Slamming on the Brakes

Assessing the Impacts of Changed Criteria for Mortgage Qualification

Will Dunning Inc.

October 18, 2016

Background

A policy change that was announced on October 3rd will require that for all new mortgages that require mortgage insurance, the borrower's ability to afford the payments must be assessed using the "posted rate" for five-year, fixed rate mortgages (which is estimated by the Bank of Canada, based on a survey of the major banks). The intent is to reduce the risk that higher interest rates in future will cause these borrowers to be unable to afford their payments.

Current actual market interest rates for five-year, fixed rate mortgages are in the range of 2.5%. The testing will use a benchmark rate that is currently 4.64%, which in many cases is more than two percentage points higher than the borrowers' actual contracted interest rates.

Data from a consumer survey that was conducted in the fall 2015 (by Mortgage Professionals Canada and analyzed by this researcher) indicates that:

- Among Canadians who purchased homes during 2011 to 2015 and obtained a mortgage, 65% chose a five-year, fixed rate mortgage. If they had to obtain mortgage insurance, their ability to make the payments would have been tested using their actual mortgage interest rates. Under this new policy, they would have been tested using the much-higher posted rate.
- For a subset of these buyers (who had down payments of less than 20% of the purchase price, and therefore should obtain mortgage insurance), 70% chose a five-year, fixed rate mortgage and 30% chose some other combination of mortgage type and term-to-renewal. Therefore, within this subset of buyers, 30% would previously have been tested using the posted rate, but 70% would have been tested using their actual market-determined interest rates. In future, all of these would use the much-higher posted rate. Among this 70% of mortgage borrowers, some would have been unable to qualify for their mortgages if tested using the posted rate, and therefore they might not have been able to complete their home purchase.

In addition, some lenders "securitize" their mortgages: the mortgages are "bundled" and sold to investors. Previously, if the home buyers had down payments of 20% or more, these mortgages could be tested using the contracted interest rates. The October 3rd announcement requires that they be tested using the five-year posted rates, and some of these mortgages would not have been approvable if that test had been used. In addition, these mortgages could previously have amortization periods exceeding 25 years. They must now be tested assuming an amortization period of 25 years. Adding this layer of test would increase the number of mortgages that would not have been approvable. Publicly-available data does not allow us to gauge the dimensions of the impact. That said, CMHC data shows that NHA mortgage-backed securities have a current outstanding balance of $442 billion: given the magnitude of securitization activity, we should assume that the number of mortgages subject to revised testing will not be trivial, and the number of mortgages that cannot be approved will also be non-trivial.

This review draws conclusions on the negative impacts of the new policy on housing markets in Canada and the potential negative impacts on the broader economy.

The opinions expressed herein are entirely the author's own, and his clients may not share these opinions.

Summary of Findings

The bottom line: there seems to be agreement among commentators that the impact of this policy change will be in the range of an 8% reduction in resale market activity. This review accepts the 8% figure as the initial impact. But, it concludes that there will be subsequent impacts in the housing market and the broader economy. It is highly possible that the ultimate negative effect will be a multiple of that 8% factor (at least two-times and quite possibly three-times). In addition, reduced construction of new housing will ultimately increase the challenges faced in Canadian rental markets. The next evolution of this policy should consider whether the "posted rate" is the best benchmark to use in the stress testing.

Since the fall of 2008, this is the sixth policy change that has constricted mortgage lending (via amendments to criteria for mortgage insurance). Of the five prior changes only one had a significant impact (the July 2012 elimination of insurance for mortgages whose amortization periods exceed 25 years). The July 2012 change caused resale housing market activity to be 20% lower than it would otherwise have been, for a prolonged period; job creation in Canada, was impaired, compared to what would otherwise have happened.

However, the negative impacts on the housing market and the economy were masked by reductions of mortgage interest rates, which are now three-quarters of a point lower than they had been prior to the July 2012 policy change.

This new set of policy changes is likely to have negative impacts of similar magnitude. But, it is highly unlikely that lower interest rates will ride to the rescue.

Conclusions in this report include:

- A substantial share of home buyers who would previously have been qualified using their actual mortgage interest rates will now be tested using the posted rate. Typically, their calculated GDS and TDS ratios will be increased by 5 to 7.5 percentage points. Some of these home buyers would no longer be able to obtain the financing they require. Some of them would make adjustments and make purchases based on lower loan amounts. Others would be removed from the market.
- While we don't have enough data to draw firm conclusions on the impact, the opinion estimate presented here is that housing market activity could be reduced by 6-10% as the result of the policy change.
- This would be the initial, direct impact. Second round effects (reduction in move-up and move-down buying activity) have the potential to double the impact.
- The combination of two effects may reduce resale market activity by 12% to 20%, with a midpoint of 16%.
- These effects will occur in all regions of the country. The majority of market areas in Canada will move from balance to weakness; the really hot markets (now Toronto and environs, but formerly also Vancouver) will move from "extremely hot" to "hot".
- There will be negative economic impacts. For the past three and a half years, we have seen weak job creation in Canada, with the result that the share of Canadians who are employed has fallen. The economic impacts from this policy change will not be helpful.
- A third effect from this policy change is that job losses that occur as a result of a weakened housing market would further reduce housing market activity (in turn, further aggravating the economic effects).
- Preventing the development of "self-reinforcing expectations" in the housing market is an important objective. We must also be mindful that risk is "two-sided": excessive price rises matter, but price declines also matter. Expectations of price reductions can deter

potential buyers from purchasing, with the potential to cause prices to fall by more than they "should". This would be a "self-reinforcing expectation" that needs to be avoided. There is a risk that this policy change could bring this effect as a fourth negative impact.

- A fifth effect is that housing starts will be reduced. Since construction is labour-intensive, this will have consequences for the level of employment in Canada. A 15% reduction in housing starts would cost about 50,000 jobs in construction and other industries that contribute to the construction process.
- Following from the slowdown in housing starts, there will be a sixth effect. Volumes of housing completions will be reduced, starting in the second half of next year and worsening into 2018. Fewer tenants will be able to move out of rentals and into home ownership. The apartment vacancy rate will fall and rent increases will accelerate. Thus, the policy change will not affect just home buyers.
- A potential seventh effect would be that some of the buyers of newly-completed housing will be unable to obtain enough financing and will be unable to complete their purchases. The "macro" impact of this might not be very large, but these events will be extremely stressful for the people impacted. Whether this effect occurs will depend on the transitional rules within the policies.
- This report concludes that the combined impact of the first and second effects will be in the range of 12% to 20% (with a midpoint of 16%), but does not estimate the magnitudes of the third to seventh effects.
- Increased stress testing for securitized mortgages will reduce access to mortgage funding and reduce competition within the mortgage market, bringing some increase to market interest rates. The higher interest rates will affect home buyers as well as people renewing mortgages. Each year, over 1 million Canadians renew a mortgage, and they will be impacted as an indirect consequence of the policy.
- Posted mortgage interest rates have an artificial existence. They are not determined by market forces and they provide no guidance as to future interest rates.
- The use of posted rates that are more than two points above actual market rates is unnecessarily cautious. This review opines that the risk of adverse impacts on the housing market and the broader economy exceeds the risk that rates will rise by more than two points.
- The next evolution of this policy should establish an alternative benchmark interest rate through an explicit assessment of risks for interest rates. This requires urgent attention.
- Use of the posted rate today to assess a renewal in 5 years significantly over-estimates the impacts on costs and on GDS/TDS ratios (and anyway is being applied in the extremely unlikely event that rates rise to that level).
- One possible outcome is that the major banks could reduce their posted mortgage interest rates, which would reduce the negative effects of the policy. While this is possible, it seems unlikely to occur.
- That said, the "posted rate" is the key parameter within this policy and it will be under the control of the major mortgages lenders whose actions are being regulated by the policy. That would seem to be unsuitable from a governance perspective.
- Other pending policy decisions (including increased capital requirements for mortgage assets and an insurance deductible) have the potential to create further harms.
- It has been mooted by the Office of the Superintendent of Financial Institutions that non-insured mortgages should be subjected to stress testing using the posted rate (or even higher rates). This would escalate the risks to the Canadian economy to a severe level.

The Impacts in Dollars

A current typical rate for a 5-year fixed rate mortgage would be 2.5% (actual contracted rates can be lower than this). Under the policy change, for many borrowers, their qualification would be tested using the posted rate of 4.64%.

The table below shows several scenarios, in which mortgage amounts are various multiples of the borrower's income. Key assumptions include:

- 25 year amortization period
- $75,000 income
- Realty tax rate of 1.0% of the mortgage amount (actual tax rates will vary, of course, and taxes are based on the assessed property value rather than the mortgage amount. This assumption is used to simplify the calculations).
- Monthly heating cost of $150 (actual costs will also vary).

The scenarios suggest that at a 2.5% interest rate, the current maximum loan amount (prior to the policy change) would be equal to roughly 5.5 times the borrower's income (the GDS ratio would be in the range of 37.5%).

In the scenarios, using a 4.64% qualifying rate, the maximum approvable loan amount would be in the range of 4.5 times income (the maximum loan amount would be reduced by about one year's income, or about $75,000 in this instance).

A buyer whose mortgage requirement was 4.5 times their income (or less) would likely be unaffected by use of the 4.64% qualifying rate (as the calculated GDS would be about 37% or less), and therefore the buyer should be able to obtain the financing required and complete the purchase. For mortgage requirements above 4.5 times the borrower's income, the test using the 4.64% rate may prevent the buyer from obtaining the financing and therefore it might be not be possible to complete that purchase.

Table 1
Scenarios for Impact of Stress Test Based on Posted Rate
(Based on $75,000 Income)

Mortgage Principal =	Mortgage Interest Rate	Mortgage Amount	Monthly Payment	Payment as % of Income	Addition to GDS for Taxes+Heat	Approx. GDS	Change in GDS Ratio (pct points)
4 times income	2.50%	$300,000	$1,343.90	21.50%	6.40%	27.9%	5.44%
	4.64%	$300,000	$1,683.85	26.94%	6.40%	33.3%	
4.5 times income	2.50%	$337,500	$1,511.89	24.19%	6.90%	31.1%	6.12%
	4.64%	$337,500	$1,894.33	30.31%	6.90%	37.2%	
5 times income	2.50%	$375,000	$1,679.87	26.88%	7.40%	34.3%	6.80%
	4.64%	$375,000	$2,104.81	33.68%	7.40%	41.1%	
5.5 times income	2.50%	$412,500	$1,847.86	29.57%	7.90%	37.5%	7.48%
	4.64%	$412,500	$2,315.29	37.04%	7.90%	44.9%	
6 times income	2.50%	$450,000	$2,015.85	32.25%	8.40%	40.7%	8.16%
	4.64%	$450,000	$2,525.77	40.41%	8.40%	48.8%	

Source: Assumptions and calculations by Will Dunning

The People Who Will be Impacted

The spring 2015 report by Mortgage Professionals Canada found that on average home buyers borrow 76% of their approved mortgage amounts. For first-time buyers the figure is 81%. The next table is from that report. Thus, if the maximum approvable mortgage loan was equal to about 5.5 times income, the average first-time buyer would obtain a mortgage at 4.5 times their income. Therefore, with a test at the 4.64% posted interest rate, an average buyer might still be able to obtain their desired amount of financing and complete their desired purchase.

However, of course, actual mortgage amounts will vary. The table indicates that among first-time buyers, about 40% borrow less than 80% of their approved amounts (i.e. they borrow 4.5 times their income or less) and 60% of the first-time buyers borrow 80% or more of their approved amounts. For this 60% of first-time buyers, the new qualification criteria would often have negated their ability to complete the purchase that they actually made. Some might have been able to increase their down payments, so that they could complete that purchase. Others might have been willing and able to purchase a less expensive property, such as a smaller home or a less expensive location. But, if more people are chasing lower priced homes, more of them will be unable to find something that meets their needs and for which they can get financing. In short, some of these buyers would not be able to make sufficient adjustments and they would not make any purchase.

Table 2
Percentages of Approved Amounts Borrowed

% Borrowed	*1st Time Buyer*	*2nd Time Buyer*	*Subsequent Purchases*	*All Buyers*
< 50%	7%	13%	24%	14%
50%-74.9%	25%	29%	30%	27%
75%-79.9%	8%	10%	7%	8%
80%-84.9%	8%	8%	7%	8%
85%-89-9%	9%	4%	6%	7%
90%-94.9%	12%	13%	6%	10%
95-99.9%	12%	4%	6%	8%
100%	12%	11%	12%	12%
> 100%	6%	8%	4%	6%
Total	100%	100%	100%	100%
Average	81%	76%	69%	76%

Source: Table 4-8 (page 19) of the Spring 2015 report by Mortgage Professionals Canada (formerly the Canadian Association of Accredited Mortgage Professionals) “A Profile of Home-Buying in Canada”

To estimate the numbers of buyers that would be affected, we need two factors for which, unfortunately, good data is not publicly available:

- How many mortgage applicants who were previously not tested against the posted rate, would have been under the changed policy?
- Of these, what share will become unable to buy?

The greatest impacts will be for buyers who require mortgage insurance as they have less than a 20% down payment (“high-ratio” mortgages).

But, there will also be impacts on some buyers who have down payments of 20% or more (“low-ratio” mortgages). If the lender plans to securitize mortgages (or wants to retain an option to do so in future) then the mortgages must be tested again the posted rate. Moreover, some of

those mortgages are now being approved at 30 year amortization periods, but they would have to be tested at a 25 year amortization. Under the required testing, some share of these mortgages (an unknown and unknowable share) would no longer be approvable.

Looking at the two factors noted above:

- From the Mortgage Professionals Canada survey (spring 2015) we can infer that up to 60% of first-time buyers will be unable to complete the purchase for which they would previously have been qualified. Some of these will make adjustments and still be able to buy; some will be removed from the market.
- Some low-ratio buyers will be removed from the market.
- An opinion estimate is that one-quarter to one-third of home buyers will have previously been tested on their actual rate but will now be tested on the posted rate.
- A further opinion estimate is that among this group, one-quarter to one-third will be removed from the market.
- Combining those two factors, the expectation is a 6-10% reduction in housing activity.

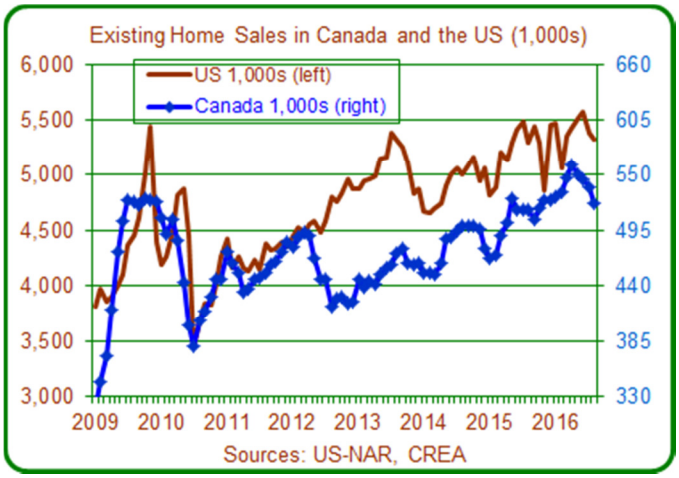
That is a "first round" effect. As the number of sales is reduced in the lower reaches of the housing market, potential move-up (and move-down) buyers will find it more difficult to sell their homes, and therefore there will be a "second round" effect of reduced move-up (and move-down) buying. With this, the initial effect of a 6-10% reduction could be doubled to a 12-20% impact. There will, of course, be local variations in the strength of the first round and second round effects.

Market Impacts

With many sets of changes having been made to mortgage insurance criteria during the past decade, experience shows varying impacts. Most of the policy changes had minimal impacts. To date, one set had a demonstrably major negative effect: the July 2012 change that eliminated mortgage insurance for amortization periods longer than 25 years.

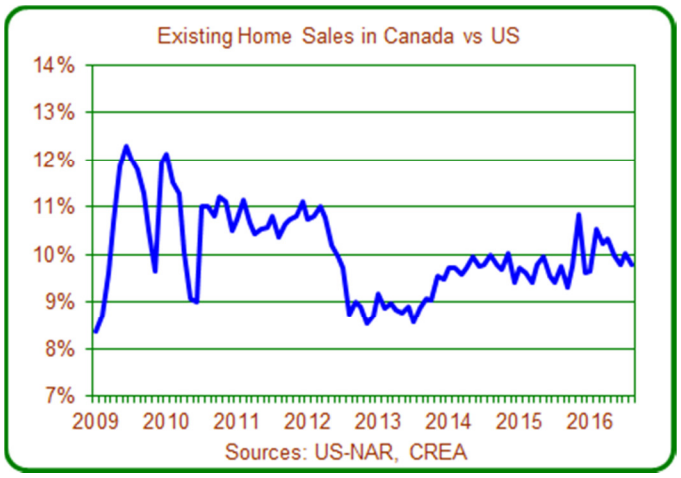
The impact of a policy change is not "what happened in the market?" Rather, it is "what happened in the market compared to what would have happened otherwise?" This of course is impossible to answer with certainty. But, we can look for evidence.

In the case of the July 2012 change, the evidence includes comparing market trends in Canada versus the United States. That comparison is shown in two charts. Canada's population is roughly 11% of the US figure. Therefore, the first chart shows sales figures, with the Canadian figures scaled at 11% of the US figures.



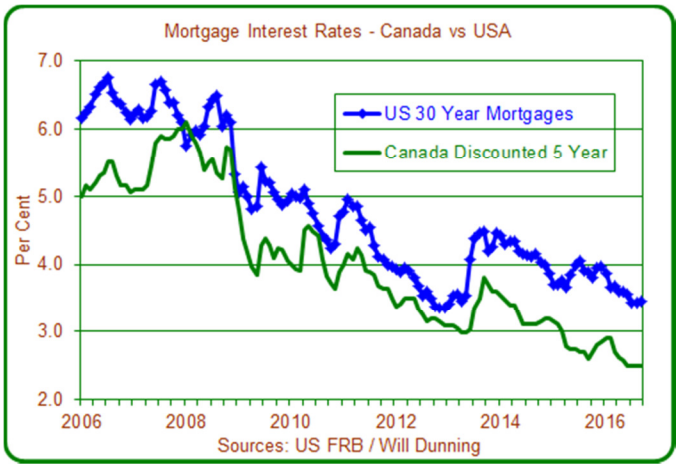
The second chart (on the next page) shows Canadian sales as a percentage of the US figures.

Both charts show that during the early part of the recovery from the recession, Canadian and US sales behaved very similarly (very close to the 11% ratio). However, there was a sudden divergence, which corresponds exactly to the policy change of July 2012. At that time, economic



conditions were similar in the two countries (as will be shown in the next section), and trends were similar for mortgage interest rates. Sales in the US were boosted at that time by a reduction in rates; the same rate drop in Canada did not produce the same positive effect as in the US. This evidence suggests very strongly that the policy change of July 2012 caused resale activity in Canada to be lower than it would have been, by as much as 20%. The charts indicate that even today, the Canadian resale market continues to materially under-perform compared to the US. By now, of course, there are significant economic differences that contribute to this (notably the plunge in oil prices that started two years ago, and better job growth in the US than in Canada, which is providing more support to housing activity in the US). But, the July 2012 policy change may still be constraining the Canadian housing market.

Late in 2012, the Canadian Association of Accredited Mortgage Professionals (now Mortgage Professionals Canada) published this author's research on the potential impact of the July 2012 change to mortgage insurance ("Annual State of the Residential Mortgage Market in Canada"). That review concluded that the policy change would negatively affect 11% of all mortgage borrowers. The greater impact (20%) that is seen in the resale market data confirms that second round effects can be substantial.

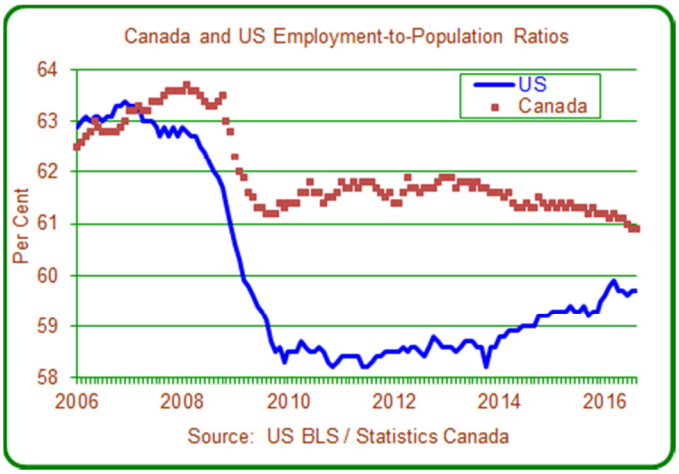


The negative impacts of the policy change were masked by the fact that interest rates subsequently fell. In Canada, the typical rate (after discounts, as advertised by one or more by major lenders) is now three-quarters of a point lower than at the time of that policy change. This time, it is highly unlikely that interest rates will come to the rescue. In fact, even if they did fall, this would have a negligible effect, since the policy test is based on the non-market posted rate: even though actual mortgage costs would be reduced, the costs that would be estimated by the testing might not be affected – that would depend on what happens to the posted rate.

The key message here is that major policy changes that affect mortgage lending can have very substantial and very prolonged effects on housing activity.

Economic Impacts

A useful statistic for monitoring economic conditions (and for comparing different locations) is the percentage of adults who have jobs (known as the "employment-to-population ratio" or the "employment rate"). The chart here compares the employment rates for Canada and the US. It shows several key trends, including:



- The US had a much more severe recession than did Canada (as its employment rate fell by twice as much as the Canadian rate).
- Coming out of the recession (starting at about the end of 2009) the Canada and US were both in recovery, with the rates of recovery being very similar (and gradual).
- This similarity lasted until the start of 2013, at which point the employment rate began to slide in Canada but continued to recover in the US. At that time, there weren't any obvious major factors that would have caused this parting-of-the-ways. It is quite possible that six months after the mortgage insurance policy change (which appears to have reduced housing market activity by 20% compared to what would have occurred otherwise), the reduction of housing market activity was having negative economic consequences.
- Subsequently, the US has shown increased job creation, in contrast to continued weakness in Canada. While the cause of the divergence during 2013 is not obvious (apart from the housing market issue), the continuation of the divergence during 2015 and 2015 is easily understandable as the additional consequence of the changed market for oil (and other major commodities).

It is possible that this newly announced policy change will have housing market impacts similar to those seen in the wake of the July 2012 change. Thus, the economic consequences could also be similar.

Following the July 2012 policy change, this researcher estimated that its impact, by the spring of 2015, would be for the level of employment in Canada to be 150,000 less than it would otherwise be. The difference between potential versus the actual outcome is, of course, impossible to measure, but it can be estimated. Here, an estimate is based on the following facts: prior to the policy change, the employment-to-population ratio had been rising in Canada (roughly in parallel with a rise in the United States); half a year later (at the start of 2013), the Canadian employment rate peaked (at 61.9%) and then began to slide, whereas the US rate continued to rise:

- If the Canadian employment rate had flattened (at 61.9%, versus the 61.3% that was actually seen in spring 2015), the level of employment (as of spring 2015) would have been 180,000 higher than it actually was.
- Alternatively, if the Canadian employment rate had continued to rise in parallel with the US rate (by 0.7 percentage points, to 62.6%), the level of employment in Canada would have been 385,000 higher than it actually was in the spring of 2015.

The point here is that housing is important to the economy and job creation (through both direct and indirect effects). A policy changes that negatively affects the housing market will have corresponding impacts on the economy.

In turn, the weakened economy that will result from this new policy change will have a further (third round) negative impact on housing demand. This effect will be in addition to the first and second round effects.

Speaking more broadly about economic impacts: around the world, there is currently a desire to stimulate economies through low interest rates. Interest rates work on the economy by affecting decisions to save or spend, and to borrow. Low interest rates work their magic if people borrow. The most interest rate sensitive sector of the economy is real estate, and particularly residential real estate. Any policy that aims to constrain mortgage borrowing will also constrain the benefits of low interest rates. In short, it has to be expected that this policy change will impair the Canadian economy to some degree.

"Self-Reinforcing Expectations"

The essential characteristic of a bubble (in the housing market or for any other type of asset) is that demand is inordinately influenced by expectations of price growth, and this causes the price of the asset to exceed what "should" result from economic fundamentals. The possibility of this occurring in the housing market is rightly of concern to policy makers.

(However, at this time there is scant evidence that prices have departed from their economically-justifiable level – rapid house price growth in Canada has resulted from exceptionally low interest rates, which have created "affordability space" in which house prices could rise. It is only in the last few months that prices in the Vancouver and Toronto areas have started to push up against the levels that can be supported by interest rates; elsewhere in Canada, house prices are far below the levels that can be supported by current mortgage interest rates.)

Much less talked about is that there is an opposite to a bubble: if potential home buyers expect that house prices will fall, and decide not to buy as a result, then this can become a "self-reinforcing expectation", which is also dangerous for the market and the broader economy.

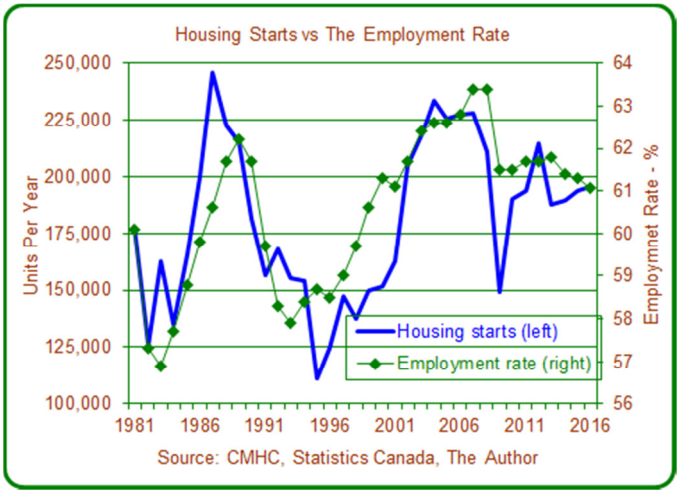
Thus, there is a potential fourth negative effect of the recent mortgage insurance policy change. If the weakened housing market causes consumers to expect (or fear) that house prices could fall, this would reduce housing demand, further impairing the economy.

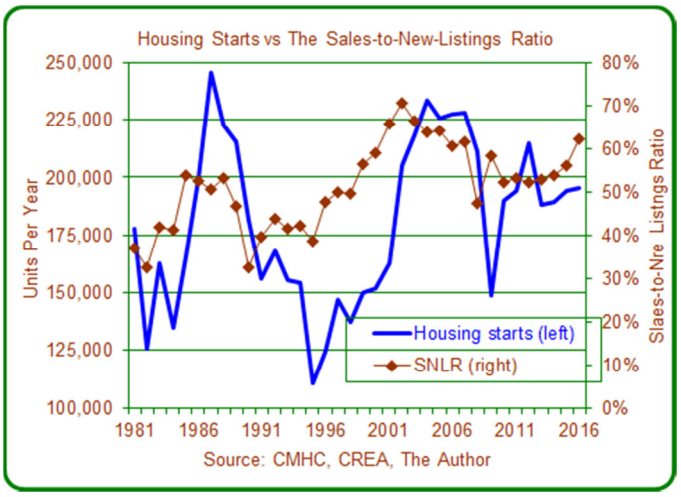
Impacts in the New Construction Arena

A reduction in housing demand will not affect just the resale market. There is clear potential for new housing construction to be impacted.

The primary drivers of new construction activity are the state of the job market and the state of the resale market, in addition to interest costs:

- Job creation encourages the formation of new households, which means that there is a need to expand the housing inventory, via construction. As is illustrated in the chart to the right, there is a very close relationship between the employment situation and housing starts.
- But, the resale market also provides signals that encourage that construction to occur: when housing demand increases, the sales-to-listings ratio for resales falls and prices increase. The price rises make new construction more viable for builders; simultaneously the price rises for resales encourage potential buyers to give more consideration to new home options. The second chart shows that there is a (weaker) relationship between the sales-to-listings ratio and housing starts.
- When considered simultaneously, the employment situation and the state of the resale market do a good job of explaining trends for new housing starts.
- Interest costs (and the terms on which mortgage credit are available), also affect demand (and affect supply to some degree. through their effects on builders' profitability).





Therefore, as the new mortgage insurance policies reduce the demand for housing, which in turn negatively affects job creation, there will be less pressure to expand the housing inventory and housing starts will be reduced.

Construction of new housing is jobs-intensive. For Canada as a whole, each start of a single-family detached home creates 2.35 jobs ("person years" of employment). This includes about 1.3 jobs in the construction industry and 1.05 jobs in other industries that provide goods and services to the construction process. The other, less expensive housing forms have lower jobs impacts (about 1.50 jobs per semi-detached unit, 1.25 per town home, and 1.2 per apartment). If this policy change reduces housing starts by about 30,000 units (about 15%), the cost would be 50,000 in construction and the other industries that contribute to the construction process.

Impacts in the Residential Rental Arena

When construction is completed on new dwellings and they are occupied, there are ripples throughout the housing market:

- Most of the time, the new occupant is leaving another dwelling within the same community.
- This creates an opportunity for someone else to occupy their former dwelling, and so on.
- These sequences of movements are sometimes called "vacancy chains".
- Often, within the vacancy chain, one of the moves involves someone vacating a rental unit and moving into a home ownership situation; others involve movement from one rental unit to another.
- The consequence, therefore, is that completions of new dwellings (whether they are for owner-occupancy or tenant-occupancy) reduce the pressure within the rental market.

The author's research (for many of the major market areas in Canada) has found repeatedly that changes in rental market vacancy rates are mainly determined by:

- The rate of job creation (growth of employment raises the demand for rentals, which tends to reduce the vacancy rate) and
- Completions of new housing (which lowers the demand for rentals and tends to raise the vacancy rate).

In this situation, the policy change can be expected to reduce housing completions, starting during 2017 and increasingly into 2018 (tending to reduce vacancy rates). Job creation will also be reduced compared to what it would otherwise be (tending to increase vacancies). It is expected that the effect of reduced housing completions will have the larger effect and that therefore vacancy rates will be reduced.

Lower vacancies will cause rents to rise more rapidly than they would otherwise.

Closing of Sales for New Housing

Most new housing construction in Canada occurs following a pre-construction sale to a buyer, who intends to occupy the unit (as a home owner) or to rent it out (as an investor).

The change in mortgage financing may have the effect of disqualifying buyers who, at the time they agreed to the purchases, had qualified for the financing that they will require. This could make it impossible for some buyers to complete ("close") the purchases, to their considerable distress and to the inconvenience of the builder. In the past, changes to mortgage insurance policies have included transitional arrangements that can avoid this difficulty in most circumstances. While the final details of the transitional rules are not known at this time it seems reasonable to expect that they will be accommodating. Therefore, this should not be a major issue.

Credit Availability and Competition in the Mortgage Market

In Canada, most mortgage lending is done by the major banks. However, there is significant lending by smaller financial institutions, including pension funds, insurance companies, credit unions, and caisses populaires. There are other lenders that do not have their own funds to lend, but who obtain capital through "securitization" (by bundling mortgages and selling them as bonds). Under the new mortgage insurance policies, these lenders will now have to test the

borrowers using the posted rate (rather than the actual contracted interest rate) and a maximum amortization period of 25 years (even though the contracted amortization periods might be longer for "low-ratio" mortgages). This two-pronged testing will disqualify an unknown number of potential borrowers, who will either be pushed out of the market entirely, or may be pushed to lenders who do not securitize mortgages. In the event, this will reduce the market role for the lenders who securitize. Commentary in the media indicates that the impacts will be very substantial for these lenders.

Reduced competition to supply mortgages has the potential to cause higher interest rates.

In short, the policy changes will reduce competition in the mortgage market, to the benefit of the major lenders and to the disadvantage of consumers.

"Posted Rates"

Posted mortgage interest rates have a very artificial existence. Since virtually no mortgages are actually contracted at the posted rates, these posted rates are 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 who take a variable rate mortgage or a fixed rate mortgage with a term shorter than five years (this was added through a policy change for mortgage insurance that took effect in February 10).

Thus, lenders posted rates do not provide any signals about what is a "normal" interest rate, or what interest rates might be in the future. For that reason, there is not an obvious argument that the posted rate is the best possible rate for testing borrowers' abilities to afford future payments.

What Interest Rate Should Be Used?

There is merit in doing risk analysis, especially in evaluating borrowers' abilities to afford their payments in the event that interest rates are higher when they renew their mortgages.

The qualification test that is now required assumes that mortgage interest rates will rise by more than two percentage points during a five year period.

But, it is believed widely, and with increasing wideness, that interest rates will not rise substantially for the foreseeable future (due to a combination of circumstances like: aging populations, a global surplus of savings, and reduced needs for capital in economies that increasingly depend more on knowledge than on factories and buildings).

If a two point rise in rates were to occur, there would have to be very substantial causes, such as:

- A very substantial resurgence of economic growth and/or inflation. In that case, and in order for the interest rate rise to be sustainable, there would also have to be a resurgence of income growth, to more than the 2% per year that we might reasonably expect today. In that case, the impact that a higher rate has on actual GDS (and TDS) would be limited. With income growth of 3% per year, the effect on GDS would be minor; with 4% income growth, GDS would be unaffected by the higher interest rates.

- A collapse of the financial system (worst case) or of the market for government bonds. In those cases, there would be many very serious concerns in addition to mortgage renewals.

The concern is that this policy may have severe consequences, not just for the housing market, but also for the broader economy, to address a risk (a two point rise in mortgage interest rates) that seems to have a very low probability of occurring.

- Risk is two-sided, in that the future can be better than expected or worse than expected.
- This risk management policy seems to be tilted far to one side, and to an unwarranted extent.
- This policy over-emphasizes the risks that exist in the market and in consumer behavior, and is creating a new risk: an inordinate suppression of housing demand that would have undue negative consequences for the economy.
- This policy could, in fact, create the kind of outcome that it is trying to prevent - a future large correction in the housing market and attendant mortgage defaults. There is risk that this outcome could result from this policy, not from a defect in the market or as the result of consumer behavior.

We have not seen a risk assessment that justifies the posted rate as the benchmark. Its greatest merit might be that data on it has been readily available for a long time.

Therefore, the next logical evolution in this policy would be to establish a benchmark interest rate through an assessment of the reasonable outlook for mortgage interest rates for five years hence. In all likelihood, that rate would be substantially lower than the current posted rate. Using that rate would do a better job of being two-sided: managing the renewal risk while reducing the housing market and economic impacts.

That benchmark interest rate could be updated with some regularity (say, every three or six months) and changes to it could be announced in advance, to minimize disruptions.

It is possible that in five years actual market rates will be close to the 4.64% posted rate, and we might find that this policy was prescient. But, that seems to be a low probability outcome.

If an alternative (lower) benchmark rate is established, but then mortgage interest rates do rise to higher than the benchmark, some borrowers would find themselves unable to afford their payments. Those will be individual problems that will need to be addressed individually.

One frequent solution (and this has a long history of successful use) would be to extend amortization periods. Returning to the first example in Table 1:

- If the interest rate rises to 4.64% in five years, then the monthly payment would rise by 20.5%.
- If, however, the amortization period were extended to 30 years, the payment increase would be 6.0%.
- If there had been no income growth, the GDS would rise from the initial 27.9% to 29.2%.
- If, however, income had increased by a moderate amount (10% over five years), the GDS ratio would actually fall, to 27.1% from the initial 27.9%.

Future flexibility on amortization periods would appear to be a useful component of a risk management plan.

Another Issue with Using the Posted Rate

The calculations that will be made for mortgage qualification will use current data (on principal amount, amortization period, and the borrower's income) to estimate conditions that might exist five years in the future. All the three of those conditions will have changed in five years: the remaining principal will have been reduced, the remaining amortization period will have been shortened, and the borrower's income will have changed (hopefully it will have increased). Therefore the estimates are incorrect as to the debt service burden in five years. As an illustration:

- The data in Table 1 shows that using the posted rate of 4.64% rather than the actual market rate of 2.5% raises the estimated payment by 25.3%. In the first example, the actual GDS ratio is 27.9% while the test ratio is 33.3%.
- However, if at renewal in five years the actual rate were to become 4.64%, the actual payment would rise by a smaller amount – by 20.5% (because so much principal is repaid during those five years, if the borrower pays only the required amounts; if the borrower has made any additional payments, the rise in the payment is even less).
- During those same five years, the borrower will in all likelihood have seen some income growth. If income grows by 10%, then the burden of the mortgage payment would rise by about one-tenth. Taking the first example from Table 1, the GDS ratio would rise from the initial 27.9% to 30.0% after the renewal.
- Doing an analysis for five years hence, but using "year 0" parameters, overstates the potential increase in the GDS (and TDS) ratio

Could Posted Rates be Changed?

Another possible solution is that posted rates could fall, reducing the impacts of the stress tests. Since they are not set by the market, lenders could decide to lower them if, for example, they find that they are saying "no" to too much good business. The posted rates are set administratively by the lenders, based on their assessments of what is in their best interests, and their assessments could change.

The challenging question is how will they assess their interests?

- Changing the posted rates will alter the income they receive from pre-payment penalties.
- The posted rate that is published by the Bank of Canada is based on the mode (the most commonly reported figure) among the six largest banks. Therefore, there is no benefit to an individual bank in being the first mover: unless the other banks follow, the first mover will still have to test against the consensus rate.
- In addition, the first mover would expect to be criticized for "subverting" the policy.

In short, self-interested reactions by the banks could conceivably lead to lower posted rates, reducing the negative effects associated with the policy, but this seems unlikely.

When Will We See the Impacts?

History tells us that in the near term there will be gyrations in the housing market data. Even though the new policy takes effect in less than two weeks, there could be a short term bump in sales, and then a setback.

The impacts will take several months to play out, with the length of the adjustment period depending on the evolutions of the different effects. Our first good evidence of the impacts on

sales will be the reports for December and January that are released by the Canadian Real Estate Association at mid-January and mid-February. Then, it will take several more months to see the total impacts.

Price effects will take longer to show up: buyers and sellers need time to make pricing decisions based on the gradually emerging evidence from other sales.

Impacts on mortgage lending will also take time to appear, because the mortgage funds are advanced when the sale is completed not when the sale is agreed, and because there are reporting and publication lags for the data.

Economic impacts will also take time to become visible. Recall that following the July 2012 policy change, the employment-to-population rate flattened six month later, and then the employment rate slid for a prolonged period. Even though that slide started early in 2013, it took some time for the change in the trend to become obvious.

Potential for Unintended Consequences

This major policy change will have its intended consequence of reducing housing activity and mortgage borrowing (although the magnitude is uncertain, and may be substantially larger than is widely expected). There will also be unexpected consequences. We can imagine some:

- Prior to the policy change, the use of the posted rate only for variable rate mortgages and fixed rate mortgage with terms less than five years has provided some incentive for borrowers to go with the longer, fixed rate mortgages. The "levelling of the playing field" will remove that incentive and we could very well see more use of variable rate mortgages and fixed rate mortgage with terms less than five years.
- As discussed earlier, there is a potential for reduced funding and reduced competition, resulting in higher actual interest rates, for both purchases and for mortgage renewals.

Other Shoes Are Still Hovering

There are other policy issues still under discussion.

- The Office of the Superintendent of Financial Institutions ("OSFI") is considering increasing capital requirements related to mortgage assets.
- In addition, the Minister of Finance plans to hold a consultation on a "deductible" for mortgage insurance.
- The premiums for bulk insurance of mortgage loans are slated to increase at the start of 2017.
- OSFI has mused that federally regulated lenders should test all residential mortgages not just at the posted rate, but at still-higher rates.

Each of the first three changes would raise lenders costs and would result in higher interest rates in the market place (affecting borrowers' actual costs, not just the notional costs used in the qualification process).

The fourth potential change (the extension of the stress test to all residential mortgages made by federal regulated financial institutions) would add to the negative consequences for the Canadian housing market and the broader economy.

Regional Impacts

The next table provides a preliminary review of regional conditions and potential impacts of an 8% drop in sales (the first round effect) and a 16% sales reduction (the addition of a second round effect). It focuses on the sales-to-new-listings ratio (or "SNLR"). The SNLR indicates the state of balance in the resale market. The SNLR is a very good predictor of price growth and of future housing starts (which are also influenced by job creation). A high SNLR (and rapid price growth) indicate a need and opportunity to expand the housing stock through new construction.

For each of the provinces, the data includes the average SNLR over the past 12 months (up to August 2016). Then assuming that sales are reduced by 8% and 16%, the actual SNLRs are adjusted. (The 8% factor is the mid-point of the 6-10% range of first round effects). Potential third impacts (due to job losses) and fourth impacts (due to fears that prices will fall) have not been included, but they would be additional. The last column in the table provides the author's estimate of the balanced market thresholds (the SNLRs at which we should expect moderate price growth). Because markets are rarely in an actual state of balance, it can be difficult to estimate the balanced market thresholds (especially for Prince Edward Island), and in some cases the estimated thresholds might be incorrect (in Quebec, for instance).

This table does not address impacts on job creation, housing starts, or conditions in rental housing markets.

Preliminary findings:

- For Canada as a whole, the SNLR is well above its "balanced market" threshold. An 8% reduction in sales would leave the ratio above the threshold. Addition of a second round impact, with sales dropping by a total of 16%, would leave the ratio slightly below the balance market threshold, which would point to a flat average price. However, the actual change in the national average price will depend on the mix of effects across the provinces.
- Newfoundland: the current SNLR is slightly below the threshold, and the price data hints that prices may now be falling. A reduction in sales would add to the risk of price drops. The addition of a second round effect could cause the risk of price reductions to be quite large.
- Prince Edward Island: the current condition appears to be a modest "sellers' market" with moderate price growth. A first round sales drop would most likely result in a flattening of prices and a second round effect might result in price erosion.
- Nova Scotia: the market balance has recently improved and prices have been roughly flat. A first round effect that reduced sales by 8% might be expected to result in continued flat prices. The addition of a second round effect could bring small price reductions.
- New Brunswick: the current state is "balanced", with slight price growth. A first round effect might result in flat prices while the second round effect would bring a risk of price reductions.
- Quebec: despite what appears (statistically) to be a strong "sellers' market", Quebec is currently experiencing only modest price growth. This is at risk of turning to a "buyers' market" with price declines.
- Ontario has a very strong "sellers' market". An 8% drop in sales would still result in price growth, although at a less frantic rate. The addition of a second round effect would still result in overall price growth. But, there would be great variations across the province. The supply-challenged Greater Toronto Area is likely to continue to experience strong price growth while many smaller communities may experience price declines.

- Manitoba: the provincial average price is close to flat, reflecting a market just below the "balanced market" threshold. There is substantial risk of disruption and price declines.
- Saskatchewan: the SNLR indicates a very weak state (although at this time the provincial average price is flat or falling fractionally – a case of "downward stickiness"). A first round drop in sales would be highly risky, as it could overcome that stickiness, there is even greater downward risk from a second round effect.
- Alberta: the SNLR is well below the balanced market threshold (although prices appear to be relatively flat to date). As in Saskatchewan, there is high risk of price declines.
- British Columbia has a very strong "sellers' market", which is centred in the Greater Vancouver Regional District. First and second round effects would, at first glance, not materially affect conditions in the GVRD. However, this would be on top of the 15% foreign buyers' tax in the GVRD. The combination of the tax, plus effects from the new qualification policy, are likely to substantially tame price growth in the GVRD, and might result in price drops in many other areas of the province.

Table 3
The State of Balance in Provincial Resale Markets

Province	*Actual SNLR (past 12 months)*	*Adjusted for*		*Balanced Market Threshold*
		8% Sales Reduction	*16% Sales Reduction*	
Newfoundland	39.1%	36.0%	32.8%	42%
Prince Edward Island	54.9%	50.5%	46.1%	Unknown
Nova Scotia	49.8%	45.8%	41.8%	44%
New Brunswick	44.8%	41.2%	37.6%	43%
Quebec	49.6%	45.6%	41.7%	38%
Ontario	67.3%	61.9%	56.5%	50%
Manitoba	56.8%	52.3%	47.7%	58%
Saskatchewan	39.3%	36.2%	33.0%	54%
Alberta	47.6%	43.8%	40.0%	56%
British Columbia	75.3%	69.3%	63.3%	47%
Canada	60.6%	55.8%	50.9%	52%
Source: calculations by Will Dunning, using data from the Canadian Real Estate Association				

About the Author

This report has been prepared by Will Dunning, the principal of Will Dunning Inc. He has specialized in the analysis and forecasting of housing markets since 1982. This includes 15 years in various market analysis positions at Canada Mortgage and Housing Corporation. In addition to being an independent economic consultant, he acts as the Chief Economist for Mortgage Professionals Canada.

The views expressed here are entirely his own.