



Revisiting the Canadian Mortgage Market – Risk is Small and Contained

Prepared for:

**Canadian Association of
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Revisiting the Canadian Mortgage Market – Risk is Small and Contained

In October 2008, the Canadian Association of Accredited Mortgage Professionals (“CAAMP”) issued a report which concluded that “risks are contained within the Canadian mortgage market”. That report was in response to concerns about potential risks for the Canadian housing and mortgage markets, including some commentary that Canadian consumers had been “over-extending” themselves through mortgage borrowing, and that the Canadian housing and mortgage markets might fall into a downward spiral similar to the United States.

More than a year later, the sky has definitely not fallen. Meanwhile, there are occasional expressions of the same concern about over-extension by consumers. This includes the Bank of Canada “Financial System Review” (published December 2009), which expressed concern that “sustained growth of household debt in the context of an environment of rising interest rates will increase the vulnerability of households to an adverse shock over the medium term”. The Bank of Canada simulations indicated that the percentage of Canadian households with high debt-service ratios (greater than 40%) could rise to as much as 9.6% by mid 2012, versus the average rate of 6.1% over the past ten years. The key threat identified by the Bank of Canada simulations is that increased numbers of Canadians would default on their financial obligations, with negative consequences for Canadian financial institutions.

The analysis by the Bank of Canada concludes: “When borrowing funds, especially for mortgages, households also need to assess their ability to service their debts over the entire maturity of the loan, taking into account both the likely changes in income and in interest rates, as well as the risks surrounding this outlook”.

This final conclusion by the Bank of Canada provides the starting point for this research report by CAAMP. This new research does find that Canadians are indeed assessing their abilities (and vulnerabilities). They are being prudent and the vast majority of Canadian mortgage borrowers are not taking on undue risks. They are prepared for the possibility of rising interest rates.

A Growing Mountain of Mortgage Debt

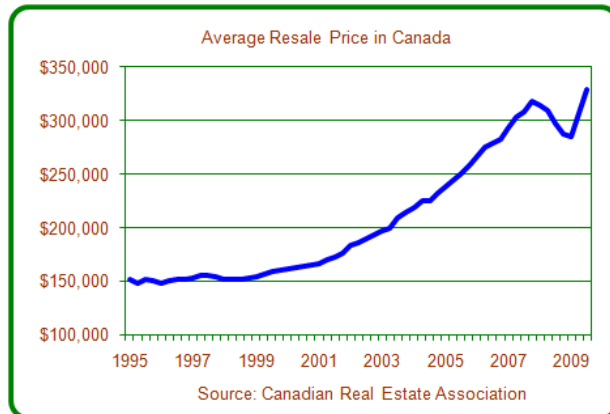
As of October 2009, there was \$952 billion of residential mortgage credit outstanding in Canada¹. This was about 60% higher than just five years earlier, representing a growth rate of 10.0% per year. This growth rate was far in excess of growth of incomes and therefore mortgage debt has become a growing burden for Canadian households.

During the recession housing activity slowed and there has been a corresponding deceleration of the growth rate for the mortgage market. As of October 2009, the annual growth rate was 7.1% (an expansion of \$63 billion). Growth of mortgage credit has slowed compared to prior years, but remains quite robust.

¹ This total, published by the Bank of Canada, includes mortgages for owner-occupied dwellings and for residential investment properties and vacant properties. CAAMP’s Fall 2009 report “The Annual State of the Residential Mortgage Market” conducted a survey of consumers, and that data suggests that mortgages on owner-occupied properties amounted to just over \$700 billion.

Rapid growth of mortgage credit has two principle causes:

- Increasing housing prices. During the past five years the average selling price in Canada has increased by an average of 7.8% by year, and average mortgage amounts have increased.
- Since the late 1990s there has been a profound shift of Canadian households into home ownership. As of 1996, the Census found that 63.6% of Canadian households were home owners. By 2006, the share had increased to 68.4%.



Today, the share is close to 70%. Most new home owners require mortgages and therefore the number of mortgage holders has increased very rapidly, from 3.54 million in 1996 to about 5.425 million today, an increase of almost 2 million. This tenure shifting from renting to home ownership accounts for at least one-half of the growth of Canadian mortgage credit.

This data certainly gives rise to a question of whether Canadians are taking on too much mortgage debt. But, the data already shown – that a large share of the growth in debt is due to an epochal shift from rental tenure to home ownership – is our first reason to reduce our concerns, so long as Canadians are being prudent. And, the data shown below says that they are.

Caution by Lenders and Borrowers

One of the concerns being expressed is that a large share of home buyers are taking variable and adjustable rate mortgages, for which interest rates are now exceptionally low levels (typically 2.25%, versus pre-recession rates of 5% or more – in 2007, the average rate for adjustable/variable rate mortgages was about 5.25%). It is also assumed that these consumers are borrowing the maximum amounts that they can afford at current rates. If this was correct, it would indeed be a cause for great worry, because interest rates will eventually return to more normal levels and monthly mortgage payments would increase sharply.

Some New Data on Canadian Mortgages

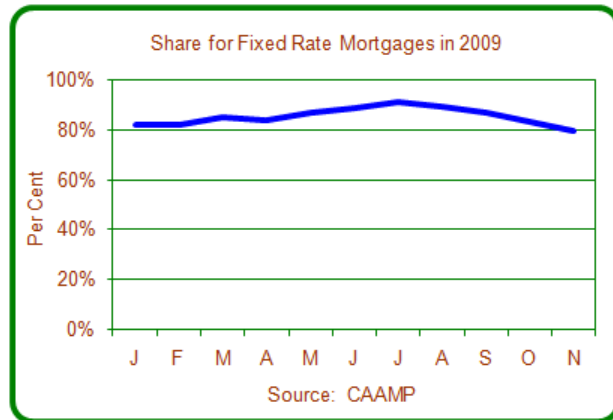
Anyone researching the Canadian mortgage market has learned that there is a severe lack of data. This research project has compiled an original “microfile” dataset that has been used to profile characteristics of recent loans and to simulate the impacts of future interest rates.

The data, provided by corporate members of CAAMP, includes more than 40,000 mortgage loans, totaling \$10 billion, that were funded during 2009, for home purchases only (excluding renewals or refinances of existing mortgages). Over the same period, total mortgage activity for home purchases was in the range of \$60 billion. This dataset therefore represents about one-sixth of total activity. There is no guarantee that this dataset exactly represents the characteristics of all new mortgages, but it is highly likely that it provides a close approximation.

The vast majority of the mortgages in the dataset are high ratio insured mortgages and represent the most risky mortgages. Therefore, to the extent that the “true” risk profile of the Canadian mortgage market differs from the findings of this report, the level of risk is even lower than portrayed here.

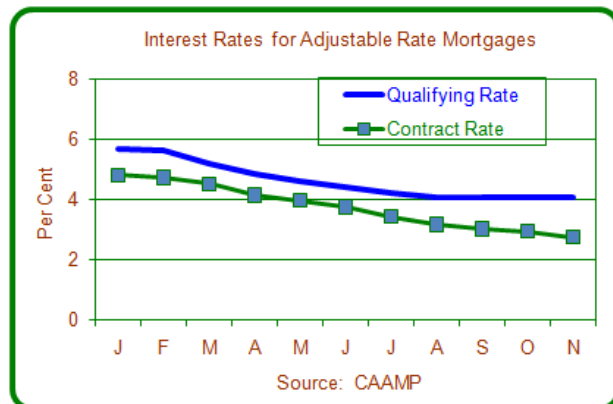
Those comments are not based on actual data, and they are misinformed.

- CAAMP's Fall 2009 survey of mortgage consumers found that variable/adjustable rate mortgages are most commonly used by people renewing their mortgages. Their current interest rates are far below what they previously were able to afford, and even in the event of a large increase in the rates, their mandatory payments would be no higher than they previously could afford. Among those who had renewed an existing mortgage during the past year, 30% took a variable rate mortgage.
- In the Fall 2009 survey, among those who had purchased a home during the past year, 20% took out a variable rate mortgage and 80% took fixed rate mortgages.
- Research for this report, using CAAMP's extensive microfile, finds that in 2009, 86% of mortgages for home purchase had fixed rates. The share fell late in the year, as an increased differential between variable rates (typically 2.25%) and fixed rates (around 4.0%) encouraged more use of variable rate mortgages. Even so, the share for fixed rate mortgages remained very high. As is elaborated below, this shift towards variable rate mortgages has not resulted in increased risk.



- Among borrowers who chose fixed rate mortgages a huge share opted for the security of longer terms. Less than 5% chose terms of two years or less. A further 20% took three year terms. About 5% took four year terms. This left 70% who chose terms of five years or longer. These borrowers have given themselves an ample opportunity to prepare themselves for any future rises in payments, allowing time to retire their mortgages by making their regular payments and potentially making prepayments, as well as accruing gains in income. Combining these factors (86% of the mortgages were fixed rates and of those 95% had terms of three years or longer), 81% of these mortgage borrowers have opted for high security.

- It is not true that buyers who take adjustable or variable rate mortgages are borrowing to the limits of what they can currently afford. For insured mortgages, for adjustable rate loans, lenders must "qualify" the borrowers (calculate affordability) based on rates for three year fixed rate mortgages, not on the actual contract rates. This inherently gives the borrowers considerable capacity to absorb future rises in rates. Furthermore, the vast majority of borrowers are borrowing less than they could afford to, even at the higher qualifying interest rates. These points are illustrated below using data from the CAAMP database.



The dataset indicates that the average gross debt service ratio (“GDS”) for all of the mortgage borrowers in this dataset is 22.3% (based on the qualifying rates assumed by the lenders) and 21.8% (based on the actual contracted mortgage interest rates). This is well below the 35% benchmark.

Similarly, the average total debt service ratio (“TDS”) is 32.8% (based on the qualifying rates assumed by the lenders) and 32.3% (based on the actual contracted mortgage interest rates). This is well below the 44% maximum allowed for borrowers with high credit ratings and 42% allowed for others.

The following table summarizes the distribution of GDS and TDS ratios for new home owner loans funded in 2009. It shows that most borrowers (more than 85%) have GDS ratios below 30% and TDS ratios below 40%.

It is true that some home buyers are pushing-the-envelope of their affordability. But, it should be recalled that the households in this dataset, representing primarily first-time home buyers, represent about 2.5% to 3% of Canadian households². If up to 15% of this group of households is pushing-the-envelope, they represent less than one-half of a percent of all Canadian households.

GDS Ratios			TDS Ratios		
Range	Calculated Based on...		Range	Calculated Based on...	
	Qualifying Interest Rate	Contracted Interest Rate		Qualifying Interest Rate	Contracted Interest Rate
< 20%	38%	41%	< 30%	31%	34%
20-24.9%	26%	26%	30-34.9%	25%	26%
25-29.9%	21%	20%	35-39.9%	30%	29%
30-34.9%	12%	10%	40-44.9%	13%	11%
35% or more	4%	3%	45% or more	<1%	<1%
Total	100%	100%	Total	100%	100%
Average GDS	22.3%	21.8%	Average TDS	32.8%	32.3%

Source: CAAMP

Looking Forward

The risk, which has been well-emphasized by recent commentary, is that future rises in mortgage rates will result in increasing mortgage payments, and could push borrowers into financial difficulty. For those with fixed rate mortgages, the increases in payments would occur at the next renewal dates. For those with adjustable or variable rate mortgages, the impacts on payments would be sudden³ - as is discussed below, those increased payments would be manageable for most of these borrowers, since their ability to make payments has been tested at interest rates higher than their actual mortgage rates.

² Each year about 5% of Canadian households purchase a home. Perhaps one-half of these or slightly more are first-time home buyers.

³ To be more precise, the increases would be sudden for most of the holders of adjustable and variable rate mortgages. A small share of these mortgages have payment levels that are fixed: as the interest rate changes there are impacts on the rate at which the principal is amortized and the payments aren't adjusted until the scheduled renewal date.

This section of the report uses the CAAMP database to simulate the impacts of rising interest rates. Assumptions used in developing the simulations are described in the box to the right. This set of assumptions should be seen as conservative and therefore the actual future impacts of increased interest rates will be less than is estimated here.

The bottom line from the simulations is that even though mortgage payments will probably rise for most borrowers, the increases in incomes (even with the cautious assumption that incomes will increase by 2.5% per year) will more than offset the increased mortgage payments: GDS and TDS ratios would increase for 41% of the borrowers in the data base and for 59% the ratios would fall or be unchanged. The average GDS ratio (currently 21.8% based on actual, contracted interest rates) would rise fractionally (to 21.9%); the average TDS ratio would rise from the current 32.3% to 32.4%.

- For borrowers with fixed rate mortgages, the average GDS ratio would fall slightly, from the current 22.0% to 21.6%. Similarly, the average TDS ratio would fall from the current average of 32.5% to 32.0%.
- For borrowers with adjustable rate mortgages, the average GDS would rise, from the current 20.8% to 23.5%. The average TDS would rise from 31.2% to 33.9%.

Of course, averages do not tell the full story. The next table further elaborates the results by showing the distributions of GDS and TDS ratios, at current interest rates and after the assumed rises in rates. Overall, as is illustrated in this table, combining both groups of mortgages, there is very little change in GDS and TDS ratios. Highlights from the detailed simulations are:

- For borrowers with fixed rate mortgages, there is a small improvement in GDS and TDS ratios. For example, the share with low GDS ratios (below 20%) increases to 43%, from the current 40%.

Assumptions for the Simulations

Mortgage interest rates are assumed to increase to 5.25% for both fixed rate and adjustable/variable rate mortgages. For mortgages with current rates above 5.25%, the rates are assumed to be unchanged in future.

For adjustable and variable rate mortgages, it is assumed that the change in interest rate takes effect in two years; for fixed rate mortgages the increases are applied at the scheduled ends of the terms.

- For adjustable/variable rate mortgages, this assumes that the interest rate increases by 3 percentage points from the current typical rates of 2.15% to 2.25%. This would return the rates to pre-recession levels (the 2007 average was about 5.25%).
- For fixed rate mortgages, the assumed rate of 5.25% is slightly higher than the average rate for 5-year mortgages (after typical discounts) during January 2003 to December 2007, which the author estimates at about 5.15%. The assumed 5.25% mortgage rate is consistent with forecasts for bond yields published by the major banks: on average, those forecasts project that bond yields will increase by 1.25 points by the end of 2011, the same increase that is assumed here for mortgage rates.

Incomes rise by 2.5% per year. This is a conservative assumption, as most of these recent borrowers are early in their careers and can expect raises due to promotions, in addition to cost of living adjustments. Other costs for housing and debt service that are included in the calculation of GDS and TDS increase by 2.5% per year.

No prepayments are made; reductions in mortgage principals are calculated based on scheduled amortization. To the extent that borrowers make prepayments, outstanding principals will be lower than assumed and therefore the impacts of changing interest rates will be less than estimated.

At the time that the interest rates are reset, revised payments are calculated taking into account changes in income, reductions in mortgage principals, and shortening of the remaining amortization periods.

- For borrowers with adjustable and variable rate mortgages, there is an upward shift of GDS and TDS ratios. The share with high GDS ratios (35% or higher) increases from 2% (based on contracted interest rates) to 6% (based on the assumed future interest rates). While this is a significant shift, it also represents a very small number of households. Recall that each year about 2.5% to 3% of households are first-time home buyers. Of these, just 14% took adjustable or variable rate mortgages in 2009. If potentially 6% of these face increased financial challenges, combining the factors, they represent just 0.025% to 0.03% of Canadian households. There are currently about 13.25 million households in Canada, and these at-risk households might total about 4,000. Looking at TDS ratios, there are very few (before or after the assumed change in interest rates) in the high risk group of 45% or higher TDS ratios – in the data base, households with TDS ratios of 45% or more represent less than 1,000 Canadian households. Broadening the range to 40% or higher, after the increase in interest rates about 18% of those with adjustable or variable rate mortgages face elevated risks. Applying the same math as previously, they represent about 0.08% of Canadian households, or about 10,000 households.
- A further factor mitigating risk for these households is that they have varying degrees of equity in their properties. Among the households with adjustable/variable rate mortgages, who may face TDS ratios of 40% or more, about 40% have 10% or more equity in their homes. In the event of future financial difficulty the home equity gives them options to solve their problem, as a last resort by selling their home. That leaves about 6,000 Canadian households with adjustable/variable rate mortgages who have less than 10% equity. Some of these households may face very difficult challenges in the event of significant rises in mortgages rates, but relative to 13.25 million Canadian households, the overall risk is very small.

Overall, this data confirms that recent mortgage lending, in an environment of very low interest rates, results in some risk of financial difficulties if and when interest rates increase in future. However, the degree of risk does appear to be very small.

Table 2						
Distribution of GDS and TDS Ratios						
At Current Interest Rates and Simulated Changes						
	<i>At Current Contracted Interest Rates</i>			<i>At Assumed Future Interest Rates</i>		
	Fixed Rate Mortgages	Adjustable/ Variable Rates	Combined	Fixed Rate Mortgages	Adjustable/ Variable Rates	Combined
GDS Ratios						
< 20%	40%	45%	41%	43%	33%	42%
20-24.9%	26%	28%	26%	26%	23%	25%
25-29.9%	20%	19%	20%	19%	22%	20%
30-34.9%	11%	7%	10%	9%	15%	10%
35% or more	3%	2%	3%	3%	6%	3%
Total	100%	100%	100%	100%	100%	100%
TDS Ratios						
< 30%	33%	40%	34%	35%	26%	34%
30-34.9%	26%	30%	26%	27%	24%	27%
35-39.9%	29%	24%	29%	28%	31%	28%
40-44.9%	12%	6%	11%	10%	17%	11%
45% or more	< 1%	< 1%	< 1%	< 1%	1%	< 1%
Total	100%	100%	100%	100%	100%	100%

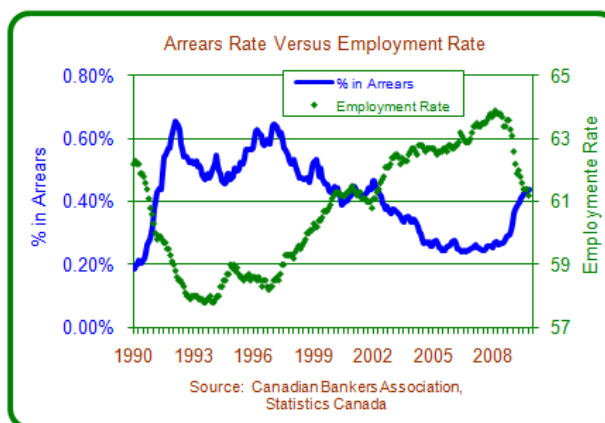
Source: CAAMP

Some Mortgage Borrowers are Challenged

Data from the Canadian Bankers Association – which covers 7 major banks – shows that there has been a rise in mortgage arrears during the recession. Prior to the recession (during mid-2004 to mid-2008), the arrears rate was very low, with less than 0.30% of mortgages in arrears (for three months or more). During the winter of 2008/09, however, the arrears rate increased rapidly. The most recent data (as of October 2009) shows an arrears rate of 0.44%. While the increase is indicative of increased financial difficulties, it remains lower than was seen during most of the 1990s (when the average arrears rate was 0.50%).

In the Canadian context, the most mortgage defaults are due to reduced ability to pay, including especially 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 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 job losses that occurred during the recent recession can be considered the primary cause of the recent rise in mortgage arrears, as a sharp drop in the employment rate was followed several months later by a rise in the arrears rate.



The most recent data shows that the employment rate has stabilized, and increases in the arrears rate have moderated. The future path for arrears will be highly influenced by economic trends, and particularly on the rate of job creation. It does appear most likely that the arrears rate is close to peaking.

A separate cause of mortgage default, which is considerably less significant in Canada, is “over-extension” – debt levels were reasonable at the time of getting the mortgage (as evidenced by GDS/TDS ratios), but credit was added after the fact, such as lines of credit, credit cards, and buy-now-pay-later retail offerings. There is no reason to believe that over-extension is becoming more prevalent, especially based on the caution shown by the vast majority of mortgage borrowers. Moreover, it is said that lenders are generally being more cautious about extending credit, especially to individuals with lower credit ratings.

A third cause is unaffordable increases in mortgage payments. This has been a source of considerable difficulty in the United States, as low introductory rates were replaced by market interest rates and resulted in substantial rises in monthly mortgage payments. In

Canada, this has been virtually non-existent as an issue, especially since interest rates have trended downwards during the past decade.

But, this third category of risk is the source of recent concerns about future threats. As this study has attempted to illustrate, very few Canadians are at risk of unaffordable increases in mortgage payments.

Canadians Remain Cautious Mortgage Consumers

No harm can be done by reminding Canadians to be prudent in borrowing money. But...

Virtually every Canadian who is in a position to buy a home and qualify for a mortgage is well-educated and capable of assessing what is in their best interests, of looking forward, and of anticipating threats to their financial well-being.

The Canadian mortgage lending industry is amply incentivized to avoid making bad loans and to optimize risk exposures.

This research on the characteristics of recent mortgage transactions suggests very strongly that current rules and practices are resulting in an acceptable level of mortgage-related risks in Canada.

About CAAMP

CAAMP is the national organization representing Canada's mortgage industry. With over 12,000 mortgage professionals representing over 1,600 companies, 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.

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

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.

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.

Will Dunning is the Chief Economist for CAAMP and President of Will Dunning Inc., a consulting firm that specializes in economic analysis.