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# **Annual State of the Residential Mortgage Market in Canada**

*Prepared for:*

**Canadian Association of  
Accredited Mortgage Professionals**

*By:*

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## **1.0 Introduction and Summary**

Housing played a major role in the recovery from the recession of 2008/09: housing construction, resale market activity, and mortgage lending have contributed directly to job creation. Even more importantly, rising housing values have supported consumer confidence and consumer spending, and thereby led to job creation.

Until recently, housing markets had been stable in most areas of Canada, with resale market activity at healthy (but not exceptional) levels and prices stable or rising at moderate rates. But, since July there has been a sharp downturn in activity, which coincided with a tightening of criteria for federally-backed mortgage loan insurance (the fourth set of changes in four years). Exploring the possible consequences of these changes is a major focus within this report. The opinions being expressed by this author are his own, and are strongly-felt: the changes to mortgage insurance criteria are unnecessarily jeopardizing the health of Canada's housing markets and the broader economy.

This report has been prepared for the Canadian Association of Accredited Mortgage Professionals ("CAAMP") by Will Dunning, Chief Economist of CAAMP. It provides an overview of the evolving state of the residential mortgage market in Canada. Major sections of this report are:

- Introduction and Summary
- Mortgage Choices
- Financial Parameters
- Risks of a Policy-Induced Housing Market Downturn
- Outlook for the Mortgage Market

Data used in this report was obtained from various sources, including an online survey of 2,018 Canadians. Forty-six percent (933 Canadians) were home owners with mortgages and the remainder were renters, home owners without mortgages, or others who live with their families and are not responsible for mortgage payments or rents. The survey was conducted by Maritz (a national public opinion and market research firm) for CAAMP, during October 2012.

### ***Evolving Approaches***

CAAMP has conducted semi-annual consumer surveys since the fall of 2005. The research has a core of data on the residential mortgage market.

But, the contents have evolved over time, as CAAMP has sought to contribute to better understanding of the residential mortgage market. CAAMP has developed new data, to support better decision-making by consumers, lenders and policy-makers.

In this edition of the survey, the substantial addition is commentary on the potential impact of the revised mortgage insurance criteria. This is based on analysis of a very large database of actual high-ratio mortgages (mortgages with loan-to-value ratios that exceed 80%) combined with analysis of housing market trends and economic conditions.

## ***Mortgage Choices***

### *Mortgage Types and Amortization Periods*

For homes that have been purchased recently (during 2012 up to the time of the survey in October), fixed rate mortgages are most popular, with a 79% share of new mortgages. Variable and adjustable rate mortgages have a 10% share; 11% are combination mortgages. This is a significant shift compared to prior years, during which the shares were typically two-thirds for fixed rate mortgages, one-quarter for variable/adjustable rate mortgages, and well under 10% for combination mortgages.

During recent years, mortgages with longer mortgage amortization periods have become increasingly prevalent. For mortgages on homes that were purchased during 2012 to the present, 68% of mortgages have amortization periods of 25 years or less (this is up from 60% in the spring 2012 survey); 32% have extended amortization periods.

The analysis contrasts borrowers' expectations about their repayment horizons with the original contracted horizons. In addition, for home owners who have fully repaid their mortgages, actual amortization periods are contrasted with the original contracted periods. In both analyses, repayment horizons are being significantly accelerated:

- For mortgages that have been repaid during the past two decades, actual repayment periods have generally been only two-thirds of the contracted periods.
- For current mortgages, borrowers are making significant efforts to accelerate repayment, including voluntarily increasing their regular payments, making lump sum pre-payments, and increasing frequency of payments. During the past year, 32% of mortgage borrowers have taken one or more of these actions to accelerate amortization. For recent buyers, expected amortization horizons are about one-fifth shorter than the contracted lengths.

The consumer responses to the survey indicate that during the past year:

- Mortgage borrowers voluntarily increased their regularly payments by a combined amount of \$3.5 billion per year. This is additional to voluntary increases that are being carried forward from prior years.
- Lump sum payments by mortgage holders are estimated at \$20 billion.
- In addition, lump sum payments made at the time of full pay-off of mortgages are estimated at close to \$6 billion.

### *Choice of Mortgage Professionals*

Among borrowers who took out a new mortgage during 2012, 47% obtained the mortgage from a Canadian bank and 47% from a mortgage broker. Other categories of mortgage professionals accounted for 6% of new mortgages.

## ***Financial Parameters***

There are currently about 9.7 million home owners in Canada, of whom about 5.95 million have mortgages. An estimated 3.75 million home owners are mortgage-free, although they may have other forms of debt. The survey data indicates that 2.1 million Canadian home owners owe money on a Home Equity Lines of Credit (“HELOCs”). In addition, there are about 600,000 who have approved HELOCs but have a \$0 balance owing.

### *Interest Rates*

Looking at interest rates, the CAAMP/Maritz data indicates that:

- The average mortgage interest rate for home owners’ mortgages is 3.55%, lower than the average of 3.94% found a year ago.
- For mortgages on homes purchased recently (during 2012 to date), the average rate is 3.26%. For mortgages renewed recently, the average is 3.24%.
- Looking further, for borrowers who have recently renewed a mortgage, the average interest rate is now lower (by 0.65 percentage point) than the rates prior to renewal. Among borrowers who renewed, 61% (about 375,000) saw their interest rate fall, 14% (100,000) saw increases, and 25% (150,000) had no change.
- Mortgage rate discounting remains widespread in Canada. During 2012 to the present, the average actual rate for 5-year (fixed rate mortgages) has been 1.85 percentage points lower than typical “posted” rates.

### *Home Equity*

The CAAMP study asked questions that yielded estimates of home owners’ equity. For all owners, equity is equal to 70% of the total value of the housing. The estimates also divide home owners into four categories, depending on the types of financing on the homes.

- Among home owners who have mortgages (but not HELOCs), on average home equity represents 51% of the value of the homes.
- For owners with both mortgages and HELOCs, the equity ratio is 57%.
- For owners without mortgages but with HELOCs, the equity share is 78%.
- For owners without mortgages or HELOCs, equity is (of course) 100%.

### *Equity Take-Out*

About 6% of home owners (about 600,000) took equity out of their home in the past year. (The fall 2012 survey conducted this analysis for all home owners, whereas prior surveys limited the research to owners with mortgages: therefore, these results should not be compared to prior estimates).

The average amount is estimated at \$49,000. These results imply that the total amount of equity take-out during the past year has been \$30 billion.

The most common uses for the funds from equity take-out are renovation (estimated at \$8.25 billion), followed by \$7.5 billion for debt consolidation and repayment, \$6.5 billion for purchases (including education), \$5.25 billion for investments, and \$2.5 billion for “other” purposes.

### *Impacts of Future Rises in Interest Rates*

Low interest rates in Canada have strongly stimulated housing activity, and consequently resulted in rapid growth of mortgage credit. It is very reasonable to ask – as many have – if consumers will be able to afford their mortgage payments when interest rates inevitably rise.

CAAMP has addressed this important question in several forums, including a special research report (“Revisiting the Mortgage Market – The Risk is Minimal”) published in January 2011. That research concluded that Canadian mortgage borrowers and lenders have been prudent and there is very substantial room to absorb higher interest rates.

In these times – during which expectations of impending rises for mortgage rates have still not materialized more than four years after the fears were first raised – the more pertinent issue has been how mortgage holders have responded to reductions in their interest rates and required payments. This research report (and earlier editions) has found that (in part) the savings are being used to accelerate repayments and shorten amortization periods.

### ***Risks of a Policy-Induced Housing Market Downturn***

The fourth section of this report speaks to the intersection between mortgage lending policies, the housing market, and the performance of the broader economy.

Using a very large database of high-ratio mortgages that were approved and funded during 2010, simulations have investigated potential impacts of several key changes to mortgage insurance criteria (the first page of the fourth section provides a text box that more-fully describes the changes to criteria).

The simulations indicate that the changes will have cumulative negative consequences. For the four key changes that are assessed, the combined impact is that 16.9% of high-ratio mortgages (mortgages that are equal to more than 80% of the value of the property at the time the mortgage is initiated) that were funded in 2010 could not have been funded under the revised criteria. In particular, the final set of changes that was announced in June 2012 and took effect in July will have had the most significant consequences, accounting for about 65% of the impact (11.0% out of 16.9%).

According to the fall 2012 CAAMP/Maritz survey, 55% of home purchases result in high-ratio mortgages. If 16.9% of potential high ratio buyers are removed from the market, this would reduce total home sales by about 9%.

Not coincidentally, activity has recently slowed in resale markets across Canada: during August to October the sales rate was 7.8% lower than in the year prior to the announcement. Furthermore, the analysis concludes that the impacts will become larger: reduced activity at entry levels means that move-up activity will also be gradually impacted, because potential move-up buyers will find it more difficult to sell their current homes.

Affected buyers can become re-qualified to buy homes, by saving larger down-payments. The simulations indicate that on average the additional down-payment required is about \$25,000. If we assume that these households can devote 10% of their pre-tax incomes to enlarging their down-payments, on average it will take 3.5 years to re-qualify – and this assumes that house prices and interest rates do not increase.

Due to the prolonged production process for new homes, it will take quite some time for housing starts to show the consequences of the changed mortgage insurance criteria. Therefore, in order to gauge the impacts of any policy changes it is important to monitor resale housing markets rather than housing starts.

A further delayed impact of the changed criteria will be that vacancy rates in the rental housing sector will ultimately be lower than they need to be and rent increases will be more rapid than would otherwise occur.

The market analysis finds that resale housing markets in Canada have been in balance during the past two years, with prices stable or rising slowly in most communities. Therefore, the emerging (and, most likely, substantial and prolonged) housing market slowdown that is resulting from the changed criteria will tip markets into unbalanced states in which house prices are very likely to fall.

The “housing wealth” effect (the increased confidence, and willingness to spend and invest, that results from rising house prices) is an important driver of job creation. If house prices fall as a result of the changed mortgage insurance criteria, job creation will be affected negatively. There will be a negative “feedback” process between the housing market and the economy. The outcome of this feedback is impossible predict. The US experience has showed us that what starts as a small drop in housing prices can spiral into a dreadful outcome. This report is not concluding that the same will happen in Canada, but it is pointing out that the revised mortgage insurance criteria, by creating a policy-induced housing market downturn, which is likely to be deeper and longer-lasting than is generally expected, is unnecessarily raising economic risks in Canada.

### ***Outlook for the Mortgage Market***

The Canadian housing and mortgage markets experienced strong growth for most of the past decade, mainly due to rapid job creation. While the recession of 2009/09 and its aftermath has caused a slowing of housing activity and reduced the growth rate for mortgage credit, in historic terms, the housing and mortgage markets remain healthy.

Job creation is the key driver of housing demand in the resale market. In turn, the state of the resale market is the key determinant of housing starts. Based on recent trends

and expectations for employment, resale housing activity should be similar to recent trends for some time, but housing starts should slow gradually as a result of the prior downshift in resale markets.

Forecasts (shown in section 5 of this report) from Canada Mortgage and Housing Corporation (“CMHC”) and the Canadian Real Estate Association (“CREA”) appear to assume that the changed mortgage insurance criteria will not have substantial, lasting impacts. This author has concluded the opposite and therefore has more pessimistic expectations for the resale market. However, it will be some time before housing starts are materially affected. Therefore, the CMHC forecast of housing starts is accepted.

The author’s forecasts of mortgage credit growth are based on:

- His expectations that the volume of resale activity will fall from 2011’s \$166 billion to \$164.5 billion in 2012 and \$150 billion in 2013, but then recover partially to \$154 billion in 2014.
- CMHC forecasts housing starts at 213,700 in 2012 (up from 193,950 in 2011) but then fall to 193,600 in 2013. For 2014, which has not been forecast by CMHC, the author expects 170,000 housing starts.

Based on expectations for housing activity:

- The volume of outstanding residential mortgage credit is forecast to continue growing, but at a slower rate than prior to the recession. For 2012, the growth rate is forecast at 6.9% (about \$75 billion), followed by 5.5% growth in 2013 (\$65 billion) and 4.0% in 2014 (\$50 billion).
- The primary cause of mortgage growth is completions of new housing.
- At the end of 2012, the volume of outstanding residential mortgage credit in Canada would be about \$1.19 trillion, and by the end of 2014 the total might be about \$1.3 trillion.

### ***About CAAMP***

CAAMP is the national organization representing Canada’s mortgage industry. With 12,250 mortgage professionals, its membership is drawn from every province and from all industry sectors. This diversified membership enables CAAMP to bring together key players with the aim of enhancing professionalism.

Established in 1994, CAAMP has taken a leadership role in Canada’s mortgage lending industry and has set the standard for best practices in the industry.

In 2004, CAAMP established the Accredited Mortgage Professional (“AMP”) designation to enhance educational and ethical standards for Canada’s mortgage professionals.

CAAMP’s other primary role is that of consumer advocate. On an ongoing basis CAAMP aims to educate and inform the public about the mortgage industry. Through its extensive membership database, CAAMP provides consumers with access to a cross-country network of the industry’s most respected and ethical professionals.

### ***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 CAAMP he operates an economic analysis consulting firm, Will Dunning Inc.

### ***About Maritz***

Maritz Research 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 the largest provider of customer satisfaction research in the United States and a major supplier of brand equity research. In Canada, Maritz Research has been developing marketing research solutions for Canadian clients under the brand Maritz-Thompson Lightstone 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. CAAMP, Maritz, 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 and do not necessarily reflect those of CAAMP or Maritz.

## **2.0 Mortgage Choices**

This section uses data from the consumer survey to highlight consumer choices in the mortgage market. As in prior issues, this section provides data on mortgage types and amortization periods. The survey and analysis look at expectations about actual repayment horizons (in contrast with contracted amortization periods) and the efforts consumers are making to accelerate amortization.

### ***Dimensions of the Mortgage Market***

There are currently about 13.8 million households in Canada<sup>1</sup>, including:

- 9.7 million home owners, of which 5.95 million have mortgages and 3.75 million are mortgage-free.
- Among the 5.95 million owners who have mortgages, about 2.1 million also have Home Equity Lines of Credit (known as “HELOCs”) and 3.85 million have mortgage but not HELOCs.
- Among the 3.75 million home owners without mortgages, about 600,000 have HELOCs and 3.15 million have neither mortgage nor HELOCs.
- In total, about 2.65 to 2.7 million home owners have HELOCs. The survey data indicates that among this group, about 600,000 have no balance owing on their HELOC.
- About 3.15 million home owners who have neither mortgages nor HELOCs.
- There are about 4.1 million tenants.

### ***Mortgaging Activity During 2012***

Combining various data from the consumer survey, it is estimated that during 2012 (up to the time of the survey in October):

- About 525,000 to 550,000 households bought homes. Of these 400,000 to 425,000 took on an associated mortgage (as a new mortgage, a transfer of a mortgage from a property that they owned, or by assuming an existing mortgage).
- About 175,000 to 200,000 Canadian home owners fully repaid their mortgages during the year to date.
- About 625,000 to 650,000 home owners with mortgages renewed or refinanced their mortgages.

### ***Fixed Rate Versus Variable Rate Mortgages***

The CAAMP/Maritz study found that 65% of mortgage holders (3.85 million out of 5.95 million) have fixed rate mortgages, 28% (about 1.7 million) have variable and adjustable rate mortgages, and 7% (about 400,000) have “combination” mortgages, in which part of the payment is based on a fixed rate and part is based on a variable rate. In this edition

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<sup>1</sup> The estimates of households by tenure are based on data from the 2006 Census, updated by this author based on housing completions, changes in vacancies, and for under-coverage (the estimated share of the population that was not counted in the 2006 Census). Data from the 2011 Census will provide an opportunity to update these estimates, once it has been completely released.

of the CAAMP/Maritz study (as in prior surveys) fixed rate mortgages are most popular with people in the youngest age bracket.

<i>Mortgage Type</i>	<i>18-34</i>	<i>35-54</i>	<i>55 +</i>	<i>Total</i>
Fixed-rate	70%	63%	64%	65%
Variable or adjustable-rate	22%	30%	30%	28%
Combination	8%	7%	6%	7%
All Types	100%	100%	100%	100%
Source: Maritz survey for CAAMP, fall 2012; analysis by the author.				

As is shown in the first column of the next table, among mortgages for homes that were purchased during 2012, the distribution has shifted significantly towards fixed rate mortgages. This shift is most likely due to the very small difference between interest rates for variable rate mortgages (which are currently about 3.00% after typical lender discounts) versus five-year fixed rate mortgages (typically 3.2% to 3.3% after discounts). The current spread of about one-quarter of a point is negligible compared to the average of 1.7 points during 2010 and 2011. The current low cost for the certainty of a fixed rate is an incentive to take fixed rate mortgages.

However, for renewals and refinances, choices by mortgage type are similar to those seen in prior years.

<i>Mortgage Type</i>	<i>Purchase During 2012</i>	<i>Renewal or Refinance During 2012</i>	<i>All Mortgages</i>
Fixed-rate	79%	67%	65%
Variable or Adjustable Rate	10%	26%	28%
Combination	11%	7%	7%
All Types	100%	100%	100%
Source: Maritz survey for CAAMP, fall 2012; analysis by the author.			

The CAAMP survey data also investigated the interest rate types prior to the renewal. Among those who renewed during 2012, about 125,000 switched from a variable rate to a fixed rate; about 50,000 switched from a fixed rate to a variable rate. Most of those who renewed during 2012 (about 500,000 out of about 675,000) stayed with the type they already had.

### **Locking-in Mortgage Rates**

The survey found that there has been a considerable amount of “locking-in” (converting from variable rate to fixed rate mortgages). Among the 3.85 million Canadian home owners with fixed rate mortgages, 13% locked in during the past 12 months (about 500,000) and 12% locked in more than a year ago (about 475,000).

Of those who have locked-in during the past year, 41% (or about 200,000) had purchased their homes recently (during 2008 to 2010). This data supports comments by lenders that they have high numbers of new borrowers who start with variable rate mortgages but have now opted for the security of fixed rates.

### ***Feelings About Mortgages***

Home owners who have mortgages were asked how they feel about their current mortgage.

- 69% agreed with a statement that “It’s the best I could have gotten at that time (e.g. best rates and terms, comfort with lender, etc.)”,
- A further 24% agreed that “It’s good, but there are probably better ones out there for me”.
- Just 8% felt “It’s ok, but I definitely could have done better”.
- Only 2% selected the statement “It’s a bad deal and I should have been able to do better”.

Among owners who have taken on a new mortgage or renewed a mortgage during 2012, 78% agreed “It’s the best I could have gotten at that time”.

### ***Mortgage Amortization Periods***

Not all home buyers require mortgages: in the CAAMP/Maritz fall 2012 survey, 14% of all home owners (regardless of when the home was purchased) indicated that they did not require a mortgage when they originally purchased their current home. This 14% rate was repeated for buyers who purchased their homes during 2012.

In this edition of the survey, home owners who had a mortgage at the time of the original purchase were asked several questions related to mortgage amortization, firstly to profile their choices. But, more importantly, information has been obtained on the extent to which consumers have accelerated repayment of their mortgages.

- Mortgage holders were asked when they expect to have their mortgages repaid. This data is used to compare their current expectations to the original amortization periods.
- For home owners who no longer have mortgages, data was collected on actual amortization periods, which were compared to the original contracted periods.
- In the next section (on payment increases and lump sum payments), information is obtained on actions taken by mortgage borrowers to shorten their amortization periods.

Among home owners who still have a mortgage, a minority (21%) have amortization periods of more than 25 years, as is shown in the first column of the table below. The share has increased during the past half decade due to the availability of longer term mortgages: the second column of data shows the distribution for homes that were purchased during 2012. This data indicates that the majority of new mortgages (68%) have standard 25-year amortization periods and 32% have extended amortization.

<i>Amortization Period</i>	<i>All Home Owners With Mortgages</i>	<i>Homes Purchased During 2012</i>
Up to 25 Years	79%	68%
More Than 25 Years	21%	32%
Including...		
26-30 years	14%	32%
31-35 years	6%	0%
36-40 years	1%	0%
Total	100%	100%
Source: Maritz survey for CAAMP, fall 2012; analysis by the author.		

Until the fall of 2008 the federal government guaranteed new mortgages with amortization periods up to 40 years, but in steps federal guarantees have been withdrawn so that (as of July 2012) the maximum amortization period is 25 years. This gradual retrenchment of allowable amortization periods explains why no recent buyers have amortization periods greater than 30 years. In future, unless the policies are revisited, the shares of mortgages with extended amortizations will begin to fall. The fourth section of this report (“Risks of a Policy-Induced Housing Market Downturn”) provides a comprehensive analysis of the potential impacts of the elimination of extended amortizations. The analysis concludes that with the final step (in July of this year) there is a possibility of significant negative impacts on Canada’s housing markets.

Returning to the CAAMP/Maritz survey, the mortgage borrowers were asked when they expect to have their mortgages paid off. This data was used to calculate what the actual amortization periods might be. The next table contrasts these estimates with the original amortization periods. Concentrating on buyers who purchased during the past decade (in year 2003 or later) and who still have mortgages, it shows:

- The original (contracted) mortgage amortization periods were longest in the middle of the period<sup>2</sup> (shown in the first column of data).
- But, expected total amortization periods did not increase as much (second column).
- Therefore, the amount of “acceleration” (third column) has increased.

<i>Year of Purchase</i>	<i>Original Amortization Period</i>	<i>Current Expected Period</i>	<i>Change</i>
2003-2006	20.5	18.7	-1.8
2007-2009	24.5	19.9	-4.6
2010-2012	23.2	18.6	-4.6
Source: Maritz survey for CAAMP, fall 2011; analysis by the author.			

<sup>2</sup> The selection of the intervals for “Year of Purchase” was based on the distribution of purchase dates, in order that roughly one-third of the sample was included in each of the three periods.

An even more focused analysis looks at a small subset: mortgages for homes purchased during 2008 to the present, with extended amortization periods. This data indicates that the average current expectation for amortization periods (23.1 years) is considerably shorter than the original (contracted) periods (31.8 years). The expected shortening (8.8 years) amounts to 28% of the original contracted period.

Possible interpretations (which are intertwined) for these findings are:

- These borrowers do not intend to have their actual amortization periods extend for the full contracted periods.
- They are acting aggressively to repay their mortgages (data shown below – on payment increases and lump sum pre-payments – supports this interpretation).
- Borrowers are taking prudent advantage of current low interest rates – they are leaving themselves considerable amounts of budgetary room, which they can use to accelerate repayment and/or to accommodate future rises in interest rates. CAAMP’s other research, including the January 2011 report “Revisiting the Mortgage Market – the Risk is Minimal”, provides considerable support to this interpretation.
- Borrowers who choose extended amortization periods are often acting to give themselves flexibility to manage future uncertainties, rather than out of need. Again, CAAMP’s prior research, especially the data on debt service ratios that is contained in the “Revisiting” report, supports this interpretation. The analysis in section 4 of this report (“Risks of a Policy-Induced Housing Market Downturn”) further supports this suggestion, as it shows that most borrowers would be able to qualify for their current mortgages after one shortening (by five years) of allowable amortization periods, but that a second or subsequent shortening would mean that considerably larger numbers of borrowers could no longer qualify.

This section ends with survey data on mortgages that have been repaid. It shows that for mortgages that were repaid during the 1990s and into the present, the actual periods were considerably shorter than the original contracted periods. The final column of data indicates that typically the actual amortization periods have been only about two-thirds of the contracted periods.

<i>Year Mortgage Paid off</i>	<i>Original Amortization Period</i>	<i>Actual Amortization Period</i>	<i>Change</i>	<i>Actual as % of Original</i>
1990s	18.3	12.0	-6.3	65%
2000-2003	16.8	11.5	-5.3	68%
2004-2007	13.5	9.6	-3.8	72%
2008-2012	14.5	9.5	-5.1	65%

Source: Maritz survey for CAAMP, fall 2012; analysis by the author.

### **Payment Increases and Lump Sum Payments**

In recent editions, the CAAMP/Maritz survey has investigated the extent to which mortgage borrowers are making efforts to accelerate repayment of their mortgages. In the fall 2012 survey, mortgage holders were asked “In the past year, did you accelerate

your mortgage payments?” Three options were offered: increasing regular payments, making lump sum payments, and increasing payment frequency, as well as a fourth option: “none of these”. The survey responses indicate that significant minorities of mortgage borrowers have taken advantage of these options, which will shorten the repayment horizons for their mortgages:

- 16% of mortgage holders have voluntarily increased their monthly payments during the past year. Further analysis shows that among those who renewed their mortgages during 2011 or 2012, 25% voluntarily increased their payment: most of those who have renewed have seen a drop in their interest costs, and many are devoting at least part of the saving to accelerate their amortization.
- 15% have made a lump sum contribution to their mortgage in the past year; among those who renewed during 2011 and 2012, 11% made a lump sum payment.
- Relatively few mortgage holders (6%) have increased their payment frequency.
- In combination, 32% of mortgage holders have taken one more of these actions in the past year. Among those who have renewed mortgages during 2011 or 2012, 37% have done so.
- The highest share is found among mortgage holders who purchased during 2004 to 2008: not only have they had the advantage of falling interest rates at renewal, they have also, in most cases, seen income growth that allows them to increase their mortgage repayment efforts.
- For those who have purchased most recently (2009 to the present), the share who are making additional repayment efforts is slightly below the overall average.
- Out of about 5.95 million mortgage holders in Canada, about 1.9 million have made additional payment efforts during the past year.

<i>Period of Purchase</i>	<i>Increased Payment</i>	<i>Made Lump Sum Payment</i>	<i>Increased Payment Frequency</i>	<i>Combined - At Least One of These Efforts</i>
Before 1990	7%	8%	3%	13%
1990-1999	16%	12%	9%	31%
2000-2003	13%	13%	5%	27%
2004-2008	23%	18%	8%	41%
2009-2012	13%	14%	5%	29%
Total	16%	15%	6%	32%
Estimated share of 5.95 million mortgage holders	975,000	875,000	375,000	1,900,000

Source: Maritz survey for CAAMP, fall 2012; analysis by the author.

The survey also collected data on the dollar amounts of these voluntary additional efforts, and various survey data can be combined to calculate total amounts.

- For those who voluntarily increased their regular payments during the past year, the average amount of increase was in the range of \$300 per month. Out of about 5.95 million mortgage holders, about 975,000 voluntarily increased their payments. This results in a combined amount of about \$3.5 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 are contributing further to accelerated repayment.

- Lump sum repayment by mortgage holders averaged about \$22,500. About 875,000 made these payments, resulting in a combined repayment estimated at \$20 billion.
- In addition, the survey asked home owners without mortgages when they had repaid the mortgage, and those with recent repayment dates were asked what amounts, if any, of lump sum payments had been made during the last year of the mortgage. The survey data indicates that about 200,000 have repaid their mortgage during the past year. They made average lump sum payments of \$29,000. Combining data, the total amount of this activity was close to \$6 billion.

This snapshot portrays activity during a short period of just 12 months. It seems very reasonable to assume that over longer periods similarly substantial percentages of mortgage borrowers will take these actions to shorten their repayment periods.

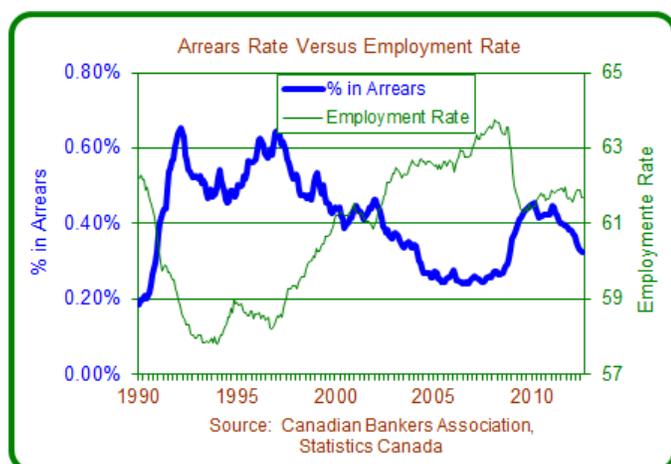
During the past few years there have been many expressions of concern about the use of extended amortization periods. The data presented in this report hints strongly that over time a large share of the borrowers will use increases in their incomes to expeditiously retire their mortgages. This should lessen concerns about the riskiness of extended amortizations.

### ***Mortgages in Arrears***

The Canadian Bankers Association generates data on mortgage arrears at 7 major banks (showing mortgages that are three or more months in arrears). The data shows that there was a rise in mortgage arrears during the recession, although the rate of arrears did not increase as sharply as it did during the recession of the early-to-mid-1990s. The most recent rate (0.33% as of August) has fallen for 19 consecutive months and is approaching the record low of about 0.25% seen prior to the recession. The current rate is not worrisome.

In the Canadian context, most mortgage defaults are due to reduced ability to pay, especially including job loss, but also income reductions due to reduced hours or reduced hourly pay rates. Marital breakdown is also a cause of financial difficulty (this might usually fit into the category of reduced ability to pay).

The chart to the right illustrates the importance of changes in the employment situation. It contrasts the arrears rates with the Canadian “employment rate” (not to be confused with the unemployment rate – this data shows the percentage of adults who are employed). The history of this data shows very clearly that changes – up or down – in the employment rate are followed several months later by changes in the arrears rate (in the opposite direction). The chart suggests that job losses that occurred during the recession of 2008-09 were the primary cause of the rise in mortgage arrears: a sharp drop in the



employment rate was followed by a rise in the arrears rate. The roughly flat employment rate since the end of the recession means that jobs have been created at about the same rate as the population is growing. This has allowed consumers to repair their finances, and has brought a substantial recovery of the arrears rate. The future path for arrears will be highly influenced by economic trends, and particularly by the rate of job creation, and by housing market conditions.

### ***Types of Mortgage Representatives Consulted***

Mortgage holders were asked which types of mortgage representatives they consulted when obtaining their current mortgages and, secondly, through which type of mortgage representative they obtained their mortgage.

For all current mortgages (regardless of when they were obtained), 58% were obtained from a bank, 25% from a mortgage broker, 12% from a credit union, 2% from a life insurance or trust company, and 3% from an “other” source.

The table below focuses more narrowly, on consumers who obtained their current mortgage during 2012 (either a new mortgage or a renewal of an existing mortgage).

The table shows shares for new mortgages separately from mortgages that have been renewed, renegotiated, or transferred. The second data column shows that for new mortgages, 47% were obtained from a bank, 47% from a mortgage broker, and 6% were obtained from other types of mortgage representatives. The fourth data column shows that for mortgages that were renewed, 70% were obtained from a bank, 15% from a mortgage broker, and 15% were from other types of representatives.

<i>Type of Mortgage Representative</i>	<i>New Mortgage</i>		<i>Renewal</i>	
	<i>Consumer Consulted Mortgage Professional</i>	<i>Obtained Through Mortgage Professional</i>	<i>Consumer Consulted Mortgage Professional</i>	<i>Obtained Through Mortgage Professional</i>
Mortgage Representative from a Canadian Bank	67%	47%	79%	70%
Mortgage Broker	61%	47%	27%	15%
Mortgage Representative from a Credit Union	24%	3%	17%	12%
Mortgage Representative from a Life Insurance or Trust Company	14%	0%	2%	0%
Other	5%	3%	5%	2%
Total	172%	100%	130%	100%

Source: Maritz survey for CAAMP, fall 2012; analysis by the author.

### 3.0 Financial Parameters

#### Interest Rates

The CAAMP/Maritz found that the current average mortgage interest rate in Canada is 3.55%, down from the 3.92% average found a year ago, and an average of 3.64% this spring. Very few mortgages in Canada have high interest rates (less than 1% of mortgage rates exceed 8%).

The table looks at average mortgage interest rates by mortgage type, for all mortgages and for two subsets: mortgages for homes purchased during 2012 (up to the time of the survey in October) and mortgages that were renewed during the same period.

- Mortgages that have been initiated or renewed during the past year have, on average, lower interest rates compared to all mortgages.
- Interest rates vary depending on mortgage type, with fixed rate mortgages having higher rates than for variable/adjustable mortgages. For recent mortgages (the second and third lines of data), the average spreads between fixed and variable/adjustable rates are quite small, at less than 0.2 points.

	Mortgage Type			All Types
	Fixed-rate	Variable or Adjustable Rate	Combination	
All Mortgages	3.78%	2.96%	3.64%	3.55%
Purchases During 2012	3.24%	3.07%	3.32%	3.23%
Renewals During 2012	3.31%	3.16%	3.09%	3.26%

Source: Maritz survey for CAAMP, fall 2012; analysis by the author.

The survey asked those who renewed a mortgage during 2012 what the interest rate was prior to renewal, and those rates have been compared to the mortgage borrowers' current rates. The results are summarized in the next table. Among borrowers who have renewed a mortgage this year, almost three-quarters had a reduction in their interest rate and about one-fifth had an increase. On average, for all mortgages renewed during that period, the interest rate was reduced by 0.65 percentage points.

Change in Interest Rate	Fixed-rate	Variable or Adjustable Rate	Total
% with Rate Decreased	71%	30%	61%
% with Rate Unchanged	22%	36%	25%
% with Rate Increased	7%	34%	14%
Total	100%	100%	100%
Average Change in Interest Rate (percentage points)	-0.87	0.00	-0.65

Source: Maritz survey for CAAMP, fall 2012; analysis by the author.  
Note: estimates are not available for combination type mortgages due to small sample size.

Combining the various estimates developed in this study:

- Out of 5.95 million home owners who have mortgages,
- About 625,000 to 650,000 have renewed their mortgages during 2012.
- About 375,000 to 400,000 have seen their mortgage rates fall.
- About 150,000 had no change in their interest rate.
- 75,000 to 100,000 had their rates increase. For many of these households, the increases in monthly mortgage payments may be significant, but in the Canadian housing market, with 9.7 million home owners, this is an insignificant change.

The data from this study indicates that very few mortgage borrowers have been negatively affected by increases in interest rates for their mortgages.

### ***Mortgage Rate Discounting***

The average mortgage interest rate reported here (3.78%) for fixed rate mortgages is well below the typical posted (advertised) rates that have been available this year. For 2012 up to the time of the survey, posted rates for five year terms have averaged 5.28%<sup>3</sup>. 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 full range of lengths of term to renewal, fixed rate versus variable rate mortgages, and the mortgages 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:

- Mortgages that were initiated, renewed, or refinanced since the beginning of 2012.
- With fixed rates, rather than variable rates.
- With 5-year terms.

For this group of mortgage borrowers:

- For those mortgages, the average mortgage interest rate is 3.43%. In contrast, the average posted 5-year mortgage rate was 5.28%. Based on this data, negotiated mortgage rate discounts averaged 1.85 percentage points (for 5-year terms).
- Within this dataset, most of the borrowers (all but one) received a discount of 1.25 percentage point or more versus the average posted mortgage rate.

### ***Housing Equity***

Data from the consumer survey has been used to generate estimates of home equity in Canada. The equity amounts have been calculated by comparing the value of owner-occupied homes in Canada with the associated mortgages and home equity lines of credit (known as "HELOCs").

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<sup>3</sup> Source: For posted rates, data are obtained from the Bank of Canada, using "Conventional mortgage" rates (estimated as of each Wednesday).

Based on data from the 2006 Census, updated using data on completions of new housing, the author estimates that there are currently about 13.8 million occupied dwellings in Canada. Of these, about 9.7 million are owner-occupied, including about 5.95 million with mortgages and 3.75 million without mortgages. CAAMP's fall 2012 survey data has been used to further refine the estimates across four categories, which are shown in the second last line of the table.

As is shown in the last line of the table, the CAAMP/Maritz survey indicates that home owners in Canada have equity equivalent to 70% of total housing value, which leaves a debt ratio of 30% of total value.

Most Canadian home owners have considerable amounts of home equity. In total, about 3% of home owners (about 300,000 out of 9.7 million) have equity ratios of less than 10%. This includes a very small percentage of owners (less than 1%, and less than 100,000) who are estimated to have negative equity. Among home owners who have mortgages (with or without an additional HELOC), 5% have less than 10% equity. A further 10% of Canadian home owners (just under one million) have equity in the range of 10% to 24.99%. This leaves 87% of Canadian home owners (about 8.4 million) with 25% or more equity. Even among the 5.95 million home owners who have mortgages (with or without a HELOC), 78% have equity ratios of 25% or higher. Among the 600,000 home owners who have a HELOC but no mortgage, all have 25% or more equity. Among owners who have HELOCs but not mortgages, 6% have a nil balance owing on their HELOC, and therefore they have 100% equity.

<i>Equity as Percentage of Home Value</i>	<i>Mortgage Only</i>	<i>Mortgage and HELOC</i>	<i>HELOC Only</i>	<i>Neither Mortgage Nor HELOC</i>	<i>Total</i>
negative equity	1%	2%	0%	0%	1%
0-4.99%	2%	1%	0%	0%	1%
5-9.99%	2%	2%	0%	0%	1%
10-14.99%	7%	2%	0%	0%	3%
15-24.99%	12%	10%	0%	0%	7%
25-49.99%	29%	30%	16%	0%	19%
50-74.99%	29%	34%	25%	0%	20%
75-99.9%	19%	17%	54%	0%	15%
100%	0%	0%	6%	100%	33%
Total	100%	100%	100%	100%	100%
Number of Households	3,850,000	2,100,000	600,000	3,150,000	9,700,000
Average Equity Ratio (%)	51%	57%	78%	100%	70%

Source: Maritz survey for CAAMP, fall 2012; estimates by the author.

### **Equity Take-out**

The survey data indicates that about 600,000 home owners (6% of all home owners)<sup>4</sup> took out equity from their homes or increased the amount of the mortgage principal

<sup>4</sup> In prior reports, this section of the survey focused on owners with mortgages only. Since the fall 2012 survey covered a broader population, the current estimates cannot be compared to prior reports.

within the past twelve months. The average amount of equity take-out is estimated at \$49,000. Combining these estimates, the total amount of equity take-out during the past year is calculated as \$30 billion. For the households that took out equity, the average current value of the homes is about \$440,000. Therefore, these households took out about 11% of the value of their homes. Expressed as a percentage of the value of all owner-occupied homes (\$3.37 trillion), the take-out is estimated as less than 1%.

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:

- \$7.5 billion (25%) of the money would be used for debt consolidation or repayment.
- \$8.25 billion (28%) would be used for renovation.
- \$6.5 billion (22%) would be used for purchases (including spending for education).
- \$5.25 billion (18%) is for investments.
- \$2.5 billion (8%) is for “other” purposes.

### ***Impacts of Future Rises in Interest Rates***

During the past four years, there have been concerns that when interest rates “inevitably” rise, consumers will be unprepared, resulting in unaffordable rises in mortgage interest costs. This has been expressed repeatedly by senior government officials and the economics profession.

CAAMP has contributed to the discussion, through semi-annual research reports and with two editions of a special report “Revisiting the Mortgage Market” that were published in January 2010 and January 2011. Readers with an interest in this topic are strongly encouraged to view those reports, which are available at the CAAMP website. Through analysis of large datasets of individual mortgage transactions the January 2011 report found that the vast majority of these borrowers are positioned to afford payment increases that would result if interest rates rise to a 5% rate.

In addition, data generated by this fall 2012 consumer survey has yielded some additional findings. As was discussed in an earlier section, substantial shares of mortgage borrowers have voluntarily increased their regular payments and/or made lump sum payments. These payments reduce their potential amortization periods to less than the contracted periods. It means that if interest costs increase to unaffordable levels, the borrowers can often reduce their payments (within the limits imposed by the contracted amortization period).

Finally, the timing of interest rate increases remains uncertain. We have been talking about “inevitable” rises in rates since at least September 2008. The expectations of economists remain mixed, with about one-half expecting gradual increases during the coming year (perhaps by one percentage point in total from current levels) and about one-half expecting no increases for at least a year. It appears unlikely that borrowers will face large rises in interest rates anytime soon.

## **4.0 Risks of a Policy-Induced Housing Market Downturn**

During the past four years, four sets of changes have been made to criteria for federal government backed mortgage insurance in Canada. Some of those changes have reduced risk. For example, the elimination (in 2008) of mortgage insurance for no-down-payment mortgages means that new home-owners start with a significant stake in their homes, and they have demonstrated that they have enough financial discipline to save the down-payment. However, in combination, the four sets of changes are a very substantial tightening of the terms on which high ratio mortgage lending occurs within the Canadian home ownership sector.

### **4 Sets of Announcements – Criteria for Federally-Backed Mortgage Loan Insurance**

#### 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

#### February 2010

- Borrowers with variable rate mortgages or fixed rate mortgages with terms less than 5 years to 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

#### 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

#### 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

There is now a risk that the combined impacts of these four sets of changes will reduce housing activity in Canada. During the past two years, housing markets in much of Canada have been in balance, with sales activity at moderate levels and prices generally stable. Further slowing of housing activity as a result of these policy changes risks tipping the housing markets into unbalanced conditions, in which prices start to fall. Experience around the world has shown that once house prices start to fall, the outcome is unpredictable, and can turn into a downward spiral that wreaks substantial economic damage.

Growth of housing values is an important determinant of job creation: rising house prices are good for consumer and business confidence, and encourage spending and investment. The responses to growth in housing values tend to be gradual: we need to become confident that the increased values are durable before we act on them. Conversely, a fall in house prices leads to negative reactions, but a key difference is that we tend to react quite rapidly to reductions in housing values. These different patterns of response can be called “asymmetry”. We saw evidence of this asymmetry during the recession of 2008/09, when employment fell very sharply in Canada (and the US) in response to drops in housing values and stock markets.

In Canada, housing prices soon began to rise again, which meant that our recession was moderate in both depth and duration. In the US, on the other hand, a large and persistent drop for house prices resulted in a very deep and prolonged recession.

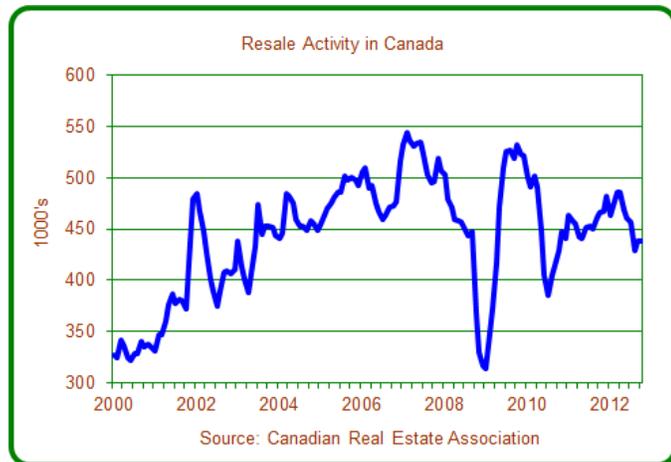
The 2008/09 experience demonstrates that once house prices start to fall, there can be a “feedback process” in which lower prices result in lower employment. It can happen that the loss of jobs affects housing demand, leading to further price drops and a vicious downward spiral. This was seen in the United States and has resulted in five years of economic stagnation, at tremendous cost to millions of Americans.

In an earlier research report (*“Employment Impacts of Housing and Mortgage Activity”*, released in February 2012), CAAMP concluded that during 2006 to 2011, 18% of job creation in Canada occurred as a result of housing and mortgage activity. A reduction in housing and mortgage activity would turn this economic contribution into a negative.

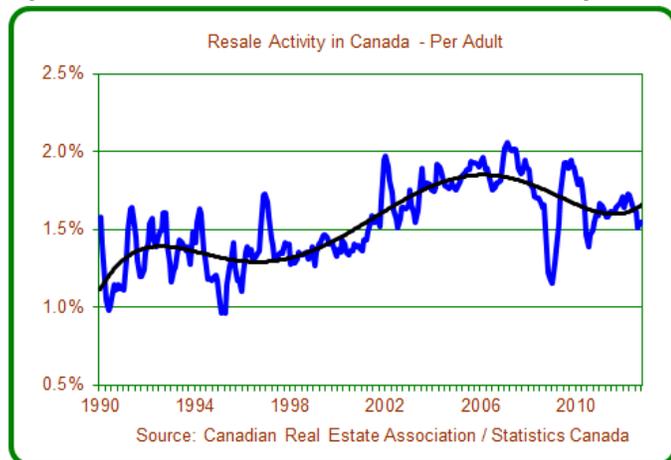
Resale housing market activity has slowed sharply since the fourth set of mortgage insurance changes took effect in July 2012. At this time, we can’t say with certainty that the changes in the rules caused the slowdown. But, evidence is presented below which leads this analyst in the direction of a conclusion that this fourth set of changes will have significant negative impacts on housing activity, and that this is raising risks for the Canadian economy. But, first, we look at housing market trends.

### ***Evolving Housing Markets***

The chart to the right summarizes data from the Canada Real Estate Association (“CREA”) on resale market activity across Canada. During and after the recession of 2008-09, activity was volatile, but it has been more stable during the past two years. Recent activity is lower than prior to the recession, but higher than a decade ago. These housing market events can be explained relatively simply.



We should expect that resale market activity will rise each year. The population is growing and therefore the number of potential home buyers is rising; secondly, the existing housing inventory is expanding as a result of construction of new dwellings, and therefore there is growth in potential supply of resale homes. In consequence, this author finds it useful to look at housing in relative terms, as a percentage of the population, and then to assess how activity is performing relative to the population-based potential. The chart to the right compares numbers of sales (as reported by CREA) to the number of adults in Canada (people aged 15 years or older, as is estimated monthly in Statistics Canada’s Labour Force

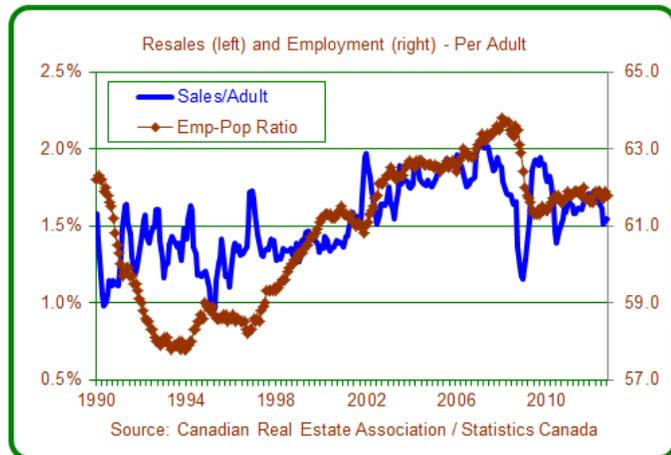


Survey). The data in the chart has some volatility. Therefore, a solid black trend line has been added. The finding in this chart is that on a per adult basis, resale activity is weaker than it was prior to the recession: during the past 24 months, the average rate of sales per adult was 1.63%; during the strong market of 2005 to 2007 the average was 1.90%. Thus, the recent sales rate is 14% lower than pre-recession. The recent sales rate is about the same as in 2002, and is higher than the trend rate prior to 2002: the average sales rate for 1990 to 2001 was 1.36%. Thus, the current sales rate is 20% higher than was seen prior to 2002.

The key driver of housing demand is job creation, which gives people the confidence and ability to make housing choices, including renting and home ownership. Typically, people do not get a new job and then immediately buy a home. It takes time to prepare, to save for a down payment, to make housing decisions, and often to make other life decisions that influence housing needs and choices. Therefore, when employment rises, the consequences are seen gradually in the housing market. On the other hand, when employment weakens, potential buyers can withdraw very rapidly from the market, as we saw in the fall of 2008, when housing activity fell abruptly in reaction to negative economic signals.

This author prefers to look at employment and trends in employment using the “employment-to-population ratio” (sometimes called the “employment rate”). When the employment rate is flat, it means that jobs are being created at the same rate as the population is growing; if the employment rate is growing, jobs are being created even faster than the population is growing; conversely, a falling employment rate means that job growth is slower than population growth or (occasionally) that jobs are being lost.

The chart to the right contrasts the employment rate with the rate of resale market activity (per adult). This chart confirms the theory that changes in employment are a key driver of resale market activity.

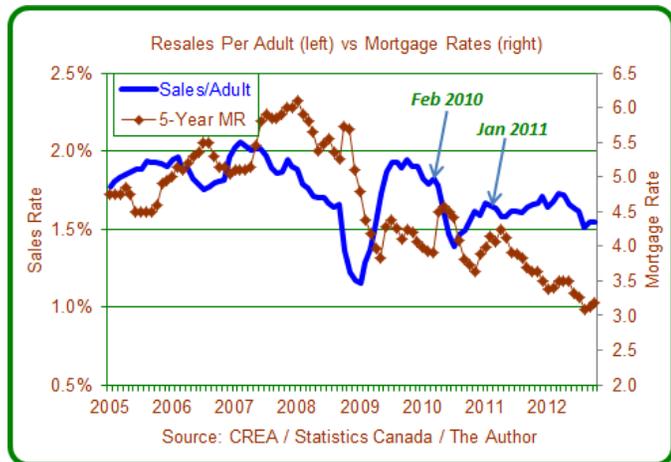


- The employment rate started to rise late in the 1990s, and was followed several years later by a more gradual rise in the housing sales rate.
- The employment rate peaked during 2006 to 2007, at the highest rate ever seen in 35 years of data; correspondingly, the home sales activity rate reached its highest ever peak.
- Subsequent to the recession, the employment rate has been below the peak level, and so has the home sales rate.
- During the past two years, the employment rate has been roughly stable and so has the sales rate.
- But, the employment rate is higher now than it was prior to 2002. Correspondingly, the home sales rate is higher than pre-2002.

But, during the past three months, the sales rate has dropped substantially: during August to October the sales rate (1.53%) was 7.8% lower than the rate seen in the 12 months prior to June 2012 (1.66%). This is despite the fact that there have been no negative changes for the employment rate or other economic factors that influence housing demand (such as mortgage interest rates). What has changed is that criteria for federally-backed mortgage insurance have been tightened for the fourth time in four years. This data from the market provides us with a hint – but not proof – that the combined changes have now become significant enough to substantially reduce housing activity. Analysis of data from actual mortgages (to be developed shortly) provides further evidence, which leads this analyst to conclude that the case is proven.

A further, critical question is whether the policy-induced reduction of housing activity will be short-lived or persistent, which we will now consider.

Some analysts have commented that prior changes to mortgage insurance criteria have resulted in market slowdowns, but these were short-lived and activity soon returned to “normal”, implying that there were no long-term consequences for the changes. In the chart to the right, symbols are used to draw attention to the dates for the second and third sets of changes. There was clearly a sharp market slowdown after the second set of changes:



the changes were announced in February 2010 and took effect that March. But, the sharp decline in sales occurred mostly during May and June. Moreover, the slowdown coincides even more closely with a rise in mortgage rates, which started late in March – by late April rates for 5-year mortgages had increased by three-quarters of a percentage point. The recovery of sales that began during the summer coincides with drops in mortgage interest rates, which fell to below their prior level. But, sales remained at a lower level than prior to January. Thus, two major factors (the changes in the mortgage insurance criteria and the changes in mortgage interest rates) occurred at about the same time. Based on the timing of changes for the two factors and the changes in the housing market, it appears that the movements of mortgage rates were more important than the changes in the mortgage insurance criteria. But, given that sales failed to return to their prior level, it might also be argued that the changes in the mortgage insurance rules that were announced in February 2010 caused sales to fall to a permanently lower level: this analyst is not yet prepared to fully endorse that conclusion, but a later simulation (on pages 30-31) using mortgages from 2009 indicates that for those borrowers, there would have been negative impacts if the new criteria had been in effect. Thus, it now appears that the 2010 changes had a lasting negative effect.

As for the changes announced in January 2011, this analyst is unable to see any subsequent, meaningful change in housing market activity. The small changes in the sales figures that occurred at that time can be interpreted as the consequence of interest rate movements.

In short, this analyst does not agree with others who have asserted that changes in mortgage rules have only short-term impacts on housing activity – it is possible, based on the data that has just been reviewed, that there have been long-term consequences from the second set of changes that took effect in March 2010.

Secondly, from a theoretic perspective, we should expect that making mortgage credit less available will reduce housing activity.

Thirdly, data developed in the next section hints very strongly that in combination the four sets of changes to the mortgage insurance criteria have resulted in a massive contraction in credit availability. The fourth set of changes, on top of the prior changes, has the potential to cause a substantial negative impact on housing activity.

There is a bigger and more important question that cannot yet be answered (with a high degree of certainty) – to what extent will this policy-induced housing market downturn harm the Canadian economy?

### ***Some Evidence from the Mortgage Market***

In January 2010 and again in January 2011, CAAMP published research (“*Revisiting the Mortgage Market*”) that used large databases of actual mortgages to simulate the consequences of rising mortgage interest rates on borrowers’ debt service costs.

The databases can be used to simulate impacts of other changes, such as changes to amortization periods, interest rates used in qualifying potential borrowers (evaluating their ability to afford their payment obligations), and maximum debt service ratios.

In this report, the dataset for the 2011 “*Revisiting*” report is now being used to simulate consequences of key changes that have been introduced by the federal government.

The dataset was provided by members of CAAMP. It includes detailed data on about 59,000 mortgages that were approved and then funded during 2010. The vast majority of these (97%) have loan-to-value ratios of 80% or higher. The average loan-to-value ratio is 92%. As such, this database closely resembles the mortgages that have been targeted by the changes to the federal mortgage insurance criteria.

The analysis has been conducted in several steps, estimating the consequences for total debt service (“TDS”) ratios that result from incrementally reducing maximum amortization periods to 30 years and 25 years, and also of implementing revised rules for determining “qualifying” interest rates. In this section, a summary of the analysis shows to what extent each of these three criteria would cause the mortgage borrowers to exceed the maximum TDS ratio of 44%<sup>5</sup>.

A second step of analysis has estimated, for loans for which the revised mortgage insurance criteria would cause TDS ratios to exceed 44%, how much additional down-

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<sup>5</sup> While the 44% threshold was applied to all of the loans, for some borrowers with low credit scores the threshold would be 42%. Use of a 44% threshold for all loans means that the simulations under-estimate the impacts of the changed criteria.

payment would be required to reduce the TDS ratio to the 44% threshold. Then, calculations were made of how long it would take the borrowers to save the required additional down-payments (assuming that they can devote 10% of their pre-tax income to that purpose, and that house prices, interest rates, and incomes do not change).

The following table summarizes the simulated impacts on TDS ratios. The first column of data shows that for the mortgages (as originally approved), 1.6% of the borrowers had TDS ratios above 44% (based on the applicants' information and with the calculations made in support of the lending decisions).

- The first key change that is simulated is the setting of the maximum amortization period at 30 years (announced in January 2011 and taking effect that March). After recalculating monthly payments for mortgages with original amortization periods that exceeded 30 years, 5.7% of the mortgages would have TDS ratios above 44%. The incremental change (4.0% of the mortgages) would presumably represent mortgages that could no longer be funded, unless the borrowers could increase their down-payments or take other actions to reduce their TDS ratios to below the 44% threshold.
- The second simulation considers the reduction of the maximum amortization period to 25 years (announced in June 2012, taking effect in July). In this simulation, 16.7% of the mortgage borrowers would have TDS ratios above 44%, an incremental change of 11.0 percentage points compared to the simulation with 30 year amortization.
- The third simulated change (a change in the criteria by which “qualifying interest rates” are determined, which took effect in 2010) has a smaller impact, an incremental change of 1.8 percentage points.
- In total, these three major changes in criteria would cause 16.9% of the borrowers to have their TDS ratios move above the 44% threshold.
- The greatest impact is from the shortening of the maximum amortization period to 25 years, which took effect in July 2012.
- This begins to explain why we see a substantial drop in resale market activity that coincides with this change, but that impacts of earlier changes were much less visible.

The table below provides more detail (based on the amortization periods for each of the mortgages). A subsequent table further explores the data.

Original Amortization Period	Mortgage as Issued	Change in Criteria			
		Max. 30 Year Amortization	Max. 25 Year Amortization	Qualifying Interest Rates	Total Change (in Percentage Points)
25 Years or Less	0.9%	0.9%	0.9%	1.6%	0.8%
25.01 to 30 Years	1.1%	1.1%	5.7%	7.0%	5.9%
30.1 to 35 Years	1.9%	7.5%	22.4%	24.6%	22.7%
More than 35 Years	6.9%	13.9%	29.2%	31.9%	25.0%
Total	1.6%	5.7%	16.7%	18.5%	16.9%

Source: Estimates by the author

The table above shows that the impacts are greatest for mortgages with the longest amortization periods (more than 35 years – the incremental impact of the three sets of changes is that 25.0% of these borrowers would move from having a TDS ratio of 44%

or less to more than 44%). However, in the dataset there are very few mortgages with amortization periods longer than 35 years, and the overall consequence is negligible.

The second greatest incremental impact is for mortgages that have original amortization periods from 30.1 years to 35 years (22.7% of these borrowers would have their TDS ratios pass above the 44% threshold). This is a much more significant finding because this category contains a large share of the mortgages.

The table below is derived from the simulations. It expresses the incremental changes as percentages of all of the mortgages in the dataset. Thus (as is shown in the last data element in the table), in total, 16.9% of all of the borrowers would have their TDS ratios rise from 44% or less to more than 44%, as the combined result of the three changes to criteria. Most of the impact (16.3% out of 16.9%) would be for mortgages with an original amortization period greater than 30 years (but not more than 35 years): 97% of the total impact is for these mortgages.

A noteworthy finding is that the change announced in January 2011 (setting maximum amortization at 30 years) has a relatively minor impact in these simulations (the last line of the data shows the impact at 4.0% out of the 16.9% total, or 24% of the total impact). This tells us that most of these borrowers could still have qualified for their mortgages if their payments were recalculated at a 30 year amortization period. It explains to us why there wasn't a visible change in the resale market following the January 2011 changes. But, for the further shortening of the maximum amortization period to 25 years that occurred in the middle of 2012, the simulated impact is more substantial, as incrementally 11% of all of the borrowers would have their TDS ratios pass the 44% threshold. This explains why the 2012 changes were followed by a substantial downturn in resale housing activity.

**Table 4-2**  
**Incremental Impacts of Key Changes in Criteria, as % of all Mortgages**

Original Amortization Period	Change in Criteria			Combined Impact
	Max. 30 Year Amortization	Max. 25 Year Amortization	Qualifying Interest Rates	
25 Years or Less	0.0%	0.0%	0.2%	0.2%
25.01 to 30 Years	0.0%	0.3%	0.1%	0.4%
30.1 to 35 Years	4.0%	10.7%	1.6%	16.3%
More than 35 Years	0.0%	0.0%	0.0%	0.0%
Total	4.0%	11.0%	1.8%	16.9%
Source: Estimates by the author				

The table above tells us that 11% of potential home buyers who need high-ratio insured mortgages could have been knocked out of the market by the changes announced in June 2012. How significant is this to the total market? The CAAMP/Maritz survey tells us that for home purchases that occurred during 2010 to the present, 55% of the buyers had loan-to-value ratios of 80% or higher. Therefore, 45% of buyers had loan-to-value ratios mortgages below 80% (this includes about 10% of buyers who did not require a mortgage at all and 35% who took a mortgage with an LTV below 80%).

- If we assume that for these 45% of buyers there was no impact from the revised mortgage insurance criteria, and that 16.9% of buyers with high ratio mortgages (LTVs of 80% or higher) would be removed from the market (because their TDS ratios would passed above the 44% threshold), then in combination 9.3% of all home buyers would be removed from the market by these three changes in criteria.

- Looking at just the key change that occurred during 2012 (setting maximum amortization periods at 25 years): combining the 11% of high ratio buyers who would be affected with the low ratio buyers who are assumed to be unaffected, 5.5% of buyers would be removed from the market.
- However, some low ratio buyers would also be removed from the market if they required an amortization period longer than 25 years but could no longer obtain it. Therefore, the overall impacts of the changes are no doubt larger than is estimated in the two points above, but we have no way of quantifying this impact.
- This analysis is consistent with a finding reached earlier in this section: during August to October the sales rate was 7.8% lower than the rate seen in the 12 months prior to June 2012.

For buyers who have been removed from the housing market due to the revised mortgage insurance criteria, it may be possible for them to save larger down-payments, thereby reducing their monthly mortgage payments and reducing their TDS ratios to less than the 44% threshold. The database was used to estimate how much additional down-payment each of the affected borrowers would need.

For the 16.9% of the borrowers in CAAMP's mortgage database who would be removed from the housing market by the three key changes to mortgage insurance criteria, the average required additional down-payment is \$24,870. This amounts to 7% of the purchase prices paid by these borrowers.

Using the data on incomes of these households, and assuming that they can save 10% of their pre-tax for their down-payment, on average it would take these households 3.5 years to save the additional down-payment. The next table summarizes the estimates of time requirements. The analysis assumes that the price of the house, the interest rate, and the borrower's income do not change in ways that would alter the period required. It also assumes that these households are prepared to borrow to the point at which their TDS ratios are 44% - for the 16.9% of borrowers that have become the subjects of this analysis, the actual TDS ratios averaged 41%: this presumably reflects their comfort levels. To the extent that they prefer TDS ratios below 44%, the required time periods will be longer than has been calculated.

<b>Table 4-3</b>			
<b>Years Required to Save Additional Down-payments</b>			
<b>(If Households Save 10% of Pre-Tax Income)</b>			
<i>Time Required</i>	<i>% for high-ratio borrowers who require larger down-payments</i>	<i>as % of all high ratio mortgages (1)</i>	<i>% of all home buyers (2)</i>
Up to 0.50 years	10.1%	1.7%	0.9%
.501-1.00 years	9.7%	1.6%	0.9%
1.01-2.00 years	18.7%	3.2%	1.7%
2.01-3.00 years	15.0%	2.5%	1.4%
More than 3 years	46.4%	7.9%	4.3%
Total	100.0%	16.9%	9.3%
Source: the author.			
Notes: (1) excludes 83.1% of high ratio mortgages as they are estimated to not require larger down-payments			
(2) assumes that 45% of buyers do not require high ratio mortgages and are not affected by the changed mortgage insurance criteria			

So far, we have looked at direct impacts on buyers who require high ratio mortgages.

With home sales being reduced mostly at entry levels, it will become more difficult for people who want to move-up in the market to sell their current home. In consequence, over time, we should expect to see reduced activity in upper segments of the market. It is conceivable that the ultimate reduction in the low-ratio market will be similar to the decline indicated for the high-ratio segment.

But, the declines in activity will be partly (and gradually) mitigated, as some of the affected potential buyers save additional down-payments and can return to the housing market. The first data column in the table above suggests that among the high-ratio buyers who would be removed from the housing market, about one-fifth would be able to save the additional down-payment within a year (about 10% in the first half of the year and 10% in the second half). One-third of these potential home buyers will require one to three years to accumulate the additional down-payments, and almost one-half will need more than three years. (However, to the extent that house prices, interest rates, or incomes change, the times required will vary.)

This examination leads the author to conclude that the impacts of the tightened mortgage insurance criteria are still not at full force, and that the negative effects on housing activity will be quite prolonged:

- The negative impacts on potential move-up buyers are minimal initially, but will gather strength during the spring and summer of 2013.
- This is likely to more than offset the slow pace at which affected high-ratio buyers can save down-payments and return to the market.
- For households that are now in the process of getting ready to buy a home, who might have expected to buy in 2013 or 2014, many will need to revise their plans in light of the changed mortgage criteria.

#### Analysis Using Data for 2009

The original edition of “Revisiting the Mortgage Market” was published in January 2010 and used a dataset that included mortgages that were funded in the first 11 months of 2009. In this dataset of just under 40,000 high-ratio mortgages, just 2% had amortization periods exceeding 35 years.

Analysis of this dataset shows a pattern similar to the data from a year later. These simulations indicate that a change that eliminates an amortization period has a minor impact on people who had chosen that amortization period, but the second (and subsequent) shortening had more substantial impacts. Thus, the simulations indicate that the first set of changes (which occurred in the fall of 2008 and which eliminated mortgage insurance for amortization periods exceeding 35 years), would have had a small effect on loans with amortizations that exceeded 35 years (an incremental change of just 1 percentage point. The second set of changes (setting the maximum amortization period at 30 years) would have had a more substantial effect on those with amortization periods longer than 35 years (an incremental change of 3.5 points). But, the simulated impact is a bit less substantial for those with amortization periods of 30 to just under 35 years (2.5 points) – for this group the second change that affected them (shortening the maximum to 30 years) would have had a larger incremental impact of 9.2

percentage points. The simulated impacts for the changes that occurred early in 2010 provide an explanation for the drop in the sales trend that occurred at the time (which was seen on page 25). And, the third shortening of amortization periods in 2012 (to a 25 year maximum) would have had further negative impact on the 2009 borrowers.

**Table 4-4**  
**% of Mortgages (Funded in 2009) With TDS Ratios Above 44%, By Amortization Period, and Simulation of Key Changes in Criteria**

Original Amortization Period	Mortgage as Issued	Change in Criteria				
		Max. 35 Year Amortization	Max. 30 Year Amortization	Max. 25 Year Amortization	Qualifying Interest Rates	Total Change (in Percentage Points)
25 Years or Less	0.4%	0.4%	0.4%	0.4%	0.6%	0.2%
25.01 to 30 Years	0.2%	0.2%	0.2%	2.1%	3.6%	3.4%
30.1 to 35 Years	0.4%	0.4%	2.7%	11.9%	15.5%	15.1%
More than 35 Years	0.9%	1.9%	5.4%	16.3%	18.3%	17.5%
Total	0.4%	0.4%	1.9%	8.0%	10.4%	10.0%

Source: Estimates by the author

Based on the analysis of two datasets of actual high-ratio mortgages, the author concludes that each of the individual changes in mortgage insurance criteria had incremental impacts and that in combination the impacts became more severe. The preliminary evidence from the housing market suggests that, with the final set of changes that took effect in July, damage is being done. Moreover, and very importantly, the analysis suggests that the damage is not yet fully developed.

### ***Housing Market Outlook***

#### ***Resale Markets***

This discussion has considered direct market impacts that might result from the changed mortgage insurance criteria. Actual outcomes in the housing market will, of course, depend upon other factors, including the evolving state of the economy, job creation, and interest rates.

As always, there is uncertainty about the economic future. As was noted earlier in this section, in recent times job growth in Canada has more-or-less matched the rate of population growth. Should this continue, it would support housing activity at current levels. Any number of factors could cause job creation in Canada to accelerate or slow, which would cause housing activity to speed up or slow. For example:

- The US is currently seeing improved job creation. If this is sustained, it could be expected to generate improving job growth in Canada.
- On the other hand job creation in Canada could be negatively affected by deficit reduction efforts in Canada (federal, provincial, and local governments), the US, and Europe.

The most recent forecasts from CMHC (in November) and CREA (September) suggest that those organizations expect impacts from the revised criteria to be moderate, and that economic conditions will support resale activity at levels similar to 2011.

This author sees the housing market impacts of the changed mortgage insurance criteria as being larger and longer-lived than do CMHC and CREA. A table in the next major

section (on page 36) summarizes resale market forecasts from CMHC, CREA, and the author.

### Housing Starts

Within the realm of housing market analysis and forecasting, much more attention is paid to housing starts than to resale market activity. This might be justified on the basis that construction of a new home creates much more employment than does the sale of an existing home. However, this author believes that resale market analysis should be pre-eminent in housing market discussions, for at least three key reasons:

- Housing starts have historically been called a “leading economic indicator”. This might have been true in the past, but not now: housing starts are “a lagging economic indicator”. Several steps must occur before the start actually happens and therefore, a housing start depends on conditions that existed quite some time ago. The steps include acquisition of the land, development and approval of plans, pre-selling sufficient quantities of the housing that the construction-finance lender and the builder are comfortable to proceed, installing infrastructure (roads, water, sewer, electricity, gas, etc), and then organizing the construction of the dwellings. For a low-rise home (single-detached, semi-detached or town home), a lag of at least two years is not uncommon; for apartment buildings, lags of three or more years from conception to the start of construction are not unusual. From this perspective, impacts on housing starts that arise from the revised mortgage insurance criteria will not be visible for quite a long time. It is highly preferable to focus on the resale market as a more-timely indicator of impacts.
- Secondly, 30 years of analyzing housing markets has persuaded this author that the key driver of housing starts is the state of the resale market. The balance between of demand and supply (sales versus listings) influences consumers’ choices of new versus existing homes; rising prices for resales make it possible for builders to raise their prices and therefore encourage them to increase supply; for buyers, rising prices for resales makes them more likely to buy a new home.
- Combining these two effects, the state of the resale market is a leading indicator for housing starts – and the lead time is very substantial. Starts today depend upon resale market conditions that existed quite a long time ago.
- Changes of resale house prices have important economic consequences. Rising house prices positively affect consumer and business confidence, encouraging spending and investment that create jobs. This is known as a “wealth effect”. In the author’s analysis, it appears that the wealth effect from rising house prices is the single most important driver of job creation (and conversely, in bad times, a negative wealth effect is the most important determinant of job losses: the US experience of the past five years, especially when contrasted with the Canadian experience, should leave no doubt on this point). From this perspective, the resale market is a leading indicator for future job creation (or job losses).

All of this having been said, CMHC’s new forecast of housing starts for 2013 is 193,600 units. This would be 9% lower than in 2012, but would still be quite a high volume of activity. The forecast that CMHC issued in June (prior to the announcement of the fourth set of changes to mortgage insurance criteria) was for 195,700 units. The new forecast shows only a small downward revision (a 1.1% revision), suggesting that CMHC does not foresee significant impacts from the changes.

To conclude this discussion, the evolving state of the resale market provides us with a powerful leading indicator of possible impacts of the revised mortgage insurance criteria on the broader economy (and the evidence we have at this juncture is not encouraging). Housing starts are not a timely or useful indicator of the impacts.

### Rental Housing Markets

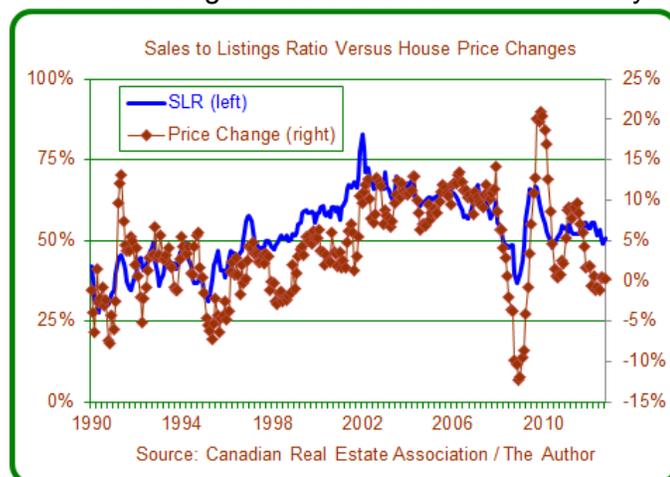
Rental housing markets will be adversely affected (from the perspective of tenants) through at least two channels. The impacts will be even farther in the future, but we should be alert to them.

- Firstly, changes to mortgage insurance criteria for investors in rental properties mean that fewer new rental units will enter the market (for example, within condominium buildings).
- Secondly, this analyst has concluded that an important driver of rental vacancy rates is the number of new housing units that are completed and become available for occupancy (this includes not just rental units; completion of new ownership units means that there are more opportunities for tenants to leave the rental sector). A future policy-induced slowdown in housing starts would be followed by a reduction in housing completions, causing vacancy rates to be lower than they need to be, which in turn would mean that rents would increase more rapidly than they need to.

### **The Notion of a “Balanced Housing Market”**

Housing market analysts talk about a “balanced market”. This can be defined as a market condition in which house prices rise at the same rate as overall inflation (which in these times can be assumed to be 2% per year).

The main determinant of price change in the housing market is the relationship between demand and supply, which can be measured using the “sales-to-listings ratio” (or “SLR”). Housing market analysts sometimes make comments like “housing markets are in balance when the sales-to-listings ratio is in the range of 35% to 55%”. To this analyst, this is too blunt – balance should occur at a certain point (or within a narrow range). In fairness to the analysts who cite the range of 35-55%, in the past it has been rare for price increases to be close to 2%, as might be seen in the chart to the right. During the period illustrated, rates of price increase were in the range of 1% to 3% just 13% of the time – since the market rarely shows a state of “balance” it has been difficult to identify a “balanced” range for the SLR.



Analysis of this dataset suggests to the author that the “point” threshold for a balance resale market in Canada is a 51% SLR. During 1990 until about 2009, it was rare for the SLR to be close to this threshold (this occurred only about 15% of the time). But, during

2010 to the present, the SLR has been close to the 51% threshold 85% of the time, and as can be seen in the chart, prices have tended to be stable during 2011 and 2012.

The point of this discussion – and the author considers this the fundamental point in analysis of the current Canadian housing market – is that for two years prior to the fourth set of changes to mortgage insurance criteria (at mid-2012) the resale housing market in Canada was in a state of balance. During the two years, the SLR had averaged 52.9% (barely above the 51% threshold). The chart to the right provides further confirmation that balance had been achieved, as the average resale house price in Canada had been essentially flat since early 2011. There was no need to further cool the housing market, which was the main objective for the changes to mortgage insurance criteria.



## Conclusions

We are now starting to see consequences of this year's changes to mortgage insurance criteria. The rate of sales (on a per adult basis) is now 7.8% lower than prior to the changes. The sales-to-listings ratio has slipped below the 51% balanced threshold to 50.9% in August, 49.0% in September, and 50.9% in October.

If the author is correct that the slowdown of sales will persist and possibly even worsen, the volume of listings will rise and the SLR will fall further, raising the risk that the housing market will move from a state of balance, in which prices are stable or rise slowly, into a weakened condition, in which prices fall. If we add to this the risks arising from government budget changes in Canada, the US, and Europe, which may result in slower job creation (or even job losses) in Canada, we were already facing a downshift in the housing market and a negative shift away from balance.

The most recent set of changes to mortgage insurance criteria are adding to risks in the Canadian housing market and therefore in the mortgage market as well, and more particularly, within the broader economy: because housing has substantial direct impacts on employment in Canada. Through the "wealth effect", it has even greater indirect impacts, and the wealth effect is now at risk of turning negative.

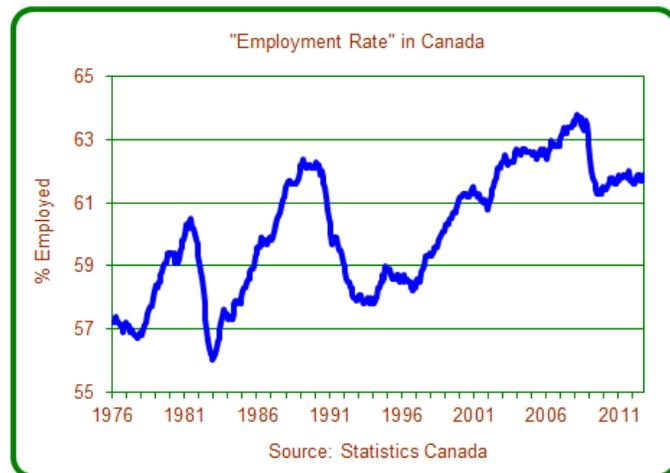
Analysts talk about "pro-cyclical lending" - a tendency of lenders to make credit more available during good times (which causes economic peaks to be even higher than they might be) and to make credit less available during periods of weakness (which makes downturns more severe than they would otherwise be). We expect that regulators will act to discourage "pro-cyclical lending". Instead, during the past decade we have seen "pro-cyclical regulation" of the Canadian mortgage market: mortgage insurance criteria became very liberal at the peak of the housing market cycle in 2006 to 2007; now, the criteria have pro-cyclically been tightened at the wrong time, and to too great a degree.

## 5.0 Outlook for the Mortgage Market

### *The Economic and Housing Market Background*

Some discussion of the Canadian economy and housing market has been presented in the prior section. Key elements of this background include:

- During the past two years, employment has grown at about the same rate as the population, and the “employment-to-population ratio” (the share of the adult population that is employed) has been roughly flat. The employment rate has not returned to the level reached prior to the recession of 2008/09, which to this analyst means that the Canadian economy has not regained its prior strength. However, the employment-to-population ratio is higher than it was prior to 2002.



- The implication of this employment situation is that housing demand should not be expected to be as strong as it was prior to the recession, but should be stronger than prior to 2002. Data from the Canadian Real Estate Association, on resale market activity bears out this expectation: sales have been relatively stable at lower levels than pre-recession, and price increases have moderated.
- Most recently, resale activity in Canada has dropped sharply. This coincides with new criteria for federally-backed mortgage loan insurance. Analysis in section four of this report concluded that policy-induced weakness in housing demand is likely to persist for quite some time, and may worsen, because potential move-up home buyers will face increasing difficulty in selling the homes they currently occupy.
- In terms of the economic outlook, there is, as always a high degree of uncertainty, which adds to uncertainty about the housing market outlook. On the positive side, the US economy has recently shown improved job creation. If this persists, it will contribute to faster job creation in Canada. On the negative side, deficit cutting measures (through combinations of spending cuts and tax increases) in Canada, the US, and Europe, could very well lead to slower job creation in Canada (and possibly even to job losses). In this event, a fall in the employment-to-population ratio would lead this analyst to expect a drop in housing activity.
- Housing starts are driven largely by the state of the resale market, but there are long lag times between a change for resales and the impacts that will be seen for new housing starts. The moderation of resale market activity that has emerged during the past two years has set the stage for a gradual slowdown of housing starts during 2013 and 2014. Adverse impacts of the changed mortgage insurance criteria might not affect housing starts for quite some time.

## Housing Market Forecasts

Canada Mortgage and Housing Corporation and the Canadian Real Estate Association both appear to expect that impacts of the new mortgage insurance criteria will diminish (although CMHC's forecasts are relatively more optimistic than CREA's). On the other hand, this author expects that negative consequences will persist, and probably become worse than is presently in evidence. In addition, the CMHC forecasts assume that job creation will accelerate while this author sees a high likelihood that job growth will slow.

This leaves the reader with two general views of the resale housing market outlook: one in which markets remain in a healthy state of balance (based on CMHC and CREA), and one (from this author) in which slow resale market activity results in price reductions (which may lead to further weakness for job creation).

The table below summarizes these views.

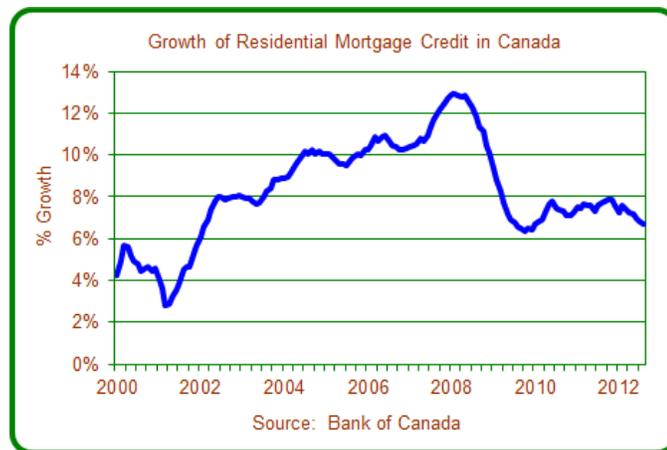
Source	Sales			Average Price		
	2011	2012	2013	2011	2012	2013
CMHC	457,305	457,400	461,500	\$363,346	\$365,100	\$370,500
CREA	457,305	466,900	457,800	\$363,346	\$365,000	\$364,500
Average of CMHC and CREA	457,305	462,150	459,650	\$363,346	\$365,050	\$367,500
The Author	457,305	452,000	425,000	\$363,346	\$364,250	\$355,000

Concerning housing starts:

- As has been discussed, in the author's opinion, the outlook for 2013 has been largely pre-determined by prior conditions in the resale market. Therefore, CMHC's forecasts are being accepted.
- For 2012, CMHC expects 213,700 units to be started, which would be 10.2% higher than in 2011's 193,950 units.
- For 2013, CMHC forecasts 193,600 starts, almost identical to the 2011 figure.

### Forecast of Mortgage Activity

During the past decade, residential mortgage credit in Canada has expanded at an average rate of 9.0% per year. The moderation of housing activity since the recession has resulted in slower growth of the mortgage market. The current rate of 6.7% (in the year to August 2012) continues to represent strong growth. The volume of outstanding residential mortgage credit is \$1.16 trillion as of August.



Mortgage credit will continue to expand, but the growth rate will decelerate. As is illustrated in the chart to the right, the volume of residential mortgage credit outstanding is projected to grow by 6.9% in 2012 (about \$75 billion, to \$1.19 trillion). For 2013, the forecast growth rate is 5.5% (to \$1.25 trillion), followed by 4.0% growth in 2014 (to \$1.30 trillion).

The primary cause of the growth is completions of housing, which are expected to slow during 2013 and 2014.

