals account for 12%.

4.0 Financial Parameters

Interest Rates

The consumer survey collected data on mortgage interest rates for current mortgage holders. The average mortgage interest rate for these mortgage borrowers is 2.96% as of the fall of 2017, and down from the 3.02% rate seen in the fall of 2016.

Very few residential mortgages in Canada have high interest rates. In this survey, only 4% of mortgages have interest rates of 5% or more and less than 1% have rates of 8% or more.

The next table looks at average mortgage interest rates by type of mortgage, for all mortgages and for three subsets: mortgages for homes purchased during 2017 up to the date of the survey, renewals this year, and mortgages for which there was neither an initiation nor renewal this year.

This survey data shows that for mortgages that have been initiated or renewed this year, interest rates are generally equal to or lower than interest rates for all mortgages.

Table 4-1
Average Mortgage Interest Rates

Activity During 2016	*Mortgage Type*			*All Types*
	Fixed Rate	*Variable or Adjustable Rate*	*Combination*	
Purchases During 2017	2.62%	NA [1]	NA [1]	2.90%
Renewals During 2017	2.66%	2.58%	2.84%	2.68%
Not Active During 20167	2.97%	3.03%	3.14%	2.99%
All Mortgages	2.93%	3.05%	3.01%	2.96%

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.
[1] *insufficient data to produce an estimate*

The survey also asked those who have renewed a mortgage what the interest rate was prior to renewal, and those rates have been compared to the mortgage borrower's current rates. The results are summarized in the next table. It shows that, among borrowers who have renewed a mortgage during 2017, one-half (51%) had a reduction in their interest rate. One-third had an increase and 17% had no change. On average, for all mortgages renewed during this year, the interest rate was reduced by 0.19 percentage points.

Table 4-2 *Changes in Mortgage Interest Rates for* *Mortgages Renewed During 2017*			
Change in Interest Rate	*Fixed Rate*	*Variable or Adjustable Rate*	*Total*
% with Rate Decreased	49%	69%	51%
% with Rate Unchanged	14%	22%	17%
% with Rate Increased	38%	9%	33%
Total	100%	100%	100%
Average Change in Interest Rate (percentage points)	-0.22	-0.12	-0.19
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.			

Combining several data elements from the survey: for those consumers who renewed mortgages during 2017, annual interest costs fell by about $450 per year per borrower.

Mortgage Rate Discounting

As was reported earlier, for new homes purchased during 2017, the average interest rate for fixed-rate mortgages was 2.62%. Since the start of 2017, “posted rates” for 5-year terms have averaged 4.72%[7]. The much lower actual rates found by the survey confirm that there is a substantial amount of discounting in the mortgage market.

This section uses the survey data to generate an estimate of the extent of discounting.

The study group includes a wide range of mortgages, including a range of lengths of term to renewal, fixed-rate versus variable-rate mortgages, and mortgages that have been originated over a prolonged period. This results in a wide range of mortgage rates. In order to produce a meaningful summary of the interest rates, one subset of the study group was selected for further analysis based on:

- Mortgages that were initiated, renewed, or refinanced since the beginning of 2017
- With fixed rates, rather than variable rates
- With five-year terms

[7] Source: data on posted rates are obtained from the Bank of Canada “conventional mortgage” rates (estimated as of each Wednesday), up to November 1.

For this group of mortgage borrowers:

- The average mortgage interest rate is 2.72%. In contrast, the average posted five-year mortgage rate over the same period was 4.72%. Based on this data it appears that Canadians negotiated mortgage rate discounts averaging 2.00 percentage points (for five-year terms). A year ago, the average was 1.94%.
- Within this subset of the database, none of the responses had an actual interest rate equal to or higher than the average posted rate.
- The highest interest rate reported was 4.1%.
- The lowest interest rate reported within this group was 2.0%.

Discounts have increased over time. The first time we made the calculation of discounts (fall of 2005), the average was 1.33%.

Housing Equity

The consumer survey provides data that can be used to generate estimates of home equity in Canada. Equity amounts are calculated by comparing the current value of owner-occupied homes in Canada with the associated mortgages and HELOCs.

The next table shows the estimates of equity positions for four groups of homeowners. In the current survey, the overall equity position is estimated at 75% (and the average loan-to-value ratio is just 25%). In other words, for every $1,000 in house value in Canada, there is about $250 of debt (mortgage and/or HELOC) and $750 of homeowner equity.

Two main findings have been consistent across these annual surveys:

- For all homeowners, more than 85% have equity ratios of 25% or higher (this includes owners with housing related debt and those with no housing related debt). This year, the figure is 91%.
- Even among the 5.93 million homeowners who have mortgages (with or without a HELOC), more than 75% have equity ratios of 25% or higher.

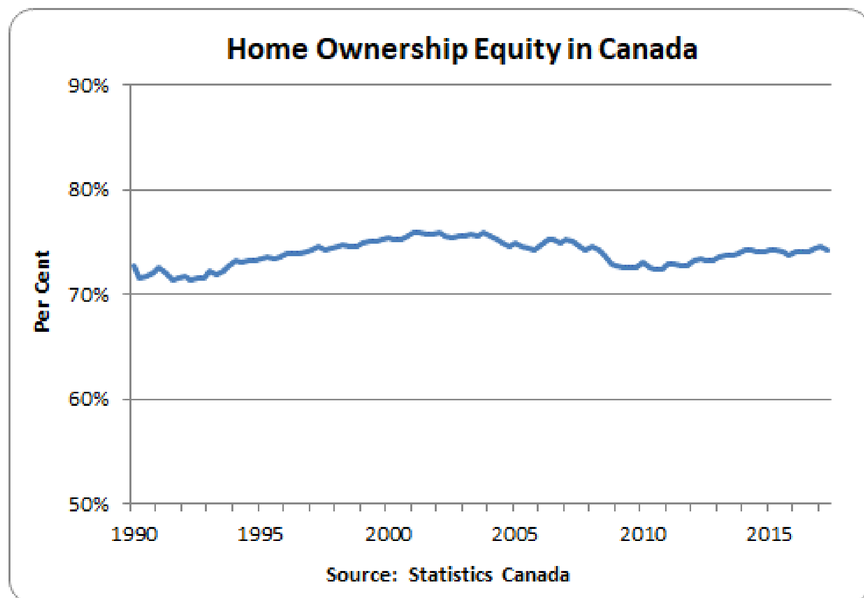
The data for the fall of 2017 indicates that out of 9.7 million homeowners in Canada, 8.8 million have 25% or more equity. On the other hand, fewer than 300,000 (3% of homeowners) have less than 10% equity.

Combining data from the survey, the total value of owner-occupied primary residences in Canada is estimated at $5.34 trillion. Associated finance (mortgages and HELOCs) on these dwellings is estimated to total $1.32 trillion. In consequence, as of the fall of 2016, total homeowner equity in Canada is close to $4.0 trillion[8].

[8] These calculations are for homes that are occupied by their owners as "principal residences". They exclude second homes (such as cottages), as well as investment properties and vacant dwellings.

Table 4-3 ***Equity Ratios for Canadian Homeowners, as of Fall 2017***					
Equity as Percentage of Home Value	*HELOC only*	*Mortgage only*	*Mortgage and HELOC*	*Neither Mortgage nor HELOC*	*All Home-owners*
Negative Equity	0%	0%	5%	0%	< 1%
0-4.99%	0%	1%	1%	0%	< 1%
5-9.99%	0%	2%	3%	0%	1%
10-14.99%	1%	1%	3%	0%	1%
15-24.99%	0%	8%	11%	0%	5%
25-49.99%	6%	34%	27%	0%	20%
50-74.99%	22%	28%	27%	0%	18%
75-99.9%	71%	25%	22%	0%	18%
100%	0%	0%	0%	100%	34%
Total	100%	100%	100%	100%	100%
Number of Households	490,000	4,410,000	1,520,000	3,280,000	9,700,000
25% or more	99%	87%	77%	100%	91%
Average Equity Ratio	81%	62%	58%	100%	75%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.					

The estimates of home equity that have been generated by these surveys have been quite similar to estimates published by Statistics Canada. As is shown in the chart to the right, Statistics Canada estimates an equity ratio of 74.25% as of the second quarter of 2017. The Statistics Canada estimates have not shown much variation over time (as is the case for our estimates).



Another view of our survey data looks at how equity ratios vary according to the period of home purchase. As shown in the next table, for homes purchased in the 1990s (or earlier), the average equity ratio is 93%). For the most recent purchases (2014 to 2017), the average ratio is 53%. Even among the most recent purchasers, 70% have 25% or more equity. For all of the purchase periods prior to 2010, 95% of homeowners have 25% or more equity, and the average equity ratios exceed 70%.

Table 4-4 *Equity Ratios for Canadian Homeowners,* *By Period of Purchase, as of fall 2017*							
Equity as Percentage of Home Value	*Before 1990*	*1990s*	*2000-2004*	*2005-2009*	*2010-2013*	*2014-2017*	*All Periods*
Negative Equity	0%	1%	1%	0%	0%	1%	< 1%
0-4.99%	0%	0%	0%	0%	1%	3%	< 1%
5-9.99%	0%	0%	1%	0%	1%	4%	1%
10-14.99%	1%	0%	1%	0%	1%	2%	1%
15-24.99%	1%	0%	1%	4%	6%	11%	5%
25-49.99%	2%	3%	9%	22%	27%	33%	20%
50-74.99%	5%	8%	13%	23%	24%	15%	18%
75-99.9%	12%	15%	24%	19%	16%	13%	18%
100%	78%	73%	49%	31%	24%	18%	34%
Total	100%	100%	100%	100%	100%	100%	100%
25% or more	97%	99%	96%	95%	91%	79%	91%
Average Equity Ratio	93%	93%	82%	71%	64%	53%	75%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.							

Equity Takeout

The survey data indicates that 9% of all homeowners (860,000 out of 9.7 million homeowners) took out equity from their homes or increased the amount of the mortgage principal within the past 12 months. This matches the share seen in 2015 and 2016, but is lower than the estimates for prior years (which were typically about 11%). The total amount of takeout is estimated at $47 billion, and the average amount of equity takeout is estimated at about $54,500. Out of the $47 billion, $28 billion was via increases to mortgage principals and $19 billion was via HELOCs.

Those who took out equity were asked what they used the money for. Some people indicated more than one purpose. Based on the responses, it is estimated that:

- $8.7 billion (21%) of the money would be used for debt consolidation or repayment.
- $9.0 billion (22%) would be used for renovation or home repair.
- $10.7 billion (26%) would be used for purchases (including spending for education).
- $8.4 billion (21%) is for investments.
- $4.2 billion (10%) is for “other” purposes.

Further analysis found that takeout was most frequent among owners who purchased during the 2000s.

Table 4-5 *Percentages of Homeowners Taking Out Equity During the Past Year, by Period of Home Purchase*	
Period of Purchase	*% Taking Equity*
Before 1990	4%
1990s	9%
2000-2004	15%
2005-2009	12%
2010-2013	11%
2014-2017	8%
All Periods	9%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.	

The next table compares equity positions for buyers who have taken out equity versus those who have not. This data shows that, for those who have taken out equity, equity ratios are very similar to the ratios for all homeowners. Notably, among those who have taken out equity, there are very few who have little equity remaining. Out of 860,000 who took out equity, about 10,000 have less than 10%, 25,000 have 10% to 14.9% equity. On the other hand, over 760,000 have more than 25% equity.

Table 4-6 *Equity Positions for Homeowners Taking Out Equity During the Past Year Versus Those Who Have Not Taken Equity Out*			
Equity as Percentage of Home Value	*Did Not Take Out Equity*	*Took Out Equity*	*All Homeowners*
negative equity	1%	0%	1%
0-4.99%	1%	1%	1%
5-9.99%	1%	0%	1%
10-14.99%	1%	3%	1%
15-24.99%	4%	7%	5%
25-49.99%	15%	25%	20%
50-74.99%	13%	33%	18%
75-100%	65%	30%	52%
Total	100%	100%	100%
< 10%	2%	1%	3%
25% or more	93%	89%	91%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.			

Home Renovations

This edition of the survey investigated renovation activity by homeowners. The first table below indicates that 53% of homeowners have renovated their current home. Not surprisingly, the share is highest for people who have been in their homes for the longest periods of time.

Table 4-7 *Percentages of Home Owners Who Have Ever Renovated their Current Homes, by Period of Purchase*	
Period of Purchase	*Per Cent*
Before 1990	79%
1990-1999	74%
2000-2004	63%
2005-2009	53%
2010-2013	42%
2014-2017	35%
Total	53%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.	

Looking at the times when the renovations occurred, 22% of homeowners have renovated recently (2014 to 2017). Applying this factor to 9.7 million Canadian homeowners, about 2.1 million homeowners renovated during the period. For this group, the average expenditure on home renovation was $34,000. For the 2.1 million renovators, the total expenditure during the period was about $73 billion, and the average annual expenditure was about $19 billion[9].

Table 4-8 *Average Expenditures on Home Renovations, During 2014 to 2017, by Period of Purchase*	
Period of Purchase	*Average Expenditure*
Before 1990	$49,000
1990-1999	$39,000
2000-2004	$31,000
2005-2009	$32,000
2010-2013	$25,000
2014-2017	$33,000
Total	$34,000
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.	

[9] Statistics Canada reports much larger values for residential renovation (in the area of $50 billion per year), but those figures cover a broader range of activity, including renovations on properties owned by contractors or investors, rental dwellings, and vacation properties.

The homeowners were asked which types of renovations were done (they could select as many items as applied, from a list of six. Most of the consumers indicated that they had completed more than one type of renovation.

Table 4-9 *Types of Home Renovations,* *For Renovations During 2014 to 2017*	
Type of Renovation	*% Mentioning*
Maintenance and Repair (e.g. window or door replacement, landscaping, roof replacement, foundation repairs, plumbing or electrical repairs, etc.)	74%
Expansion (e.g. finished basement or attic, addition of rooms or levels, etc.)	26%
Energy Efficiency (e.g. energy-efficient lighting or insulation, addition of solar panels, etc.)	35%
Cosmetic changes (e.g. painting, finishes, etc.)	73%
Updates (e.g. kitchen, bathroom, landscaping, flooring, etc.)	76%
Other	3%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.	

They were also asked about reasons for renovations (once again, selections were made from a list and more than one reason could be selected). By far, the most common reason was "personal preference". Increasing the value of the home was mentioned by more than one-third. Safety and protecting the home were mentioned by significant minorities.

Table 4-10 *Reasons for Home Renovations, for Renovations During 2014 to 2017*	
Reason for Renovations	*% Mentioning*
Increase the value of my home for resale	37%
Add additional space for myself/my family	17%
Add additional space to rent out a portion of the home	1%
Upgrade the home for my personal preference	79%
Necessary work for safety	19%
Protect the physical integrity of the building	24%
Other	2%
Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.	

Sources of Down Payments by First-Time Homebuyers

Starting with the fall 2014 report, this survey has explored down payments made by first-time buyers. The responses indicate that down payment amounts have been quite stable over time, at about 20%. However, the average percentage down payment increased in the most recent period. This may be related to two events that have made insured mortgages less attractive, and thereby encouraged homebuyers to increase their down payments to more than 20%, to avoid mortgage insurance: firstly, the stress test that has applied to all insured mortgages since the fall of 2016 and, secondly, increases in the cost of mortgage insurance that took effect early in 2017.[10]

Table 4-11
Average Down Payment for First-Time Homebuyers, by Period of Purchase

Period of Purchase	*% Down-Payment*	*% With Down Payment of Less than 20%*
Before 1990	21%	66%
1990-1999	22%	59%
2000-2004	22%	62%
2005-2009	21%	59%
2010-2013	22%	56%
2014-2017	26%	42%
Total	22%	59%

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.

The survey has also investigated sources of the funds that first-time buyers have used for down payments. The survey explicitly listed six sources, plus an "other" category. Most first-time buyers use more than one source of funds: just under one-half (47%) of first-time buyers used only one source. A further 36% used two sources. The remaining 17% used three or more sources. On average 1.9 sources have been used. This figure has increased over time: for people who bought their first home prior to 1990, the average was 1.8 sources; for the most recent first-time buyers (2014 to 2017), the average is 2.2 sources. The next two tables summarize the data on sources of down payments.

The first table looks at the sources used. It shows that 82% used their personal savings (for part of or all of their down payment). 25% used a gift from family members (again, for part of or all of the down payment). Because more than one source can be indicated, the totals from all sources exceed 100%. For example, in the last line, the total from all of the seven sources is 185%.

[10] In the fall 2017 edition of this survey, the approach was changed and therefore readers are cautioned not to compare the estimates shown in this table with prior editions (previously, consumers were asked what percentage down payments they had made). In the 2017 edition, they were asked for the dollar amounts of the purchase price and their down payment. We believe that this revised approach will result in more accurate data.

The second table looks at how much of the down payments are attributable to each source. There has been some evolution over time, but the changes have been less substantial than might be expected.

The greatest change that might be expected is a growing role for the "Bank of Mom and Dad". The suggestion is that, in a more expensive housing market, parents are increasingly helping their children with down payments, via gifts and loans. The children need larger down payments. Concurrently, because the value of their home has increased rapidly during the past decade and a half, the parents are in a better position to assist the children.

The data in the first table shows that most first-time buyers receive help from family and this is increasing: for the most recent buyers, 43% received gifts and 19% received loans from family (some of them received both a loan and a gift). These figures are far above what was seen before 2005. But, the buyers receiving this help are also relying on other sources. The result, as is shown in the second table below, is that support from family amounts to just under 20% of the total down payment for the most recent buyers, and even less for earlier purchases. As is shown in the bottom line of the second table, for all periods of purchase, help from family amounts to just 15% of down payments, including 10% in the form of gifts and 5% as loans.

Table 4-12
First-Time Buyers Use of Down Payment Sources, by Period of Purchase

Period of Purchase	*Personal savings or co-buyer's personal savings*	*Gift from parents/ other family members*	*Loan from parents/ other family members*	*Loan from a financial institution*	*Loan from employer*	*Withdrawal from RRSP (including Home Buyers' Plan)*	*Other*
Before 1990	77%	14%	11%	42%	2%	11%	19%
1990s	81%	19%	17%	35%	3%	24%	6%
2000-04	79%	13%	7%	20%	1%	43%	2%
2005-09	85%	33%	8%	25%	3%	26%	4%
2010-13	80%	23%	12%	27%	2%	31%	1%
2014-17	92%	43%	19%	27%	3%	29%	3%
Total	82%	25%	13%	30%	2%	26%	6%

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.

Loans from financial institutions (21% of the total, as shown in the table below) have been more important overall than family help. For the most recent buyers, the share from financial institutions (19%) essentially equals the share from family (18%).

By far, the most important source of funds is personal savings, and this has not diminished in importance. Consistently, this has been close to one-half of total down payments.

On the other hand, withdrawals from RRSPs are now much higher than in the earlier years (because the Home Buyers' Plan, or HBP, which allows tax-free access to RRSP funds, started in 1992). However, the share for RRSPs has fallen quite substantially from the peak seen during 2000 to 2004. This is because the maximum amounts allowed under the HBP have not kept up with rising prices.

Combining personal savings plus RRSP withdrawals (to represent the buyers' own resources), the combined share has averaged 61% for all periods of first-time purchases. The figure for the most recent purchases (2014 to 2017) matches that average. This data indicates that the role of personal savings has not really changed, but the advent of HBP provided an opportunity to save some income tax.

Table 4-13
Shares of Down Payments for First-Time Homebuyers,
By Source of Funds, by Period of Purchase

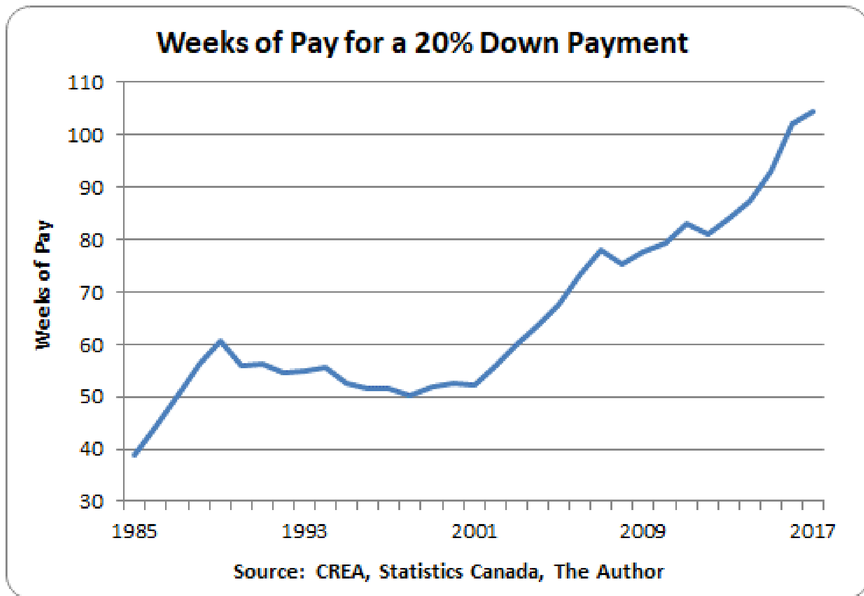
Period of Purchase	*Personal savings or co-buyer's personal savings*	*Gift from parents/ other family members*	*Loan from parents/ other family members*	*Loan from a financial institution*	*Loan from employer*	*Withdrawal from RRSP (including Home Buyers' Plan)*	*Other*	*Total*
Before 1990	53	6	8	25	1	3	5	100
1990s	52	12	4	20	1	9	2	100
2000-04	49	8	2	20	0	18	1	100
2005-09	50	15	2	16	1	12	3	100
2010-13	53	12	4	15	1	15	1	100
2014-17	54	14	5	19	1	7	1	100
Total	52	10	5	21	1	9	3	100

Source: Mortgage Professionals Canada survey, fall 2017; Analysis by the author.
Total may not add to 100% due to rounding.

The Rising Cost of Down Payments

Deep reductions for interest rates have created "space" in which house prices could rise (more rapidly than incomes), and still be affordable. That affordability has resulted in strong housing demand, causing housing prices to increase. The rates of increase have varied across the country, depending on local conditions. To varying degrees across the country, house prices have filled some of that available affordability space. Price growth has been most rapid in communities that have the greatest imbalances between housing supply and demand, especially Toronto and Vancouver and the surrounding areas. In both of these areas, there has been insufficient construction of new dwellings for many years (especially for low-rise dwellings) and in consequence there is not enough existing housing available for purchase.

On the other hand, the rapid rise in house prices has made it more difficult to save down payments. The chart explores this. It results from comparing the dollar amounts for 20% down payments (based on the average resale house price, reported by CREA) versus the average weekly earnings (as reported by Statistics Canada). It now takes about twice as long to save for a down payment as it did a decade and a half ago.



This is a simplistic presentation, as potential first-time homebuyers do not save all of their income (obviously). Moreover, most of them do not have average incomes or buy average-priced homes. In consequence, actual times required to accumulate down payments will vary. For many prospective homebuyers, the time required will be longer than the periods shown.

As shown on the previous page, down payments by first-time buyers have been consistent over a long period of time, at about 20% of purchase prices, and that sources of down payments have changed relatively little. Given the greatly increased burden of down payments relative to incomes, that stability is surprising. It implies that it is now taking longer for first-time buyers to be prepared to buy than it did in the past. The data also indicates that in the past few years, average down payments (as a percentage of selling price) have increased. Adding this to the effect of rapid price growth, the time required to save for a down payment has, in all likelihood, more than doubled compared to earlier times.

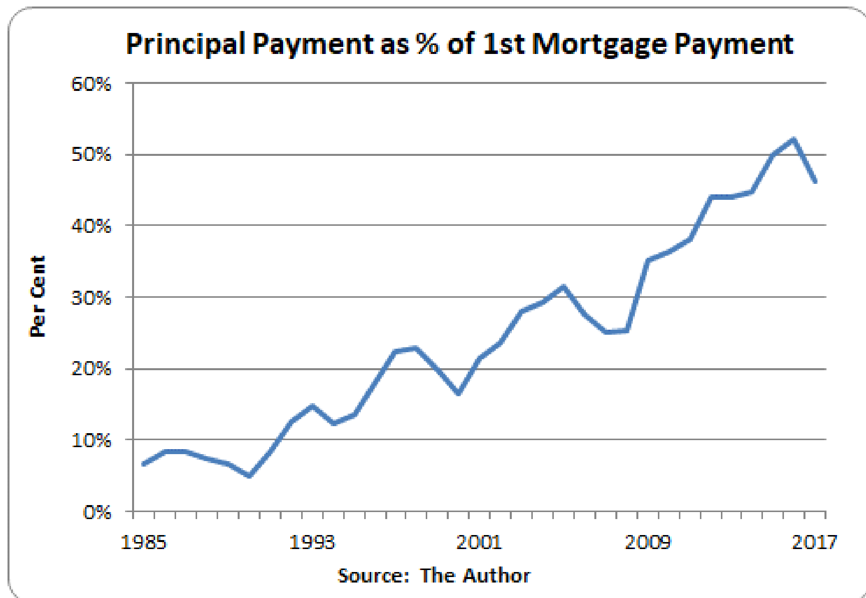
Job creation is one of the two main drivers of homebuying activity (the other being affordability). History shows that it takes time for jobs to actually result in purchases, because of the amount of time required to save. A corollary of this analysis of worsening down payment burdens is that the lag may be getting longer.

Homeownership as "Forced Saving"

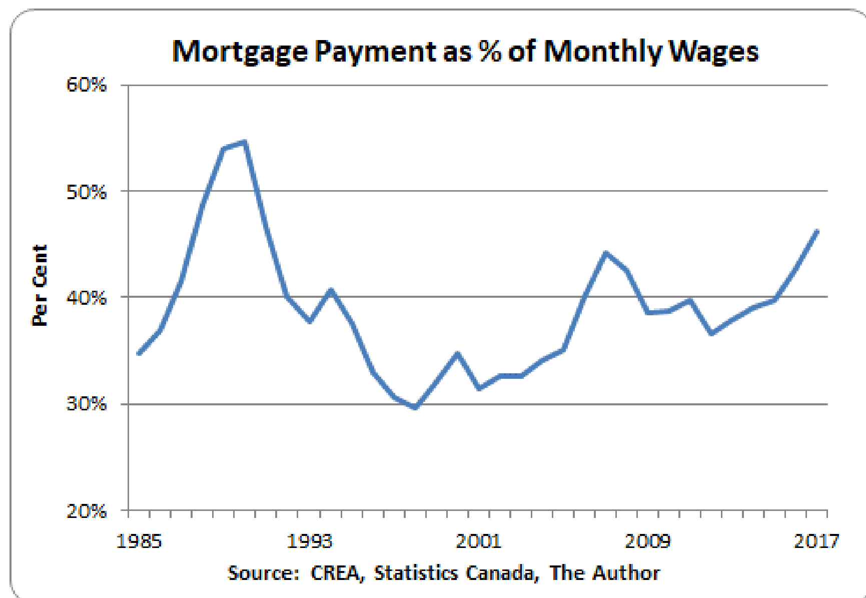
Mortgage payments include a blend of interest and repayment of principal. As discussed earlier, on average in Canada, total mortgage payments are currently about one-third interest and two-thirds principal. At the start of a mortgage, the blend between principal and interest depends on the interest rate (and, of course, on the amortization period). At lower interest rates, the monthly

payments include a higher amount of principal repayment, in both absolute dollar terms and as a percentage of the monthly payment. Several charts explore the implications of this.

As mortgage interest rates have fallen, the mix has shifted markedly away from interest costs towards principal repayment. This chart shows the evolution of the shares that are principal repayment assuming a 25-year amortization period, and based on advertised "special offer" rates by major lenders (for five-year, fixed-rate mortgage). At the year-to-date average for 2017 (3.1%), in the first month, 46 of the total payment is repayment of principal. (Lower rates can be negotiated, especially for shorter terms and variable rate mortgages. At a rate of 2.75%, 51% of the first payment would be principal repayment.) A decade ago, based on interest rates at the time (typically 5.6%), the share would have been 25%. Two decades ago (typical rate of 6.1%), the share would have been 22%.

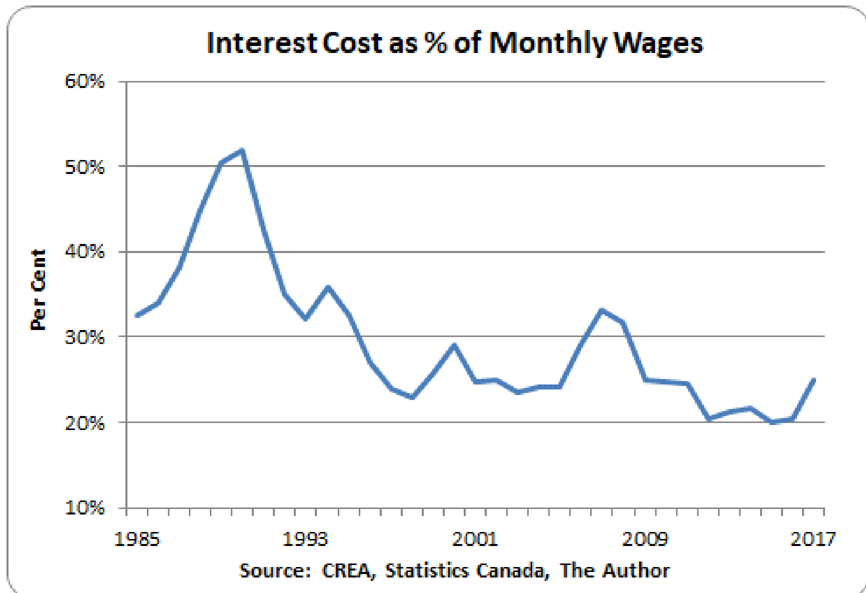


This chart combines several calculations. For each date, it starts with the monthly mortgage payments for average priced homes at that date (assuming an 80% loan-to-value ratio, at the typical "special offer" rates). That cost is compared to average monthly incomes for those dates, to calculate the percentages. Situations for actual families will vary, depending on their actual purchase prices, the number of income earners in the household, and their total household income.

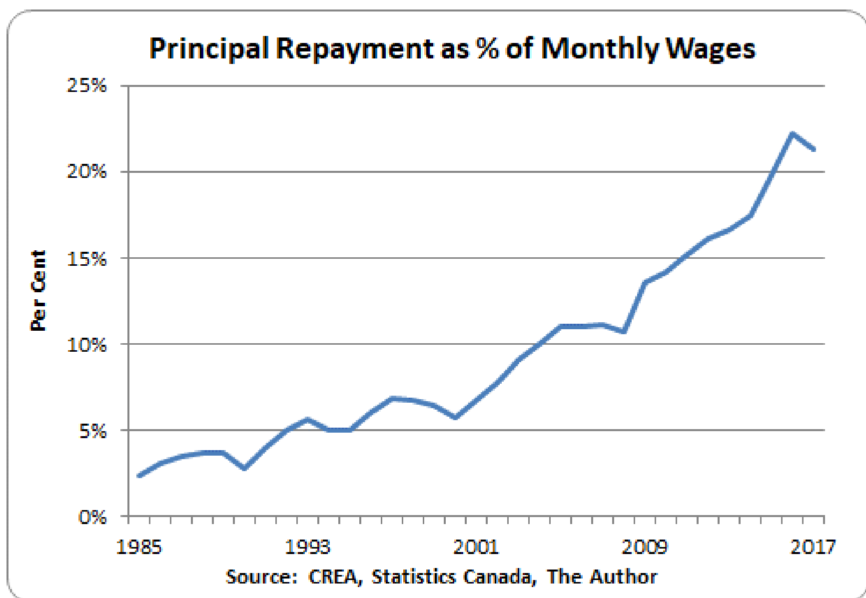


The point being illustrated is that while the debt-service burden (in relation to income) has increased during the past two years, it is within the historic range. This has occurred despite very rapid growth of house prices.

Recalling that mortgage payments are a mix of interest and principal, many homebuyers will surely consider both components. The chart to the right shows that the interest burden (in relation to wages, as of the first month) has fallen sharply. During 2012 to 2016, it was at the lowest level in this entire history. While the figure increased during 2017 (to 24.9%), it remains quite low in historic terms and is well below the long-term average of 29.6%, signaling that for Canada as a whole housing affordability is very good.



The part of the payment that goes to principal should be seen as different than the interest part. It is a form of saving rather than a cost (although it is "involuntary" or "forced" saving). The forced saving component of mortgage payments has risen sharply in relation to incomes. In 2017 forced savings via mortgage payments amount to 21.3% of monthly incomes (versus the long-term average of just 9.4%).



To conclude this discussion:

- The affordability of homeownership can be calculated on a "gross" basis (considering the total blended mortgage payment of principal plus interest). On this basis, homeownership affordability was at an average level during 2009 to 2016, but did deteriorate in 2017.
- We should consider affordability on a "net" (interest-cost) basis because, while principal repayment is a cost, it improves the homeowner's bottom line by reducing mortgage indebtedness. On this net basis, homeownership has recently been at its most affordable in a very long time.
- Homeownership represents a very aggressive forced saving program.

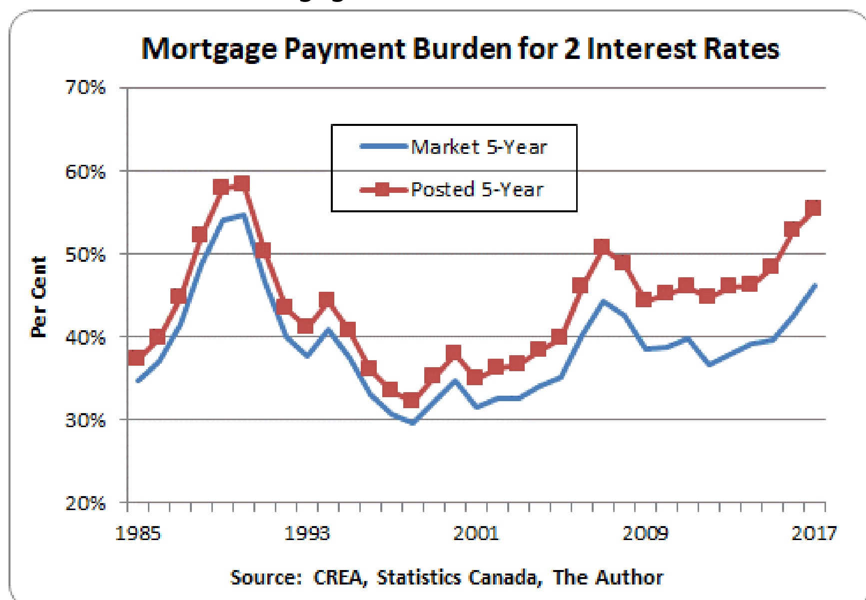
This excellent "net affordability" goes a long way to explaining why housing activity has remained quite strong in Canada, despite the rapid run-up in house prices. But, the large amounts of forced saving that occur through homeownership are indeed a burden in terms of consumers' cash flows, and this has to some degree reduced buying activity.

A Further Note on Housing Affordability

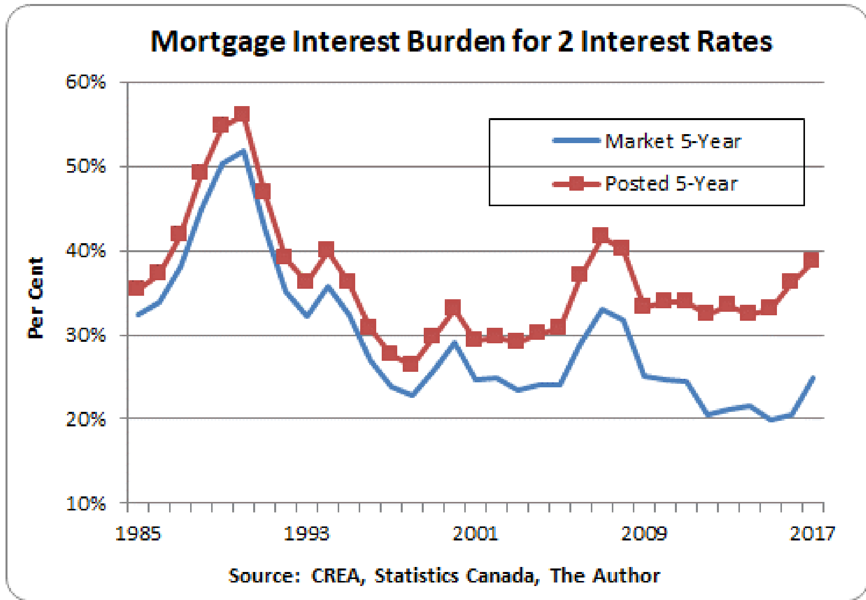
The preceding discussion has used the author's estimates of actual "special offer" interest rates that are widely available in the market (from major mortgage lenders; even lower rates are offered by smaller lenders).

On the other hand, analysis and commentary on housing affordability in Canada usually rely on the "posted rates" that are published by the Bank of Canada. Yet, these posted mortgage interest rates have a very artificial existence. Since virtually no mortgages are actually contracted at the posted rates, they are therefore not being determined by the marketplace. They are set by lenders for administrative purposes. Their primary use is in the calculation of penalties when someone repays their mortgage before the end of the contracted term. A second administrative purpose is in the qualification of borrowers for mortgage insurance.

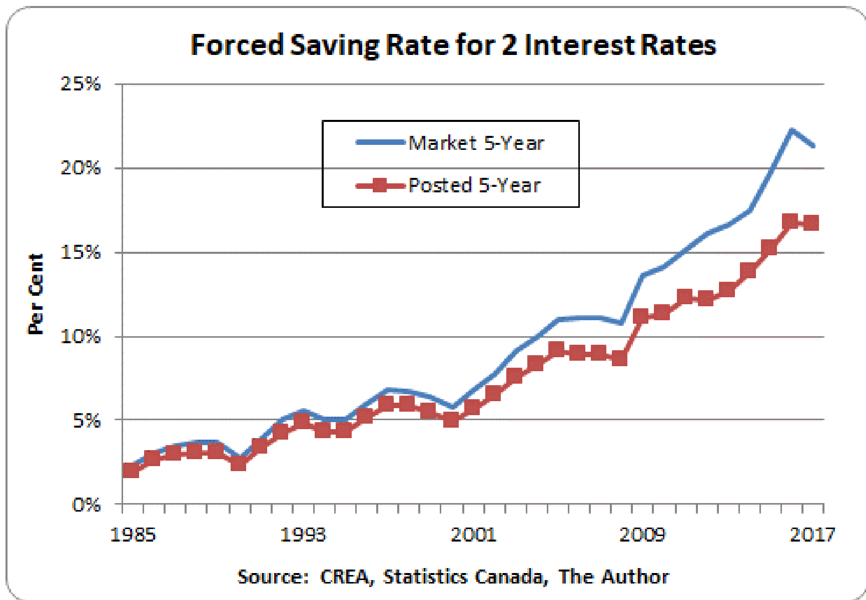
This chart illustrates that analysis results vary greatly depending on which interest rates are used - posted rates or actual rates from the market. When posted rates are used, the analysis suggests that at present affordability is close to the worst-ever. Use of market rates indicates that affordability is slightly worse than the long-term average.



The discrepancy becomes even more pronounced when the analysis is done on an interest-cost basis. Here, when posted rates are used, current affordability is worse than the long-term average. When market rates are used, affordability is very favourable.

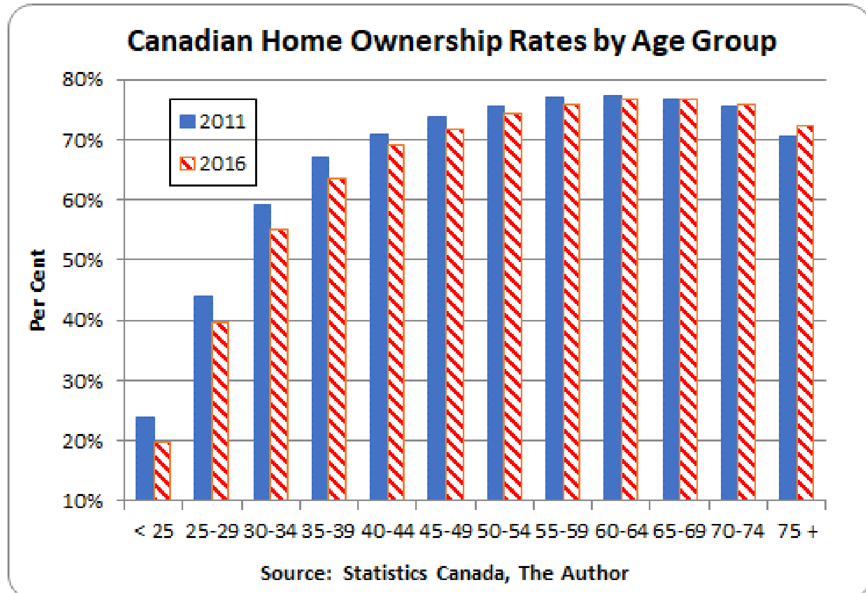


Considering the issue of forced savings, repayment of principal represents substantial rates of saving (as a percentage of the borrower's income) for either interest rate. In this analysis, the forced saving rate for 2017 is 21.3% when the correct rate (market rate) is used, versus 16.3% when the artificial posted rate is used.

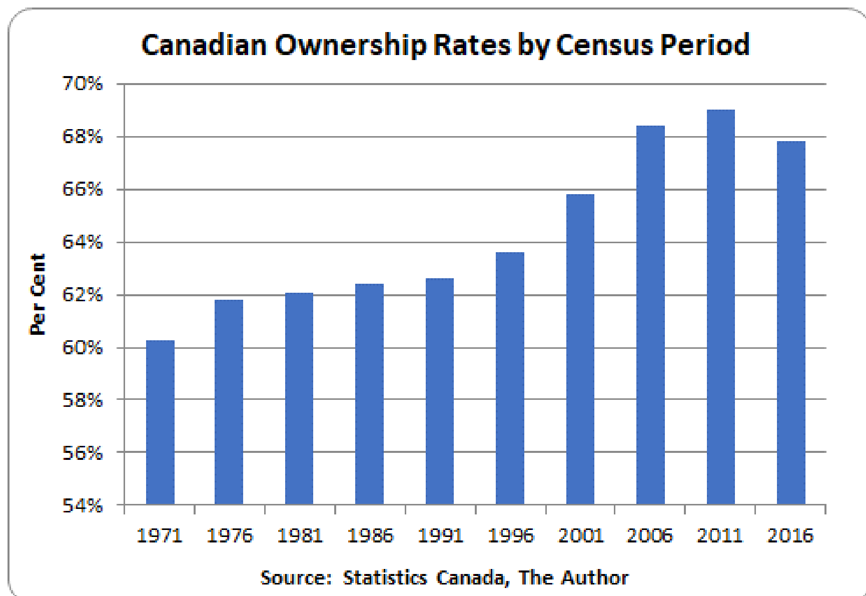


A Falling Homeownership Rate in Canada

Data from the 2016 Census shows that the homeownership rate has fallen in Canada. The 2016 rate of 67.8% is 1.2 points lower than the 69.0% rate for 2011. As is shown in the chart, homeownership rates fell quite sharply for the youngest (first-time buyer) age groups. For the three youngest age groups, the drops were: 4.1 points, 4.6 points, and 4.2 points. Ownership rates also fell for the age groups covering 35 to 69 years, but rose for Canadians aged 70 and over.



This ends a generation-long rise in the ownership rate. The gradual rise in the ownership rate during 1976 to 1991 can be attributed to economic progress. The rapid rise during 1996 to 2011 was supported by on-going reductions in interest rates that began in the early 1990s plus expansion and acceptance of lower-cost housing forms that made ownership feasible for more Canadians (including condominium apartments, as well as higher-density low-rise housing options, such as town homes). Whether the drop in the homeownership rate in 2016 is a pause in a long-term trend or a reversal of the long-term trend remains to be seen, but the signs are not encouraging



The 2016 decline in the homeownership rate can be seen as the result of the two factors discussed above:

- The lengthening periods of time required to save down payments.
- Increased "forced saving", which has meant that even though interest costs remain highly affordable, sharply increased shares of income must be devoted to principal repayment. (The rate of forced saving would be reduced if interest rates rise substantially. But, in that event, worsening affordability would become a deterrent to home buying.)

As well, five changes made to mortgage insurance during July 2008 to February 2016, by making finance less available, impaired homebuying activity. It is argued below (in the policy section) that four of the five changes had minimal impacts and one (July 2012) had substantial and sustained negative effects. In combination, these five policy changes contributed to the fall in the homeownership rate that occurred during 2011 to 2016.

On top of these negative factors, mortgage lending policies that have recently been mandated by the federal government (the stress test for mortgage insurance that took effect late in 2016 and the requirement by the Office of the Superintendent of Financial Institutions for stress testing, which takes effect January 1, 2018) are adding to the difficulties faced by homebuyers.

At this juncture, it appears that the homeownership rate in Canada will fall further during the coming years.

5.0 Consumer Sentiment

Attitudes to Topical Questions

Since 2010, the consumer surveys have investigated attitudes on current issues related to housing markets and mortgages. The survey respondents have been offered various statements and asked to indicate the extent to which they agree or disagree with each, on a 10-point scale. A response of 10 would indicate complete agreement and a response of 1 indicates complete disagreement. Average responses of 5.5 out of 10 would indicate neutrality.

The statements are about current issues, some of which have been widely discussed in the media. The next table summarizes responses, showing the average scores. The responses have changed relatively little over time.

- It remains true that there is moderately strong agreement that "low interest rates have meant that a lot of Canadians became homeowners over the past few years who should probably not be homeowners". For the fall of 2017, the score of 7.15 is above the average seen during the prior seven surveys (6.98 out of 10), and is a record high (fractionally above the previous high of 7.11).
- On the other hand, consumers seem to be satisfied with the choices they have made, and the degree of satisfaction increased in 2017. Few regret taking on the size of their mortgage (this question is asked only of mortgage holders). The average score of 3.67 in 2017 is below the prior average of 3.82. As we have commented in prior years on a collective basis, consumers believe their choices have been responsible, but collectively they believe that other people are being irresponsible. This inconsistency suggests that these beliefs about "other people" are shaped by messages in the media and from pundits more so than by actual behaviour.
- Canadians' confidence about their ability to weather a downturn in the housing market has strengthened, as the average rating for 2017 (7.09) is the highest seen in the history of the survey and is well above the prior average of 6.82.
- Canadians have strongly agreed with the proposition that real estate is a good long-term investment. However, the average score this year (7.15) is below the prior average of 7.28.
- The level of confidence about the economy recovered this year from a dip in 2016. The average score this year (6.26) is slightly above the prior average (6.16). Looking across the country, confidence is above the national average in Manitoba (6.68), Quebec (6.46), and British Columbia (6.32), equal to the national average in Ontario (6.26), and below average in Atlantic Canada (5.82), Saskatchewan (5.88), and Alberta (5.96).
- There is strong agreement that mortgages are "good debt", although the average scores have fallen gradually during the past four years. The figure for this year (6.94) is below the prior average of 7.09.

Table 5-1 *Summary of Consumer Responses to Topical Question, by Date of Survey* *(Average Scores on a Scale of 1 to 10)*								
	Fall 2010	*Fall 2011*	*Fall 2012*	*Fall 2013*	*Fall 2014*	*Fall 2015*	*Fall 2016*	*Fall 2017*
Low interest rates have meant that a lot of Canadians became homeowners over the past few years who should probably not be homeowners	6.88	7.11	7.01	7.04	6.98	6.80	7.03	7.15
I regret taking on the size of my mortgage	3.86	4.04	3.88	3.82	3.89	3.67	3.60	3.67
I/My family would be well-positioned to weather a potential downturn in home prices	6.54	6.72	6.67	6.93	6.95	6.92	7.02	7.09
Real estate in Canada is a good long-term investment	7.13	7.27	7.26	7.44	7.35	7.37	7.17	7.15
I am optimistic about the economy in the coming 12 months	N/A	6.02	6.13	6.36	6.25	6.23	5.99	6.26
I would classify mortgages as "good debt"	N/A	7.07	7.05	7.20	7.15	7.06	7.02	6.94
Source: Mortgage Professionals Canada survey, fall 2010 to fall 2017; Estimates by the author.								

The next table looks at the 2017 survey results in terms of when the consumers bought their homes:

- Agreement with the statement that "low interest rates have meant that a lot of Canadians became homeowners over the past few years who should probably not be homeowners" is strongest for those who bought many years ago. Recent buyers also agree with the statement, but less vigorously. "Non-owners" (people who rent or live with their parents) show the lowest level of agreement.
- Levels of regret about mortgages vary, depending on when the homes were purchased. Regret is considerably higher for the most recent buyers than it is for those who purchased before 2010.
- For the four remaining propositions, agreement with the "positive" positions is strongest for those who purchased longest ago and is weakest for non-owners.

Table 5-2 *Summary of Consumer Responses to Topical Question,* *As of Fall 2017, by Period When Homes Were Purchased* *(Average Scores on a Scale of 1 to 10)*								
	Pre-1990	*1990s*	*2000-2004*	*2005-2009*	*2010-2013*	*2014-2017*	*Non-owners*	*All Periods*
Low interest rates have meant that a lot of Canadians became homeowners over the past few years who should probably not be homeowners	7.51	7.47	7.35	7.36	7.05	7.12	6.91	7.15
I regret taking on the size of my mortgage	2.97	3.33	2.77	3.36	3.64	4.02	N/A	3.67
I/My family would be well-positioned to weather a potential downturn in home prices	8.23	7.95	7.98	7.38	7.01	7.00	6.24	7.09
Real estate in Canada is a good long-term investment	7.74	7.82	7.69	7.14	7.28	7.16	6.61	7.15
I am optimistic about the economy in the coming 12 months	6.55	6.76	6.38	6.36	6.41	6.36	5.86	6.26
I would classify mortgages as "good debt"	7.37	7.36	7.44	7.21	7.21	7.04	6.36	6.94
Source: Mortgage Professionals Canada survey, fall 2017; Estimates by the author.								

Do Consumers Have More Regrets about Their Mortgages?

The data shown above, that regrets about size of mortgage vary, depending on purchase periods, are intriguing. Taken at face value, they suggest there has been a very substantial deterioration in the comfort levels of mortgage borrowers. This could make sense, given the very rapid growth we have seen in mortgage amounts during the past decade. Even so, the author is inclined to interpret those differences cautiously, and do some further investigation.

It might be normal for the most recent borrowers to have more regret. They are early in their repayment periods. In consequence:

- Their levels of indebtedness (relative to their incomes) are probably at the highest levels they will see in their entire lives.
- Making regular mortgage payments (and at a high percentage of their incomes) is a new experience for many of them (the first-time buyers).

- They can foresee very long periods of making mortgage payments, and many of them will have high levels of uncertainty (and even fear) about what will happen during that time period (to their incomes, to their interest rates, to their other costs of living, etc.).

People who bought in earlier times, on the other hand:

- Have been making regular payments for more years, and are used to doing it.
- Are increasingly devoting their payments to principal repayment rather than interest, and realize that "forced saving" has accrued into a very large asset.
- Feel quite good about the growth in the value of their home and how much their home equity has grown[11].
- Find that their uncertainties and fears about the future of their mortgage are diminishing (as the period for uncertainty has shortened, and the degree of uncertainty is less). As a result, they are conscious of being much less stressed about this aspect of their futures.
- Have become less vulnerable to the effects of adverse future events (e.g. changing interest rates), because of their reduced debt levels.
- Are experiencing current interest rates that are much lower than when they purchased their homes.

But, some of these positive factors that have caused the regrets to diminish won't happen to the most recent buyers (at least not as forcefully). Therefore, it is possible that for the most recent buyers, the regrets won't diminish as rapidly in future. Interest rates won't (can't) repeat the drops seen during the past 15 years and house price growth probably won't repeat the very rapid growth seen during the past 15 years.

We have revisited earlier survey data, to investigate how the regrets have evolved. The next table contrasts the levels of regret about sizes of mortgages, by periods of purchase, from the Fall surveys that were conducted during 2011 to 2017[12]. The data shows:

- Firstly, there is variation in the data. In part, this reflects that, as in any survey, these are estimates that represent the people who were included in the sample. Sample surveys result in some random variations in their results[13].
- But, the variations are also influenced by "true" changes – as conditions change from year to year, opinions will also change.
- The data does show that levels of regret have trended downward over time, for all purchase periods (the last two lines of data show the averages for the early years and later years of the

[11] To further explore this point, a statistical analysis (using only the data from the 2017 survey) looked at the relationship between loan-to-value ratios and "regret". This analysis indicates that each 10-point rise in LTV is associated with a 0.15 rise in the "regret" rating, and this is highly significant statistically (t-statistic of 3.89). However, this statistical analysis shows that LTV "explains" only a small part of the for variations in regret - it is likely that psychological factors are highly important.

[12] The earliest possible start date for this analysis is 2011, because that is when we started to ask explicitly about when the home was purchased.

[13] The greatest variations are for the "pre-1990" purchases. There are relatively few of these buyers in the population or in the sample and it is not surprising that those results show the most variability.

survey). The fact that those averages decreased for all purchase periods is reassuring that there has truly been a reduction in overall levels of regret.

- It is interesting that for the most recent buyers, the current average levels of regret are lower than the prior buyers had experienced: for the 2014-2017 buyers, the average level of regret for the past three years (3.78 out of 10) is lower than the average that had been seen earlier for the 2010-13 buyers (4.00 for the 2011-2013 surveys).
- Similarly, moving one step to the left in the table, for buyers who purchased during 2010-13, the level of regret (3.67 over the past three years) is lower than was reported earlier by the 2005-09 buyers (3.89 in the surveys from 2011-13).
- Taking another step to the left, for buyers who purchased during 2005-09, the level of regret (3.32 over the past three years) is lower than was reported earlier by the 2000-04 buyers (3.44 in the surveys from 2011-13).

Several conclusions emerge from this data:

- Buyers' "regret" or "remorse" does gradually diminish during the years after their purchase.
- It seems that there has been an overall reduction in "regret" during the past few years.
- During the period when we conducted these surveys, there was rapid growth of prices and associated mortgage amounts. It appears that this has not raised levels of regret. In fact, rapid growth of equity might have resulted in less regret.

Table 5-3
Regrets About "Taking on the Size of My Mortgage",
By Period When Homes Were Purchased, by Survey Year
(Average Scores on a Scale of 1 to 10)

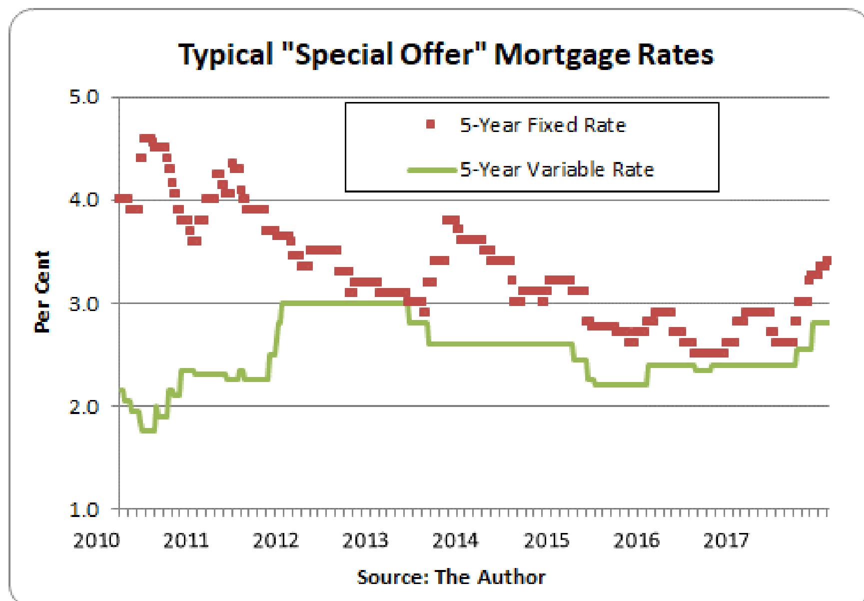
Survey in Fall of...	*Pre-1990*	*1990s*	*2000-2004*	*2005-2009*	*2010-2013*	*2014-2017*	*All Periods*
2011	4.35	3.88	3.40	3.97	3.81		4.04
2012	3.25	3.56	3.52	3.98	4.02		3.88
2013	3.81	3.27	3.41	3.71	4.17		3.82
2014	4.01	3.09	3.32	3.98	4.06	4.08	3.89
2015	3.63	3.44	2.92	3.39	3.68	3.55	3.67
2016	2.81	2.84	3.19	3.19	3.68	3.77	3.60
2017	2.97	3.33	2.77	3.36	3.64	4.02	3.67
Averages							
2011-2013	3.80	3.57	3.44	3.89	4.00		3.92
2015-2017	3.14	3.20	2.96	3.32	3.67	3.78	3.64

Source: Mortgage Professionals Canada survey, fall 2011 to fall 2017; Estimates by the author.

Expectations

Since 2010, questions have been asked about expectations. Again, the responses are given on a 10-point scale. The history of the survey results is shown in a table below.

- For the question of whether this is a good time to buy a home or condominium in their own community, the responses had seemed to be stable until 2015, but then deteriorated in 2016 and again in 2017. The average score this year (5.40) is slightly below the neutral level of 5.5. Prior to 2016, the average scores had been consistently above 6.0, indicating moderately positive attitudes.
- Attitudes are below the neutral level in Saskatchewan (4.60), British Columbia (4.89), and Ontario (5.1), and above neutral in Quebec (5.69), Manitoba (5.75), Alberta (6.00), and Atlantic Canada (6.05).
- Concerning house price growth for the coming year, the responses indicate expectations for moderate growth. The average response for this year (6.36 out of 10) is very similar to the prior average (6.35). Expectations are below the neutral level in Saskatchewan (4.79). The average scores elsewhere are: Alberta (5.88), Atlantic Canada (5.96), Manitoba (6.30), Ontario (6.36), Quebec (6.63), and British Columbia (6.80).
- Through the entire history of this line of questioning, Canadians have expected moderate rises for mortgage interest rates: the prior average score was 6.35 out of 10, versus the neutral level of 5.5. But, actual interest rates have been more likely to fall than to rise, as the chart shows. The 2017 survey shows a sharp change, to 6.93, indicating that Canadians are now seeing a greater chance that interest rates will rise. Expectations about interest rates (and on other economic issues) may be "adaptive" (influenced recent events, not by thorough economic analysis). It may be that the responses are a reaction to the increases in rates that have been seen this year (since mid-year, typical advertised "special offer" rates have increased by as much as three-quarters of a percentage point).



- Expectations about buying homes have also been flat over time, and the average score for 2017 (2.89) is just slightly below the prior average of 2.99. The low level of the average scores is appropriate, since only about 5% of Canadian households buy a home in any given year.

For 2017. the responses vary quite widely across the country. Consumers in Saskatchewan gave the lowest average responses (1.79), followed by Quebec 2.53), Atlantic Canada (2.57), Alberta (2.89), Manitoba (2.98), Ontario (3.17), and British Columbia (3.20).

Table 5-4
Summary of Consumer Responses on Expectations, by Date of Survey
(Average Scores on a Scale of 1 to 10)

	Fall 2010	*Fall 2011*	*Fall 2012*	*Fall 2013*	*Fall 2014*	*Fall 2015*	*Fall 2016*	*Fall 2017*
Now is a good or bad time to buy a home/condominium in my community	6.08	6.21	6.10	6.00	6.05	6.03	5.60	5.40
Expectations for housing prices in my community (the coming year)	6.18	6.64	6.34	6.22	6.31	6.35	6.43	6.36
Expectations for mortgage interest rates (the coming year)	6.54	6.56	6.51	6.21	6.21	6.16	6.24	6.93
How likely are you to purchase a new property in the next year (this could be a primary residence, a second residence or investment property)?	2.93	3.00	2.91	2.98	3.10	3.04	2.98	2.89

Source: Mortgage Professionals Canada survey, fall 2010 to fall 2017; Estimates by the author.

Happiness with Decision to Buy a Home

Since the spring of 2014, homeowners have been asked whether they are happy with their decision to buy their home. This question finds a very high degree of satisfaction with homeownership.

- By far, homeowners are happy with the decision to buy their home (90%).
- A very small minority (4%) indicated that "I regret my decision and – I wish I did not choose to own a home."
- In addition, 7% indicated "I regret my decision – I wish I had purchased a different home/property."
- These responses are very similar to the results from prior surveys.
- For the most recent buyers, responses are quite close to the overall averages.
- Looking across the country, favourable responses are slightly above average in the provinces that currently have the strongest housing markets: Manitoba (93%), British Columbia (92%), and Quebec (91%). Reponses are slightly below the national average in Ontario (89%), Saskatchewan (88%), Alberta (86%), and Atlantic Canada (85%).

Table 5-5 *Happiness with Decision to Buy a Home, by Period of Purchase*							
	Pre-1990	*1990s*	*2000-2004*	*2005-2009*	*2010-2013*	*2014-2017*	*All Periods*
I am happy with my decision	96%	93%	89%	90%	87%	88%	90%
I regret my decision – I wish I did not choose to own a home	0%	2%	2%	4%	5%	4%	4%
I regret my decision – I wish I had purchased a different home/property	4%	5%	8%	6%	8%	9%	7%
Total	100%	100%	100%	100%	100%	100%	100%
Source: Mortgage Professionals Canada survey, fall 2017; analysis by the author.							

Reasons for Not Owning a Home

The fall 2017 survey asked consumers who are not homeowners for the reason(s) they are not. Ten possible answers (plus an "other" option) were available. More than one response could be given. Responses are summarized in the next table.

- Within the younger age groups, responses vary quite widely, generally covering their personal financial circumstances.
- In particular, needing more time to save a down payment is mentioned by 49% among the youngest age group. The responses indicate that saving for down payments is becoming a bigger impediment, as a year ago it was mentioned by a slightly smaller, but still substantial, share (43%) among the youngest age group.
- Lack of financial stability is also frequently mentioned by the youngest age group, at 33% this year (up from 29% last year). As well, waiting for home prices to drop is another significant reason, at 26% (although it isn't clear whether these people believe prices will drop or need them to drop before they can afford to buy).
- The thought that living with family is all that can be afforded was mentioned by 19% of young adults this year, up from 14% in 2016.
- Within the oldest age group, lifestyle and preference reasons are cited much more frequently than financial considerations. "Renting is a better option for me" is the most frequent reason given, cited by 43%, followed by "I am comfortable in my current situation" (39%).
- Interestingly, concern about future interest rate increases is rare across all ages.
- Also, there were few mentions of negative attitudes about homeownership as an investment.

Table 5-6 *Reasons for Not Owning a Home, by Age Group*				
Summary	*18-34*	*35-54*	*55 +*	*All Ages*
Nervous that rates will increase	9%	5%	2%	6%
Lack of financial and/or employment stability	33%	27%	19%	28%
Waiting for home prices to decrease	26%	18%	4%	19%
Renting is a better option for me	25%	29%	43%	29%
I need more time to save for a down payment	49%	31%	5%	34%
Living with my parents/family is all I can afford	19%	3%	0%	10%
The idea of owning a home is too stressful	12%	14%	7%	12%
I am not interested in owning a home	7%	6%	30%	11%
I don’t believe homeownership is a good investment	7%	12%	3%	8%
I am comfortable in my current situation	27%	23%	39%	28%
Other	6%	9%	6%	7%
Number of Reasons	2.2	1.8	1.6	1.9
Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.				

6.0 Consumers' Comfort with Technology

Technology is impacting our daily lives more than ever before, and it is now starting to impact the mortgage industry. With that in mind, consumers were asked to indicate their personal level of comfort with five different implementations of technology. All of the consumers were asked these questions, regardless of whether they are homeowners or not.

Once again, they were asked to give ratings from 1 to 10, where 1 indicates "Not at All Comfortable" and 10 signifies "Completely Comfortable". A "Don't Know" option was also available. A score of 5.5 is neutral.

The five tables below summarize the responses. In the tables, the scores of 1 to 10 have been grouped into three "comfort" categories, in which:

- "Uncomfortable" means the consumer gave a rating of 1-4,
- "Moderately Comfortable" means a score of 5-7, and
- "Quite Comfortable" means a score of 8-10.

In each table, the last row of data shows the average scores given by the consumers (excluding the "Don't Know" responses).

Responses showed a lot of variation across the age groups - the youngest age groups report the highest degrees of comfort, while the older groups showed less. But, there are also wide variations within each age groups. For example, there is a substantial number who are highly comfortable with technology as well as a substantial number who are uncomfortable within the same age group.

Looking at the five sets of responses:

- For two of the five options, the average comfort level is above the neutral score of 5.5.
- The highest level of comfort is with the use of text or instant messaging (Table 6-1, average of 6.44). The scores are above the neutral level for all age groups with the highest being among younger consumers.
- Second, is the comfortable of having lenders compete online for their business (Table 6-4). Comfort levels are above the neutral level for those under 55 years, but below neutral for those 55 and older.
- For three of the five options, the average scores are below the neutral level.
- Using a digital mortgage advisor (chatbot) was identified as having the lowest comfort level for respondents (Table 6-2). The average score of 4.77 is well below the neutral level. Scores are below 5.5 for all age groups except the youngest (18 to 24). The oldest age groups (those 55 and older) are especially uncomfortable with this option.

- Use of a digital mortgage advisor (chatbot) for everyday questions (Table 6-3) also yielded below-neutral comfort levels (average of 5.05). Not surprisingly, the responses were most favorable for the youngest age group, close to neutral for those 35 to 44, and below neutral for ages 45 and older.
- The ability to apply for a mortgage via an app (Table 6-5) showed similar results (average score of 5.10). Comfort levels are above neutral for those younger than 35, close to neutral for the 35 to 44 group, and below neutral for those 45 and older.

Table 6-1
Comfort with "The ability to text or instant message my mortgage professional if I have questions or concerns"

Reponses	18-24	25-34	35-44	45-54	55-64	65+	All Ages
"Don't Know"	10%	13%	13%	12%	10%	15%	13%
"Uncomfortable"	12%	17%	20%	19%	28%	30%	22%
"Moderately Comfortable"	28%	29%	28%	33%	21%	18%	26%
"Quite Comfortable"	49%	41%	39%	37%	41%	37%	39%
Total	100%	100%	100%	100%	100%	100%	100%
Average Score	7.22	6.87	6.51	6.56	6.10	5.83	6.44

Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.

Table 6-2
Comfort with "Being served by an online digital mortgage advisor (i.e. a chatbot) when applying for a new mortgage or renewal"

Reponses	18-24	25-34	35-44	45-54	55-64	65+	All Ages
"Don't Know"	9%	14%	12%	12%	12%	16%	13%
"Uncomfortable"	34%	34%	33%	42%	49%	51%	40%
"Moderately Comfortable"	24%	29%	30%	28%	24%	21%	27%
"Quite Comfortable"	34%	24%	25%	19%	16%	13%	20%
Total	100%	100%	100%	100%	100%	100%	100%
Average Score	5.92	5.28	5.35	4.62	4.20	3.82	4.77

Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.

Table 6-3 *Comfort with "Being served by an online digital mortgage advisor (i.e. a chatbot) for everyday questions about my current mortgage"*							
Reponses	18-24	25-34	35-44	45-54	55-64	65+	All Ages
"Don't Know"	9%	14%	12%	12%	14%	16%	13%
"Uncomfortable"	21%	31%	32%	37%	44%	46%	37%
"Moderately Comfortable"	33%	26%	27%	30%	26%	23%	26%
"Quite Comfortable"	37%	29%	29%	22%	17%	14%	23%
Total	100%	100%	100%	100%	100%	100%	100%
Average Score	6.38	5.58	5.55	5.01	4.41	4.10	5.05
Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.							

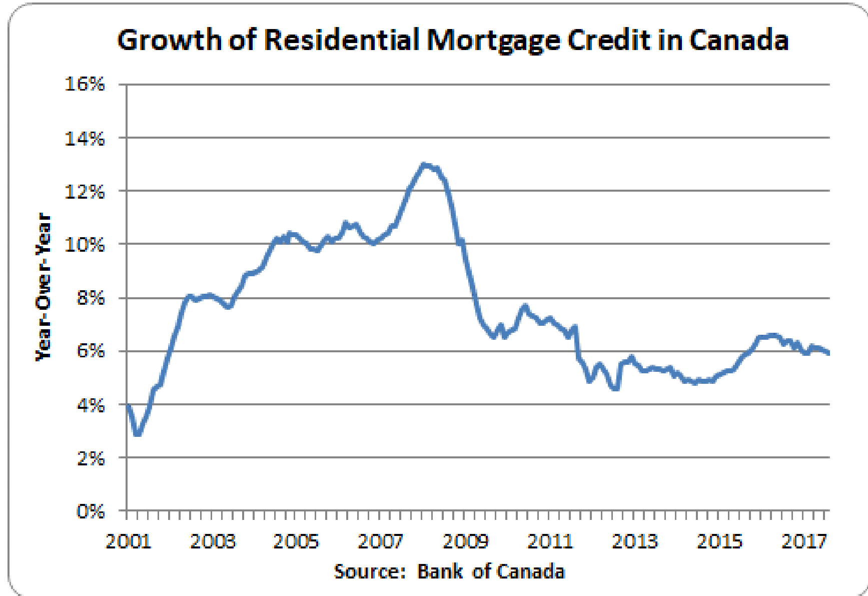
Table 6-4 *Comfort with "The ability to have mortgage providers compete online for my business"*							
Reponses	*18-24*	*25-34*	*35-44*	*45-54*	*55-64*	*65+*	*All Ages*
"Don't Know"	9%	13%	13%	12%	11%	14%	13%
"Uncomfortable"	11%	20%	17%	21%	33%	38%	24%
"Moderately Comfortable"	41%	28%	32%	30%	30%	24%	29%
"Quite Comfortable"	40%	39%	39%	36%	26%	24%	34%
Total	100%	100%	100%	100%	100%	100%	100%
Average Score	6.83	6.49	6.63	6.28	5.35	5.02	6.04
Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.							

Table 6-5 *Comfort with "The ability to apply for a mortgage through an app on my mobile device"*							
Reponses	18-24	25-34	35-44	45-54	55-64	65+	All Ages
"Don't Know"	9%	14%	13%	13%	14%	18%	14%
"Uncomfortable"	18%	25%	29%	35%	47%	53%	36%
"Moderately Comfortable"	41%	29%	33%	27%	21%	15%	26%
"Quite Comfortable"	32%	33%	25%	25%	18%	14%	24%
Total	100%	100%	100%	100%	100%	100%	100%
Average Score	6.30	6.00	5.59	5.27	4.28	3.63	5.10
Source: Mortgage Professionals Canada; Survey, fall 2017; Analysis by the author.							

7.0 Outlook for the Mortgage Market

Sustained Rapid Growth

Mortgage credit growth remains rapid in Canada. As of August, the year-over-year growth rate is 5.9%. Over the past 15 years, growth averaged 7.3% per year. As of this August, outstanding residential mortgage credit in Canada stands at $1.495 trillion.



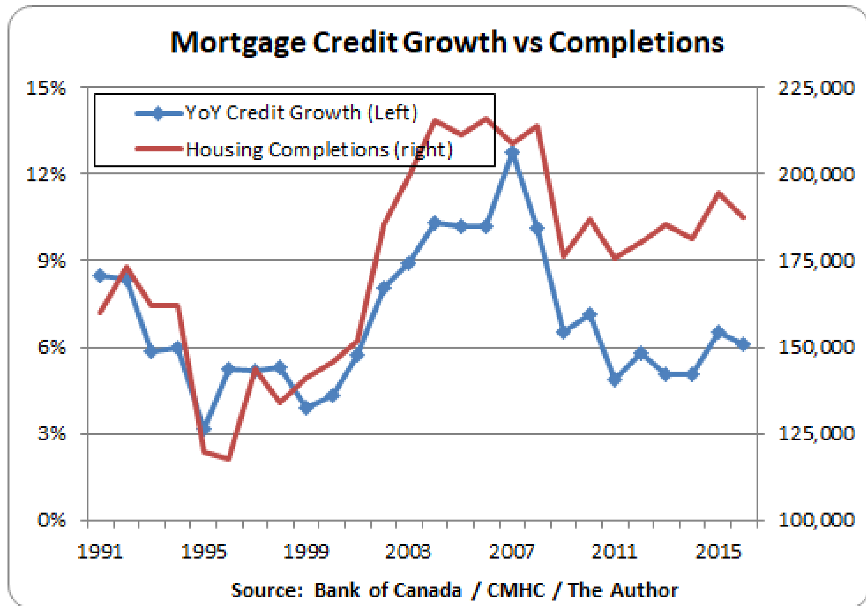
These data from the Bank of Canada exceed the estimates that come from our surveys, because the Bank of Canada data includes mortgages on investment properties, vacation properties and vacant dwellings, which are excluded from our calculations.

Factors Driving Mortgage Credit Growth

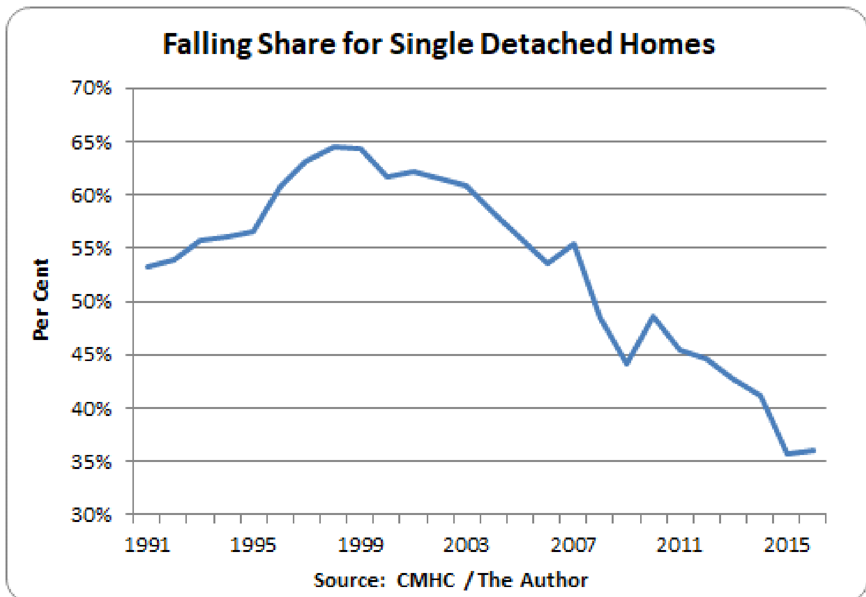
Many factors influence the growth of mortgage credit.

- One factor, which is a long-term, persistent trend, is that Canadians move away from slow growth communities (which have relatively low house prices) into communities with stronger job markets, which also have higher house prices and larger associated mortgage amounts. This factor alone may account for about a quarter of mortgage credit growth in Canada. So long as there are economic disparities across Canada, which cause Canadians to move in search of economic opportunities, this factor will make a sustained contribution to growth of mortgage credit.
- Trends in housing activity – in the resale market and in the new construction arena – also affect mortgage demand.

- Growth of mortgage credit is highly related to completions of new homes, as can be seen in the chart to the right. As new homes and apartments are completed and the buyers take possession, they usually obtain mortgage financing (our surveys have consistently shown that about one-tenth of homebuyers do not need a mortgage).

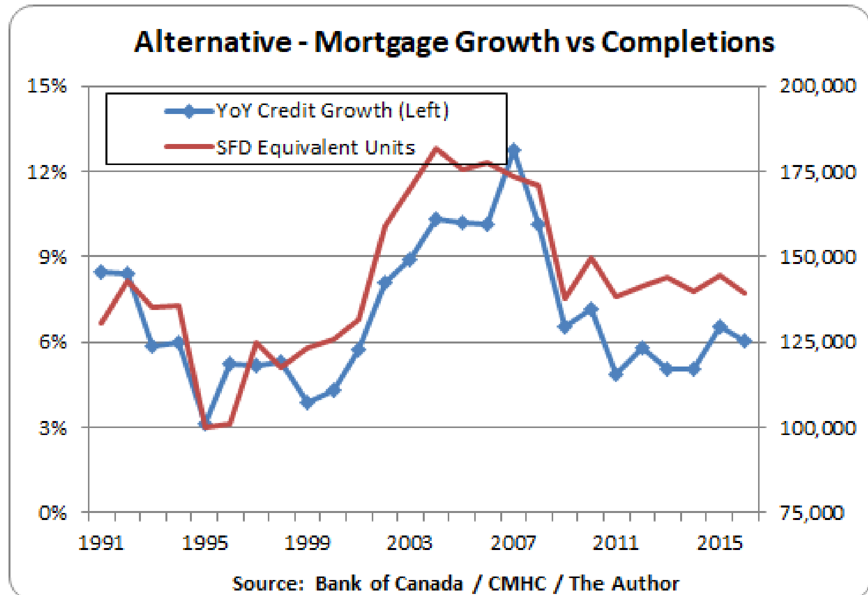


- But, during the second half of the time period shown in the chart, the relationship between housing completions and mortgage credit growth has become less close: credit growth has slowed compared to what we would expect based on housing market activity alone. Clearly, there are other factors involved.
- One of those factors is that there has been a shift in the types of homes that are constructed. As is shown in the chart to the right, single-detached used to represent more than one-half of housing completions (at an average of 59% during 1991 to 2007) but the share has fallen to about one-third. On the other hand, the share for apartments has increased sharply, to a current 47%, versus an average of 29% during 1991 to 2007. The share for "medium-density" housing (semi-detached and town homes) has not changed and is 17%.



- The change in the mix of homes, towards lower cost options is reducing the per unit mortgage amounts and the growth rate for mortgage credit.

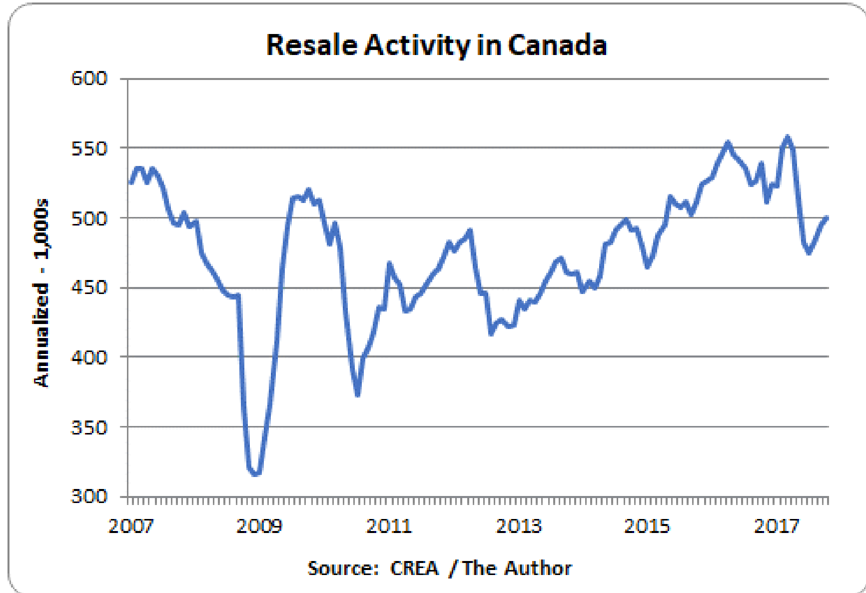
- The next chart adjusts for this changing mix, recalculating housing completions as "single-family-detached-equivalent units". In this analysis the gap between growth of mortgage credit versus housing completions has bene reduced, but not eliminated.



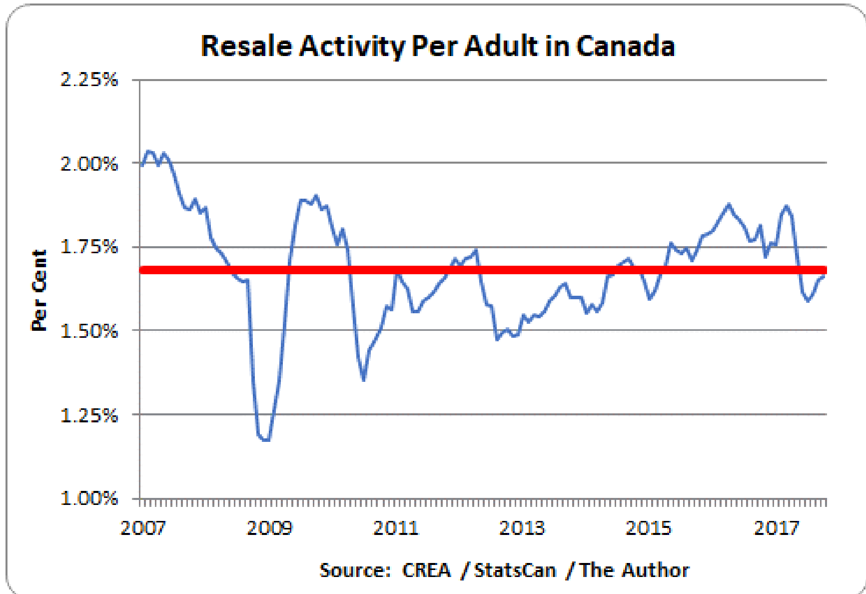
- Given the volumes of housing that are currently under construction, we can expect that this source of mortgage demand will be roughly constant for the coming year.
- There are two other factors (the volume of resale market activity and changes in mortgage interest rates) that – based on statistical analysis – influence the growth rate for mortgage credit.
- Statistical analysis (which looks at three factors simultaneously) finds that completions of SFD equivalent units is, by far, the most important driver of credit growth. A 10,000-unit change in the annual volume of completions affects the mortgage growth rate by 1-percentage point.
- Trends in the resale housing market (including the rate of price growth and the total dollar value of sales) are also statistically related to mortgage credit growth, but the impacts are considerably less strong. A large change (10%) in the dollar volume of activity results in only a small change (0.3 percentage points) in the growth rate for mortgage credit. The reason is that when a resale property is purchased and a mortgage is obtained there is often an existing mortgage that will be discharged (or transferred). As such, on a "net" basis, resale activity results in less demand for mortgages compared to construction of new dwellings.
- Statistical analysis shows that levels of interest rates also affect the rate of credit growth. On a statistical basis, each 1-point change in mortgage interest rates affects the rate of credit growth by about 0.3 points per year. Very low mortgage interest rates are allowing Canadians to more quickly repay their mortgage principals. As was shown in an earlier section, Canadians are making significant efforts to repay their mortgages more rapidly than is required. However, the effects of changing interest rates occur slowly (the effects begin not when the rates change, but when people renew their mortgages at higher or lower interest rates). Therefore, the interest rate increases that happened during the second half of 2017 will have a negligible direct effect on growth of mortgage credit during 2018. The higher interest rates will, however, have indirect effects, due to the reduction of resale market activity.
- These three factors, viewed in combination, do a quite good job of explaining historical growth rates for mortgage credit, and provide a basis for forecasting future growth.

Trends in the Resale Market

Until quite recently, resale housing activity in Canada had been very strong, with new records being set for sales. However, there was a sudden turn in April and May. The author attributes this to a change in attitudes in Toronto and surrounding areas where activity had become much stronger than should have been the case based on economic fundamentals. "Fear-of-missing-out" had caused some buyers to over-react to shortages in the housing market. The period of panic did not last very long, and was replaced by caution[14]. At this time (based on data up to October), resale activity in Canada is mid-range in historic terms.



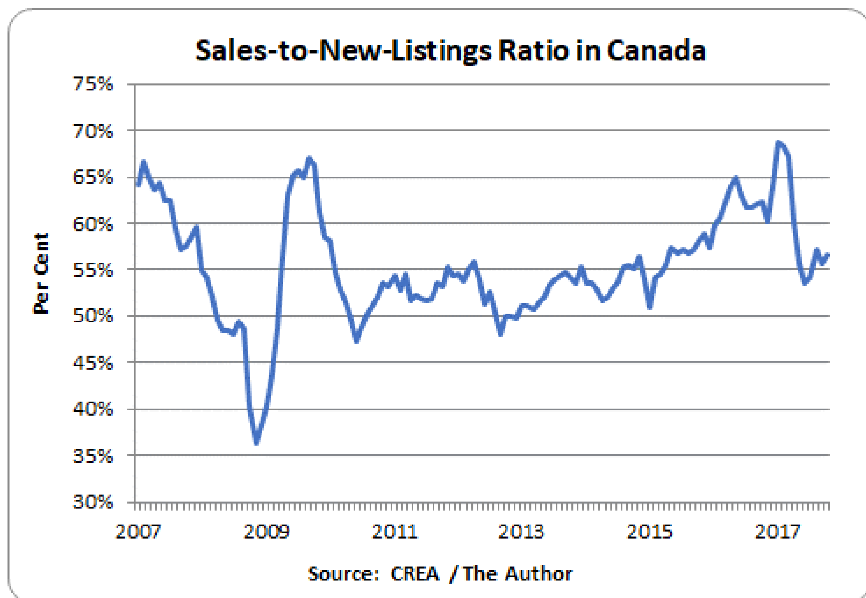
We should expect that resale activity will trend upwards over time: a growing population means that there are more potential buyers; concurrently, ongoing completions of new housing means that there is more housing in existence that could possibly be sold. Therefore, it is useful to look at resale market activity relative to the size of the population. The chart to the right makes that comparison (using the number of adults in Canada, as estimated by Statistics Canada's Labour Force Survey). This analysis shows that during the recent period of market strength, activity was indeed above the long-term average (which is shown by the flat red line).



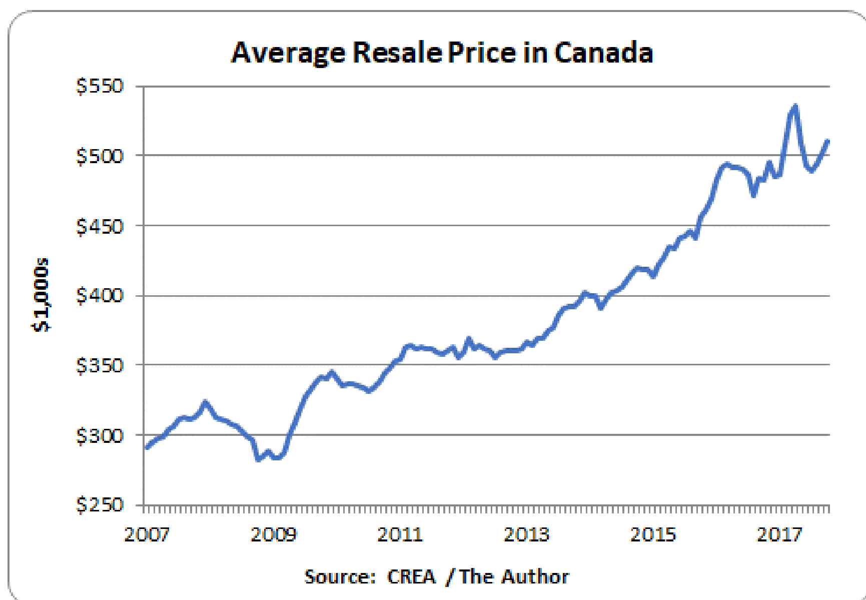
[14] There has been much commentary that the turn in the GTA-centred area was due to the provincial government's imposition of a 15% foreign buyers' tax. But, the slowdown in the market actually began about two weeks before the policy was announced. The tax may have created uncertainty about the market outlook and therefore added to the caution that was already developing, but in the author's opinion the tax did not cause the change in the market.

But, using this measure, activity was not as strong as it had been prior to the recession. This data indicates that at present the sales rate is very close to the long-term average

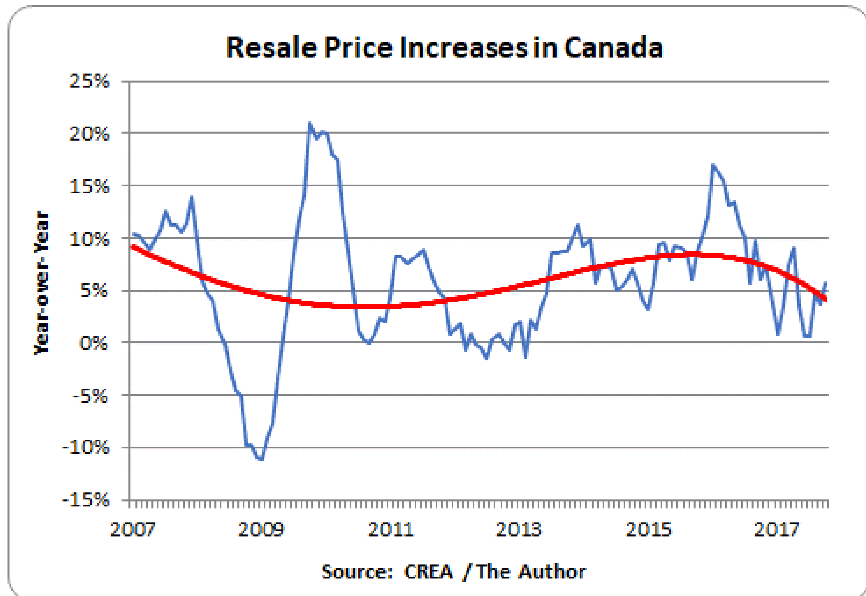
During the recent sales surge, the sales-to-new-listings ratio ("SNLR") rose far above the threshold for a balanced market (which appears to be in the low 50% range). Even with the recent slowing of sales, the SNLR remains above the threshold (for Canada as a whole, but there are very substantial variations in the state-of-balance across the country).



During the past decade, for Canada overall, the available supply of resale properties has not kept up with demand and the SNLR has been above that threshold most of the time. The prolonged "sellers' market" has resulted in very rapid price growth.



The downshift of the sales-to-new-listings ratio has been followed by a moderation of the rate of price growth. The current trend level of about 5% year-over-year price increase is about what we would expect from an SNLR that is about 5 percentage points above the balanced market level. Yet, it is currently quite difficult to interpret changes in the average price. For one thing, the average is being distorted by changes in composition (the locations of sales and the types of properties that are being sold). At present, changes in the average price are not providing an accurate picture of "true" changes in prices. This is clearly the case at the national level, but it is also affecting the data in areas where rapid change is occurring (including provincial data for Ontario and British Columbia, as well as data for local areas in and around Toronto and Vancouver).



All of this said, based on current demand and supply conditions (and the SNLR) we should in general be expecting prices to be stable or increase at moderate rates.

However, it is far from certain that the current calm conditions can prevail, when there is a great deal of uncertainty about the consequences of mortgage stress testing.

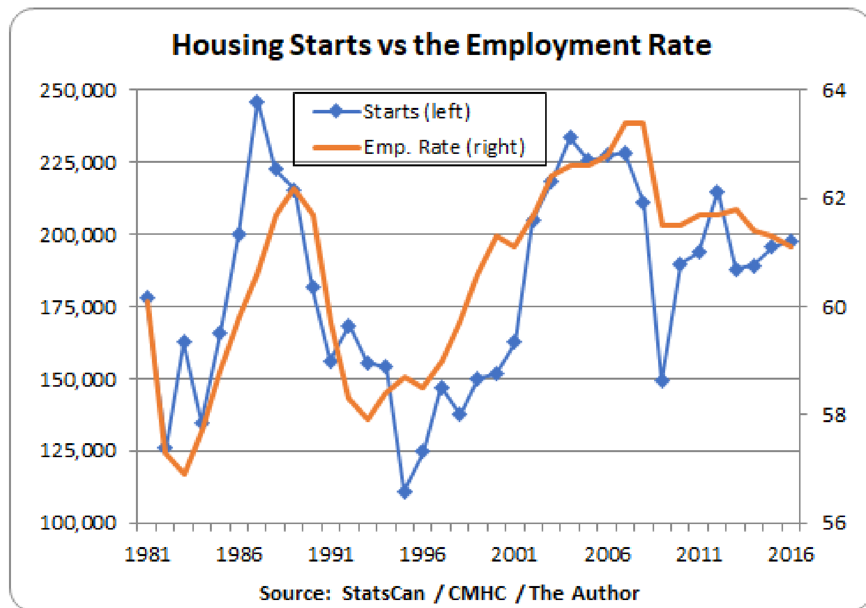
There is also the usual uncertainty about interest rates. The mortgage rate increases seen since mid-year (about three-quarters of a point for the most popular 5-year fixed rate option; and the smaller rise of about one-half a point for variable-rate mortgages) are likely to reduce resale activity by about 5% to 10% compared to the levels that we would have previously expected. Stress tests might further reduce activity by another 5% to 10%. In combination, for 2018, we should expect that resale activity will be reduced by 15% compared to 2016. This would result in annual sales of about 470,000 for 2018. (For all of 2017, sales are likely to be in the range of 505,000 to 510,000, so 2018 sales are likely to be 7% or 8% lower than in 2017).

In this scenario (sales being reduced due to the combined influence of interest rates and the stress tests), the SNLR would fall, and would likely be at or slightly below the balanced market threshold. This would result in negligible price change during the year.

Combining a substantial drop in sales with limited price change, the dollar volume of sales may fall by 7.5% in 2018.

Housing Starts

It was noted above that housing completions are an important driver of mortgage growth. Housing completions, of course, depend on how many housing starts have occurred in the past.



The chart to the right illustrates that housing starts are closely related to the employment situation (as measured by the employment-to-population ratio). Recently, the employment rate has been lower than it was before the recession and likewise housing starts have been lower than before the recession. Yet, the employment rate is still relatively high in historic terms and so are housing starts. This has supported a relatively high volume of housing completions, which has had consequences for growth of mortgage indebtedness.

Recent trends in the resale market could lead to reduced housing starts next year. This potential slowing could be further amplified by the new mortgage rules. But, actual completions for 2018 will be largely determined by starts that have already occurred, and it is likely that completions will increase slightly compared to 2017. Therefore, this component of mortgage demand will show little change until late next year, at the earliest.

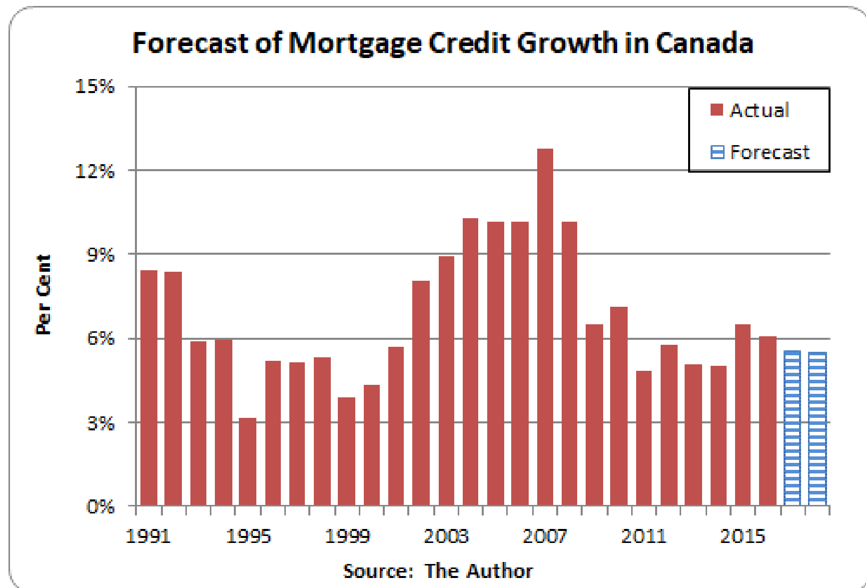
Forecast of Mortgage Activity

At the start of this section, a chart showed growth rates of mortgage credit on a monthly basis. The data suggests that growth is now slowing, in the wake of the sales downturn that began during the spring. As of April, the growth rate was 6.1%. By August, it has been reduced to 5.9%. The forecast projects that this deceleration will continue and that by the end of this year it will be 5.6%. At year end, the volume of outstanding mortgage credit would be $1.52 trillion.

Looking into 2018:

- It is expected that the volume of resale activity could fall by 7.5%. By itself, this should contribute to reduced mortgage demand. However, as was discussed earlier, resale activity is considerably less important than completions of new housing.

- Housing completions are expected to increase slightly in 2018, following a pause in 2017. This factor will tend to increase mortgage activity.
- A further consideration is that rising interest rates will mean that as Canadians renew their mortgages they will pay them down slightly less rapidly (although the magnitude of this effect will be quite small during 2018).



All of this considered, the forecast is that in 2018 the growth rate for mortgage credit will be fractionally slower than in 2017, at 5.5%. At the end of 2018, there would be $1.60 trillion of outstanding residential mortgage credit.

A Scan Across Provincial Resale Markets

In this section, resale market trends are reviewed for the 10 provinces, utilizing data from CREA, covering January 2007 to October 2017. For each province, four charts are shown:

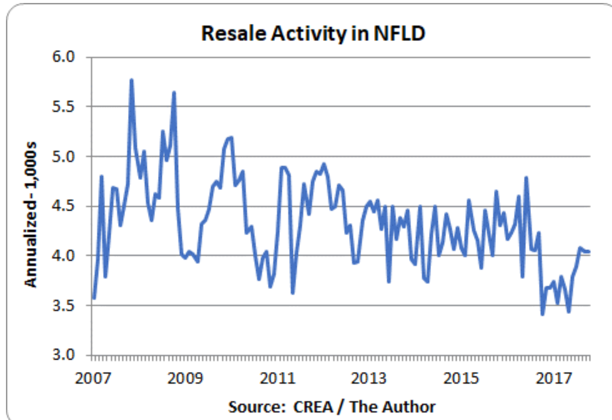
- Sales (seasonally-adjusted and converted to an annualized basis),
- Sales-to-new-listings ratios,
- Average resale prices, and
- Year-over-year growth in the average prices.

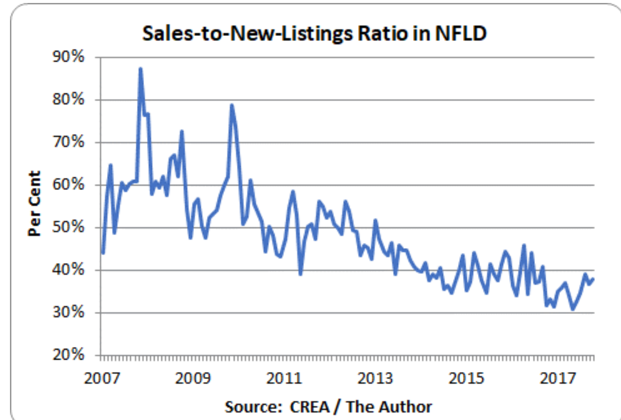
Since the data can be volatile from month-to-month, trend lines have been added where the author sees fit. Yet, in some cases, the mechanically-generated trend lines are not especially trustworthy, often because of volatile data at the end of the available data.

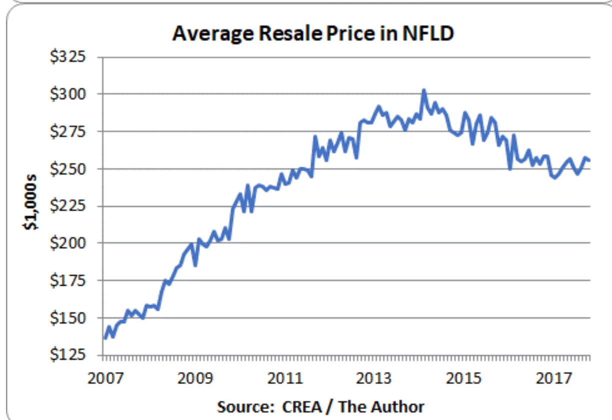
This data and analysis is, of course, backward-looking. It does not provide us with guidance about the effects of higher interest rates and the mortgage stress tests, which have the potential to be disruptive.

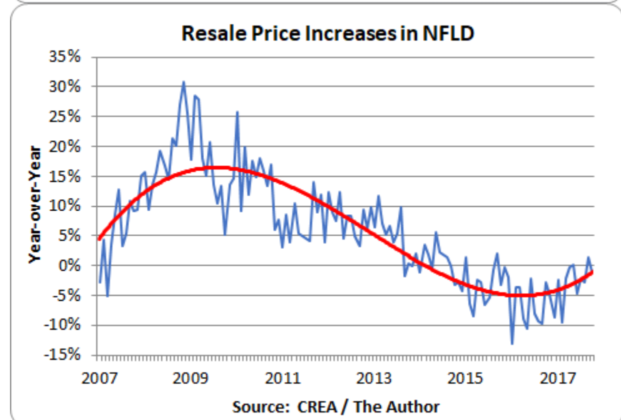
Newfoundland and Labrador

The sales trend had been flat for a long time, and has fallen further this year. A weakened provincial economy has discouraged consumers from responding to the very low mortgage interest rates. The SNLR had been close to the province's balanced market threshold (which is estimated at 42%). The SNLR has now fallen below the threshold. The price trend has shown a small amount of erosion during the period of weak demand. Recent data hints at stabilization of prices, but given the volatility of the data there is considerable uncertainty.



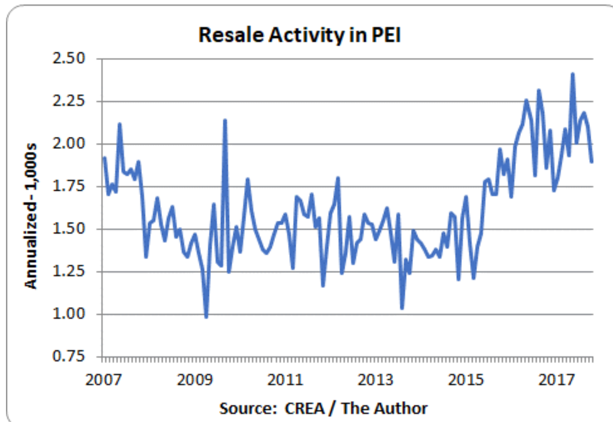


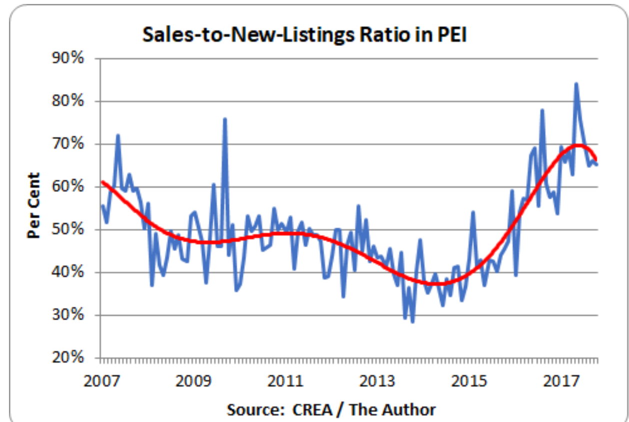


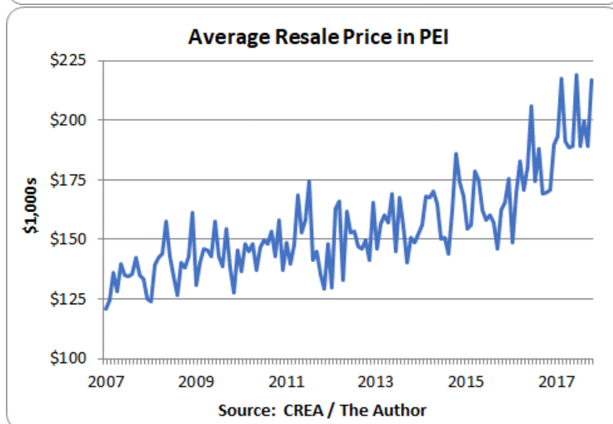


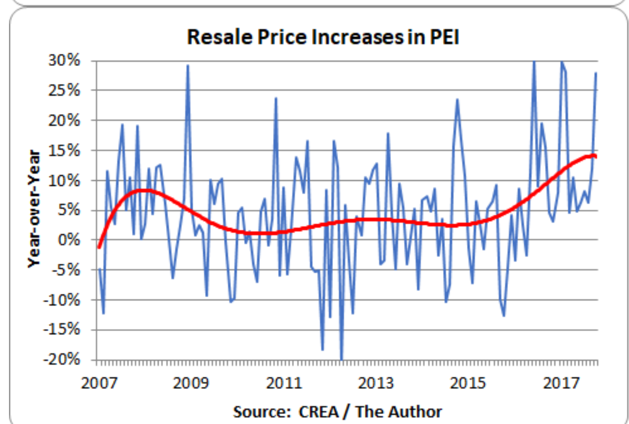
Prince Edward Island

The provincial housing market has responded quite strongly to low interest rates, and the sales trend is up by about 40%. It appears that the expansionary phase has ended, leaving sales at a high level. It isn't possible to estimate the province's threshold for a balanced market using statistical analysis. That said, it is clear that the SNLR is far into "sellers' market" territory and has resulted in accelerating price growth.



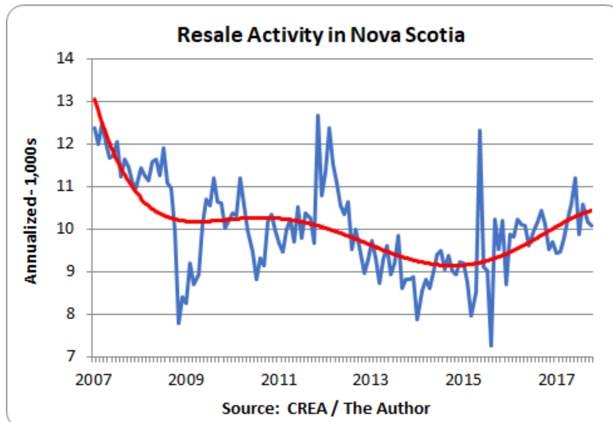


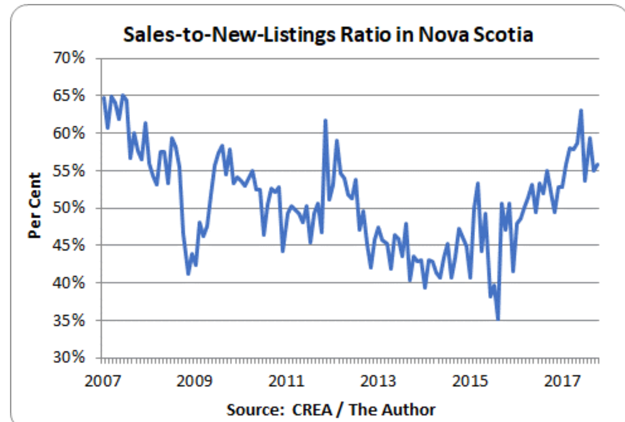


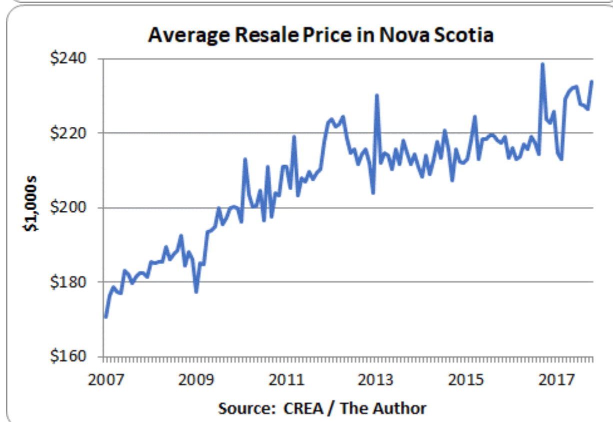


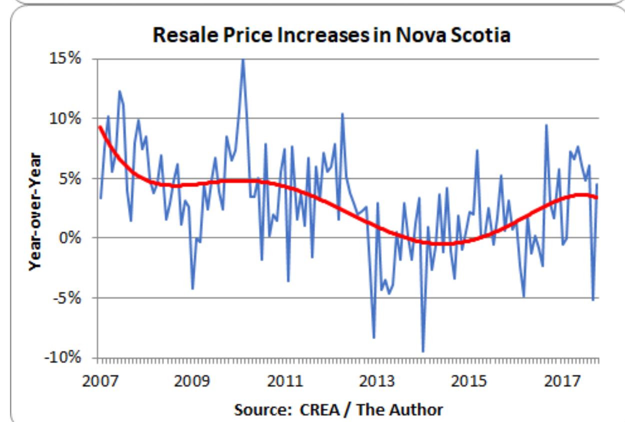
Nova Scotia

The province experienced a prolonged slump, but has been gradually emerging from it during the past two years. During the slowdown, the SNLR fell below the balanced market threshold (which is estimated at 48%). The ratio is now well above the balanced level. During the slump, the average price was essentially flat. The trend line is now hinting that the market is responding to reduced slack and prices may be rising at a moderate rate.



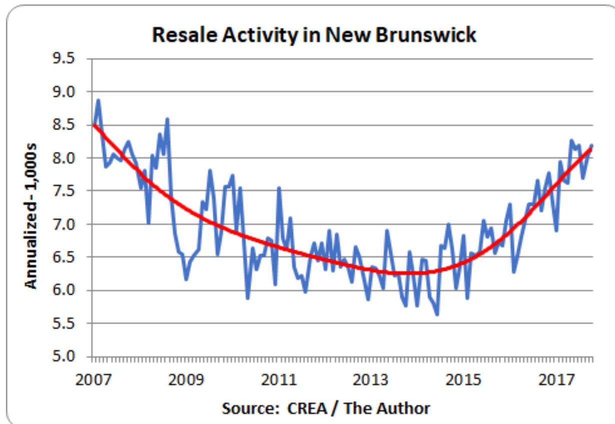


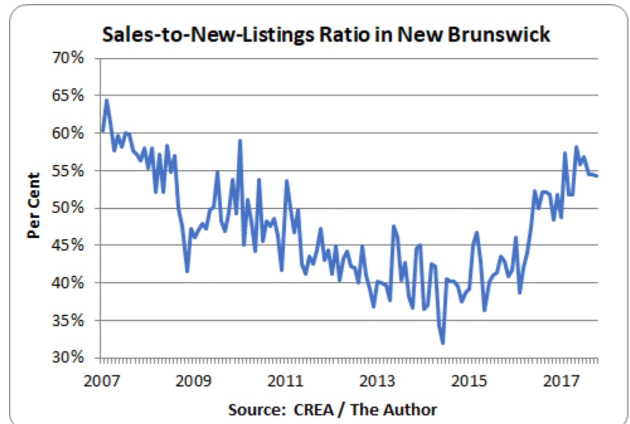


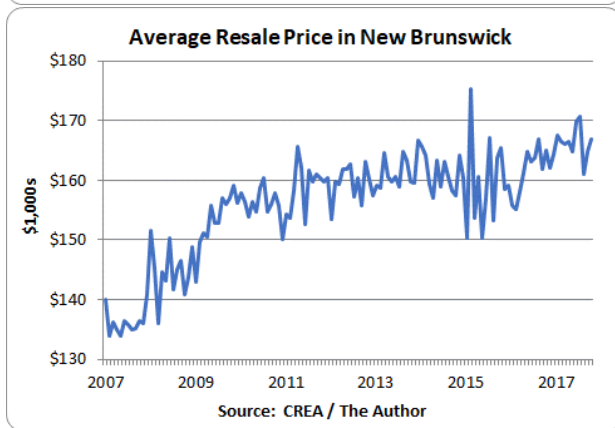


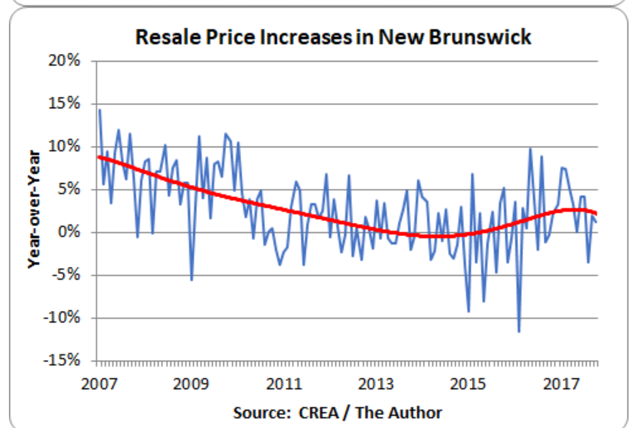
New Brunswick,

During the past three years the sales trend has shown a sustained recovery from what had been a deep slump. At the lowest point, the SNLR fell below the balanced market threshold (which is estimated at 44%). The SNLR is now well above the threshold. The price trend in New Brunswick had been flat for some time, although the recent data hints that moderate growth is now occurring.



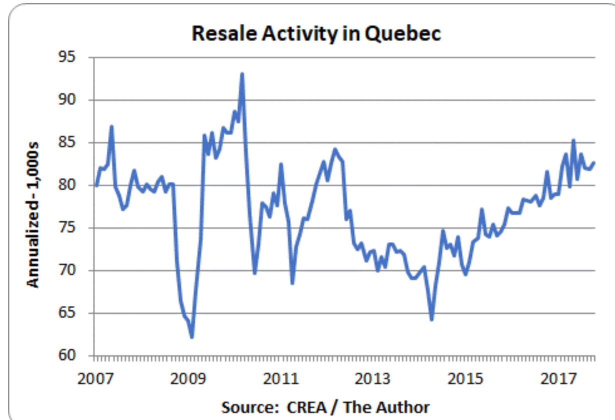


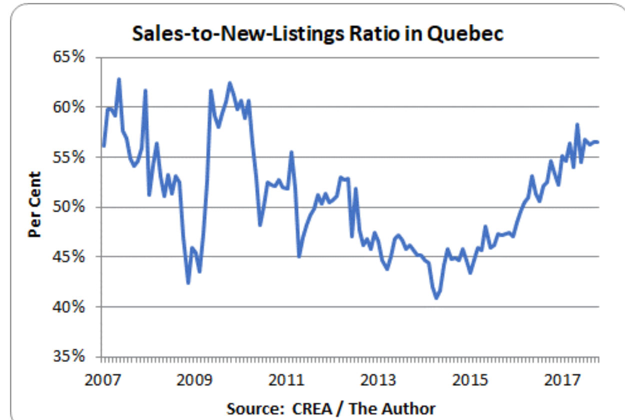


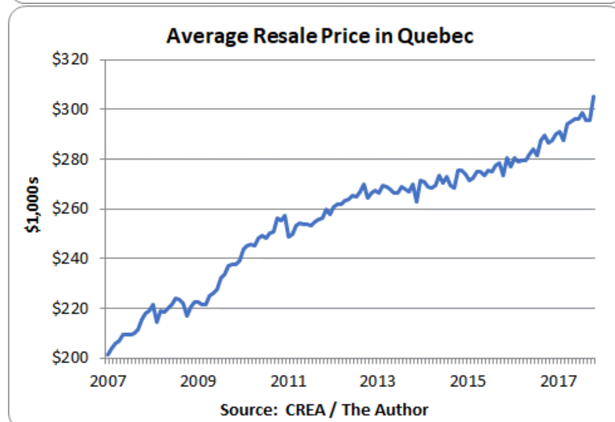


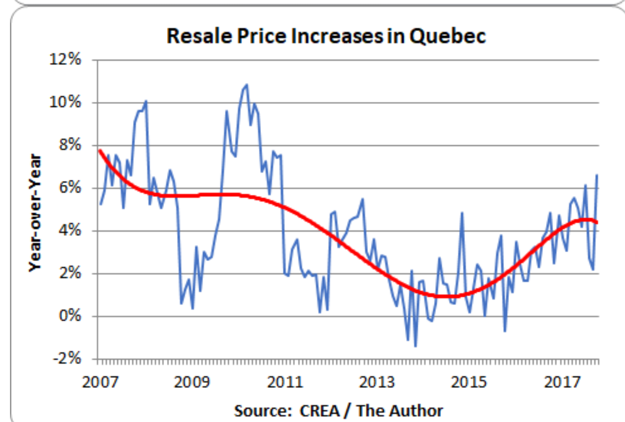
Quebec

The province has largely recovered from a prolonged slump, taking sales more-or-less back to the pre-recession level. The balanced market SNLR threshold is estimated at just under 40%, and the actual rate stayed above that level during the downturn. Consequently, prices increased, although at a very slow rate. Improved sales have brought a significant rise for the SNLR and it now appears that prices are increasing at a rate of about 5% (although volatility at the end of the dataset is creating some uncertainty).



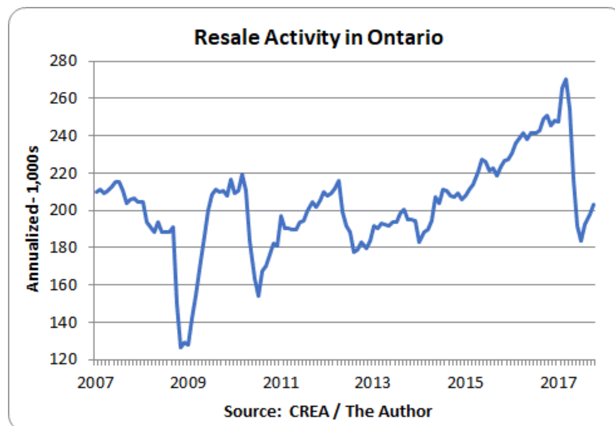


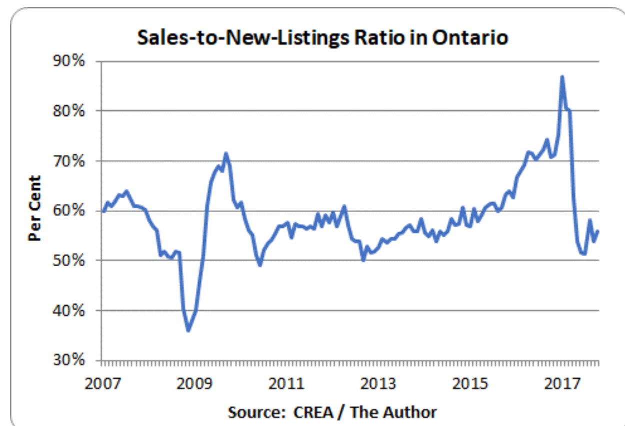


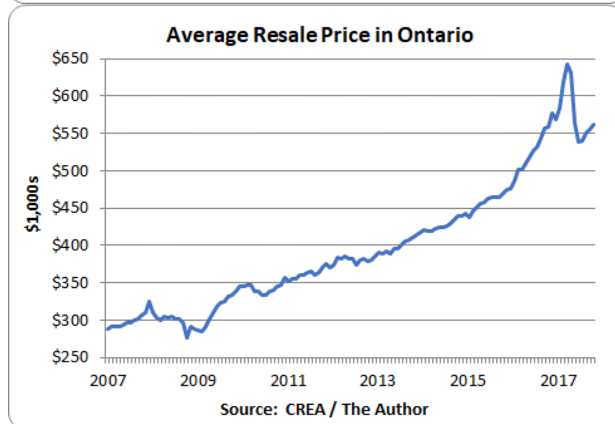


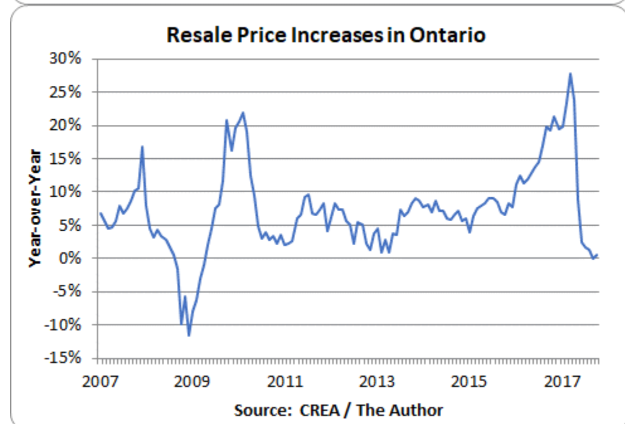
Ontario,

Ontario had experienced exceptionally strong resale activity, starting at the beginning of 2016. By late 2016, the market was clearly into excess, as some consumers over-reacted to the fraught conditions. Since April, activity has decelerated sharply. If we consider sales on a per adult basis, activity is now well below where it should be and is compensating for the period of excess. The balanced market SNLR for Ontario is estimated at 50%. The very high actual ratio resulted in extremely rapid price growth during 2016 and into early 2017. The ratio is now slightly above the balanced market level, which should result in moderate price growth. The provincial average price has been highly distorted by changes in composition (the locations and types of homes sold) during the period of excess and in retrenchment. Calculated changes in the average will give misleading impressions about "true" changes in prices. For now, it would be best to focus on indicators other than the average price.



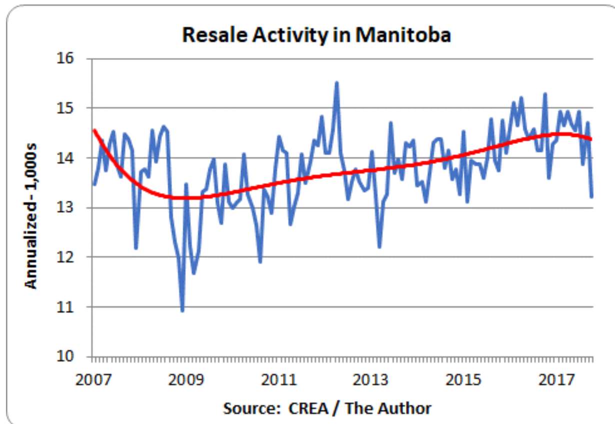


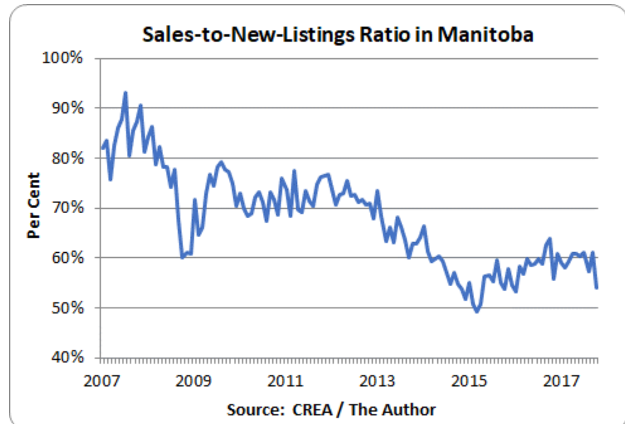


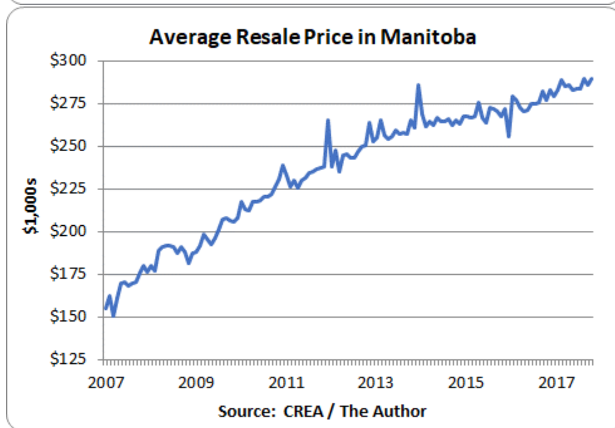


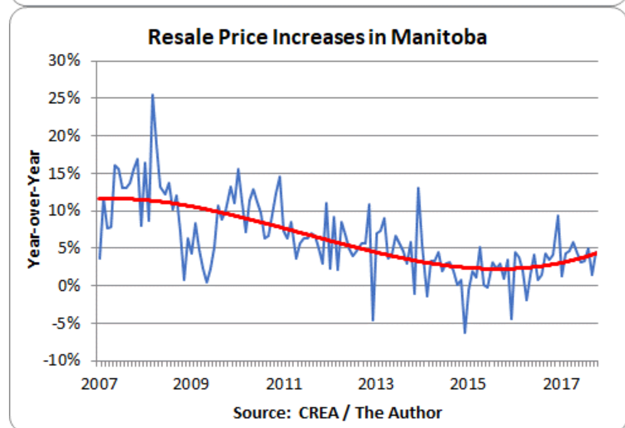
Manitoba,

The sales trend has shown slow but steady growth during this decade. Figures for the past three months hint at an interruption of that trend, although it is too soon to draw a conclusion. It is possible, but not certain, that the recent rises in mortgage interest rates have brought a turning point. The balanced market SNLR for Manitoba is estimated at 58%. The actual ratio has been quite close to the threshold for some time, resulting in moderate price growth.



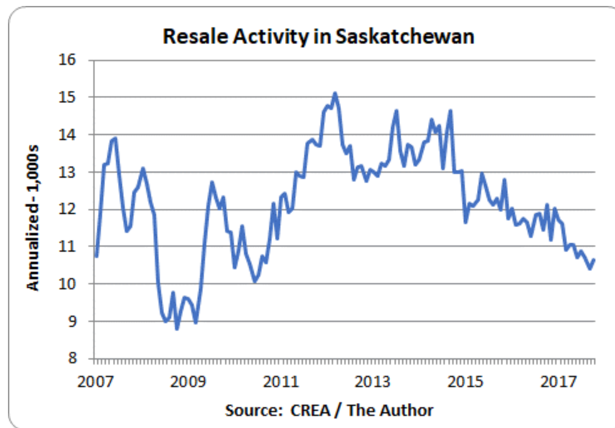


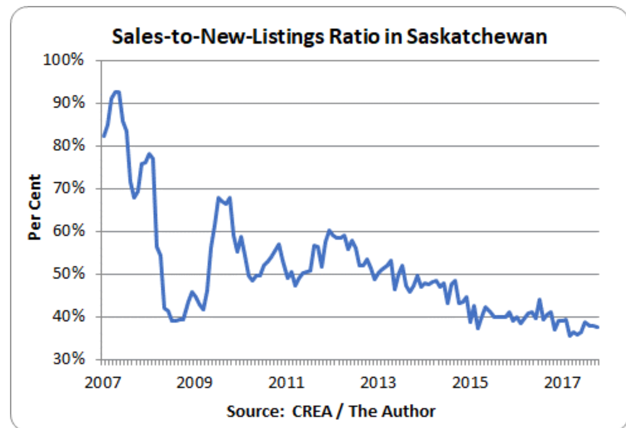


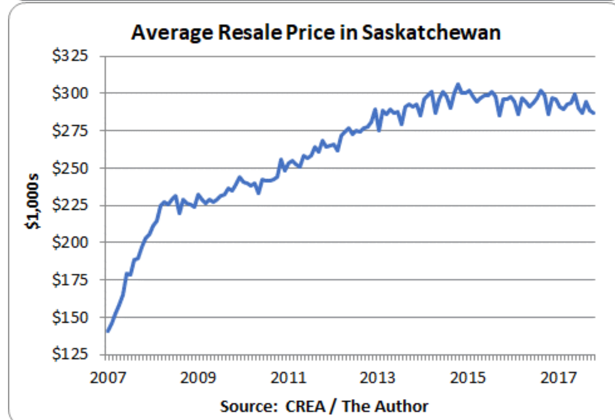


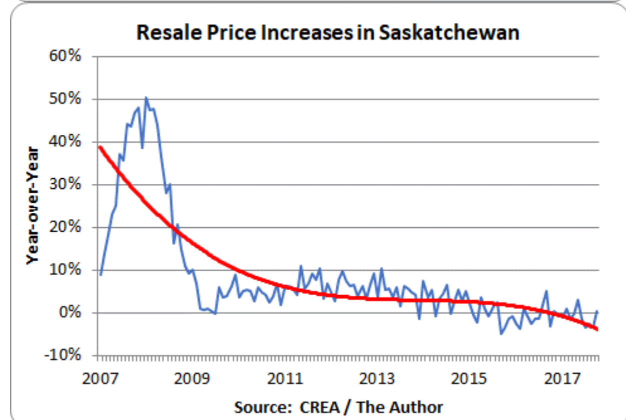
Saskatchewan

The downturn in commodity prices has resulted in a pronounced downturn in the province's resale markets, with no signs yet of stabilization. The balanced market SNLR is estimated at 54%. The actual ratio has been far below the threshold for three years. Yet, prices have been roughly stable. This is an instance of "price sticky downwardness" - people dislike selling investments or other assets at a loss, and will resist doing so, unless they absolutely have to sell. The last few data points hint at a bit of price erosion, but due to the volatility of the data this trend line is far from being conclusive.



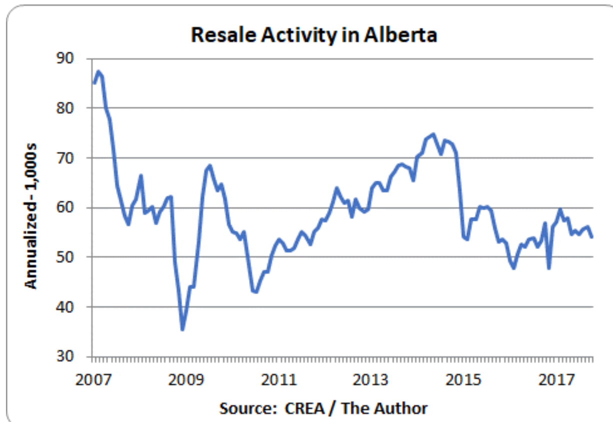


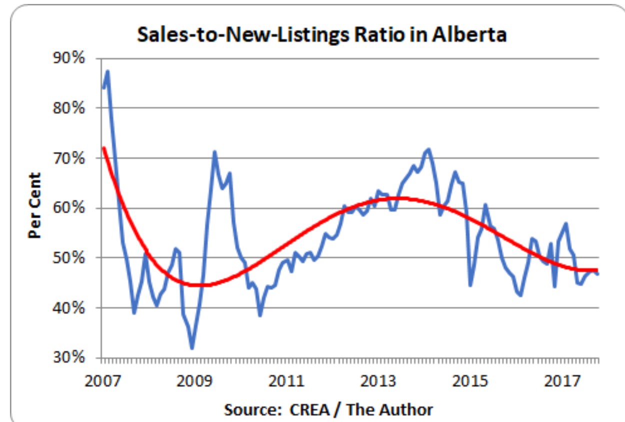


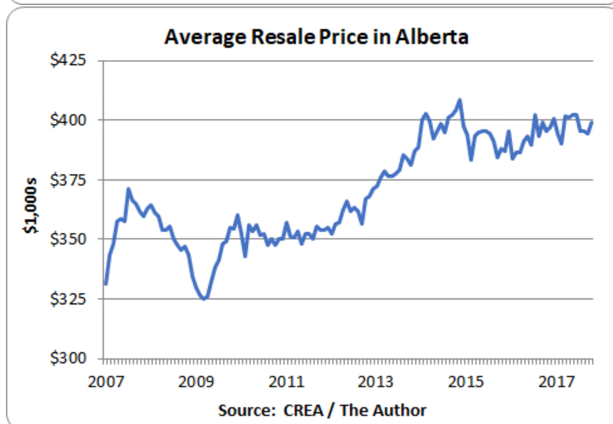


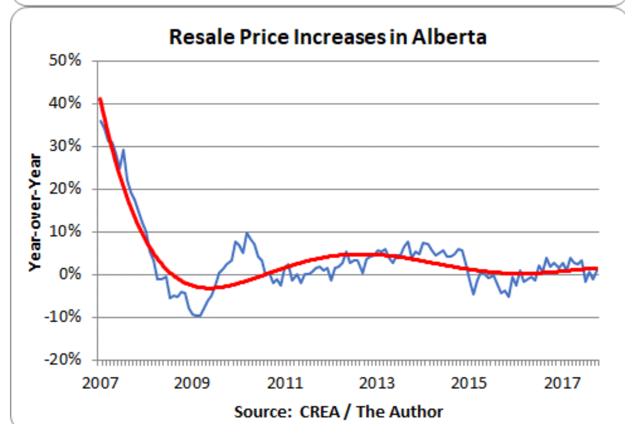
Alberta

Resale activity remains quite weak in historic terms (and if expressed on a per adult basis is even weaker). The SNLR is quite volatile. The trend line suggests that it is below the balanced market threshold, which is estimated at 56%. The average price has been roughly flat during the past three years. As in Saskatchewan, this data illustrates the concept of "price sticky downwardness" (although the level of the SNLR is much less severe than in Saskatchewan).









British Columbia

The data for BC shows the evolving influence of the 15% foreign buyers' tax in Vancouver. Sales have recovered somewhat, but remain well below the prior peak level (due to the volatility of the data, any commentary that relies on year-over-year changes in sales will miss important nuances). Looking at sales on a per adult basis, activity is now about 10% above the long-term average. The balanced market SNLR for BC is estimated at 47%. Actual figures are far above the threshold most of the time (including at present), indicating that the province suffers from chronic under-supply of housing. As in Ontario, the average price is highly-distorted by changes in composition. Calculations of year-over-year changes are likely to be misleading (the price data is so volatile that it is even impossible to add a trend line that provides any assistance). As in Ontario, given the noise in the price data, the focus of discussion should be moved away from the calculated price growth, toward the SNLR.