



The financial crisis has led to changes in the Canadian mortgage market Should variable rate mortgages still be preferred?

All mortgage borrowers are facing an important decision: the choice between a fixed rate mortgage and a variable rate mortgage. Many experts have looked at the question in recent decades. Their studies have concluded (unanimously, to our knowledge) that a variable or short-term mortgage is superior, financially speaking.

However, the Canadian mortgage market has undergone some changes in the past few months. The financial crisis has driven financial institutions' financing costs up, thus increasing the premiums demanded on the loans they make. Variable rate mortgages have been particularly affected. We have therefore re-examined the question by comparing the interest costs for two mortgages, a fixed rate mortgage and a variable rate mortgage, based on a variety of scenarios for interest rate.

Our calculations confirm that things have changed. In fact, according to what we believe to be the most likely scenarios, fixed rate mortgages currently appear to be the least costly. However, this result depends on some assumptions. We cannot assert that the fixed rate mortgage is best for every household. We can, however, conclude that, in the new financial context, we must drop the time-tested assertion that a variable rate mortgage is always the best choice.

CONCLUSION OF PAST STUDIES: SELECT VARIABLE RATE MORTGAGES TO SAVE MONEY

For many households, buying a home represents the most important financial decision they will have to make in their lifetimes. Borrowing a sum of money that is usually several times their annual income is a cause of great concern for most buyers, making them ask a number of questions. In particular, sooner or later, all buyers ask themselves if it's better to opt for a mortgage whose rate is fixed for a number of years or for a variable rate mortgage.

Many experts have looked at the question in recent decades. Our team also examined this problem in the past¹. A clear conclusion emerges from these studies: a variable rate or

short-term mortgage costs borrowers less. Our study concluded that a borrower who systematically opted for a one-year mortgage rather than a five-year mortgage would nearly always win. Another study² concluded that, between 1950 and 2000, a Canadian borrower would, on average, have incurred additional interest costs of \$22,000 on a \$100,000 mortgage paid back over 15 years by opting for a five-year fixed mortgage rather than a variable rate mortgage. The only advantage of a long-term mortgage seemed to be greater peace of mind, given that the payments are known in advance and will not change for several years. Most authors, however, deemed that this peace of mind came at too great a cost, except for households with substantial liquidity constraints.

¹ See the *Economic Viewpoint* titled "What is the best choice for a mortgage term?" April 27, 2005.

² Moshe A. Milevsky, *Mortgage Financing: Floating Your Way to Prosperity*, York University, 2001.

François Dupuis
Vice-President and Chief Economist

Yves St-Maurice
Director and Deputy Chief Economist

Mathieu D'Anjou
Senior Economist

Martin Lefebvre
Senior Economist

514-281-2336 or 1 866 866-7000, ext. 2336
E-mail: desjardins.economics@desjardins.com

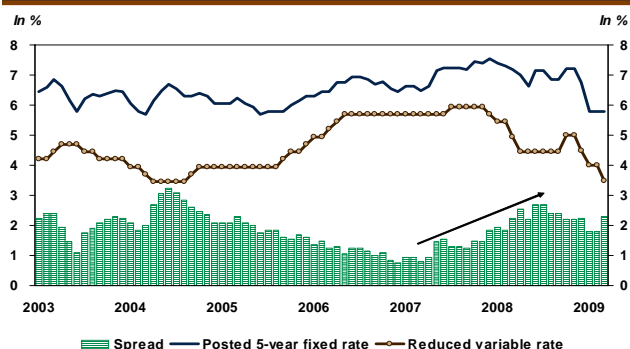
VARIABLE RATE MORTGAGES GAINED POPULARITY IN CANADA

Before we go any further, we should realize that there are a multitude of mortgage products that differ widely from one country to another. For example, American households tend to favour very long term (15 or 30 year) fixed rate mortgages and floating mortgages whose rates are readjusted each year. In Canada, borrowers generally choose between a fixed rate mortgage and a variable rate mortgage with an interest rate that fluctuates according to the prime rate.

As this *Economic Viewpoint* focuses on the Canadian market and we want to compare products that are as similar as possible, except for the mortgage rate, we decided to compare a five-year fixed rate mortgage with a variable rate mortgage that offers a reduced rate as the borrower is signing up for a five-year term. These are currently the two most popular products on the market.

In Canada, the majority of borrowers have historically opted for fixed rate mortgages. However, over the last few years, Canadian households have increasingly been tending toward variable rate mortgages. Canadian Association of Accredited Mortgage Professionals (CAAMP) data show that only 27% of mortgage holders had variable rate mortgages in Fall 2008. However, the share reaches 40% for mortgage that have been negotiated in the past 12 months. Everything indicates that the trend continued to intensify since. The widening spread between fixed and variable rates certainly explains much of the growing popularity of variable rate mortgages (graph 1). With a loan the size of a mortgage, the difference of a few percentage points in the interest rate can represent thousands of dollars. What's more, choosing a variable rate mortgage has paid off in the last few years. For example, we can estimate that a borrower who chose a variable rate mortgage over a fixed rate mortgage five years ago would have saved about \$6,000 in interest³.

Graph 1 – The spread between fixed and variable rates has widened in recent quarters



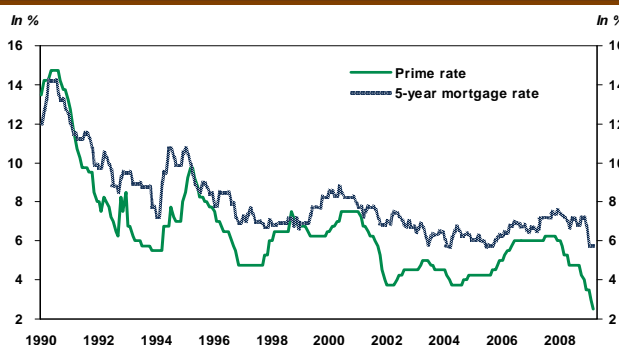
Sources: Datastream and Desjardins, Economic Studies

THE FINANCIAL CRISIS HAS CHANGED THINGS

If the literature and recent experience are sending a clear message—to choose variable rate mortgages—why reopen the issue now? The answer is related to the crisis that has been affecting financial markets for nearly two years now. The financial turbulence, the worst seen since the Great Depression according to a number of observers, has disturbed financial markets around the globe and the Canadian mortgage market is no exception.

The crisis' most visible impact is good for mortgage borrowers. A major drop in Canada's key rates and tumble in bond rates have led to a notable decline in retail rates (graph 2). The rate posted for a five-year fixed mortgage thus went from 7.25% in June, 2007, to 5.75% today, near a historic low. For its part, the reduced variable rate, which requires a five-year commitment, is down from 5.70% to 3.50%.

Graph 2 – Retail rates are now very low

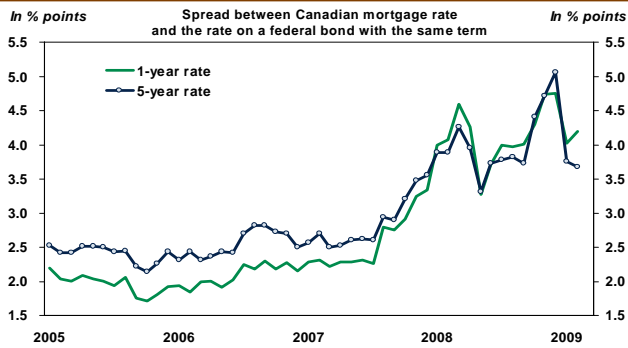


Sources: Datastream and Desjardins, Economic Studies

However, this evolution, favourable for borrowers, obscures a less positive change. The spreads between mortgage rates and federal bond rates have widened sharply over the last few quarters (graph 3). Simply put, the credit and liquidity crunch has spared no one; all financial institutions saw the premiums charged for their financing increase sharply. This can be illustrated by the exploding spread between the rates on Canadian corporate bonds and rates on federal bonds (graph 4). As Canadian mortgage lenders must pay a higher premium on their funds, they have also had to increase the premium they demand on the loans they make. This phenomenon is not only occurring in Canada, but all over the world.

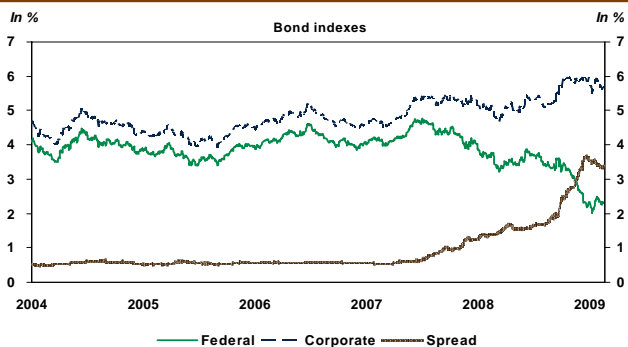
³ Our calculations assume a loan of \$150,000 and monthly installments of \$1,000 for both the fixed and variable rate mortgages. In fact, installments on a variable rate mortgage may vary over time but, to make them easier to compare, we are overlooking this phenomenon.

Graph 3 – The crisis has widened spreads between mortgage and bond rates



Sources: Datastream and Desjardins, Economic Studies

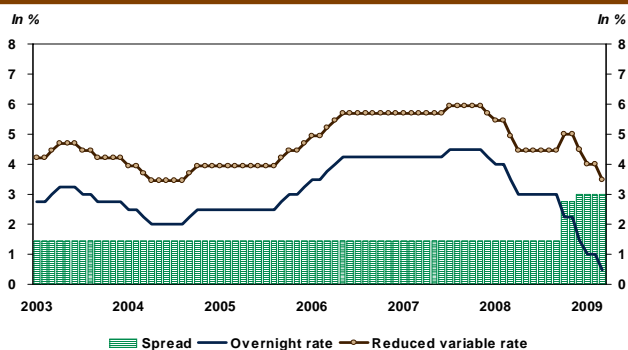
Graph 4 – The financial crisis has made Canadian firms' financing premiums mushroom



Sources: Datastream and Desjardins, Economic Studies

Variable rate mortgages have been particularly affected by these changes. Firstly, rather than offering variable mortgages at a rate slightly below prime, lenders are now asking new borrowers to pay prime plus about 1%. Secondly, the spread between financial institutions' prime rates and the Bank of Canada (BoC) key rate went up 25 basis points last December (graph 5). In the current context of very low interest rates,

Graph 5 – The spread between the reduced variable rate and BoC key rate has also widened



Sources: Datastream and Desjardins, Economic Studies

these changes have little impact on households, but what will happen when interest rates go back on an up trend?

Lastly, the financial crisis prompted the Canada Mortgage and Housing Corporation (CMHC) to tighten its eligibility criteria for mortgage loans. It shortened the maximum amortization period for a mortgage loan from 40 years to 35 years. In addition, the CMHC now requires a down payment of 5%, as well as a credit rating threshold.

PLAY IT SAFE REGARDING THE FUTURE

Will the recent changes seen in the Canadian mortgage market last, or will the premiums demanded quickly come back down to pre-crisis levels? It is a difficult question to answer, especially since the financial crisis does not appear to be poised to end. In our opinion, the most likely scenario is that the premiums demanded by mortgage lenders will come back down as financial tensions resolve, but will remain significantly higher than before the crisis.

An acceptable hypothesis for mortgage borrowers would be to assume that conditions will remain as they are now. We therefore recommend that borrowers who opt for variable rate mortgages assume that the spread between the prime rate and the BoC's overnight rate will remain constant throughout the duration of the loan. Under this hypothesis, a loan that is taken out at prime +1% is equivalent to the BoC overnight rate +3%. However, variable rate borrowers should be aware that the prime rate is up to the financial institutions and could still change in relation to key rates.

SIMULATIONS OF INTEREST COSTS FOR A FIXED AND A VARIABLE RATE MORTGAGE

The financial environment is currently in too much flux to draw any conclusions that will hold for decades to come. We will therefore limit ourselves to answering a simple question: in the current context, is a variable rate mortgage still advantageous for a borrower? The answer to this question depends on an unknown: the evolution of the variable rate. In our opinion, the best way to decide is to calculate various rate scenarios to see which mortgage option looks the best.

Remember the assumptions that underlie the simulation: a mortgage loan of \$150,000 repaid in monthly installments of \$1,000. The fixed rate and variable rate mortgages are both for five-year terms; the total payment in each case is \$60,000⁴. From a financial point of view, the best mortgage is simply the one with the lowest interest costs, and the highest principal reduction, at the end of the five-year period.

⁴ In reality, if rates go up, variable rate mortgage payments are likely to go up over the years. However, this simplifying assumption does not change the outcome of our simulations.

For fixed rate mortgages, the calculation is relatively simple and does not require any forecasting. Assuming that the loan is taken out at the currently posted rate of 5.75%, we know with certainty that the total interest cost over five years is \$39,951, while the balance of the mortgage would be reduced by \$20,049 (\$60,000 - \$39,951). In reality, borrowers are generally able to get a significant reduction from the posted rate. The size of the discount depends on a number of factors, including the borrower's financial situation and the amount of the loan, but a realistic hypothesis would be to assume an effective rate that is 1% below the posted rate. Assuming a rate of 4.75%, the total cost of interest on a five-year closed mortgage is \$32,189.

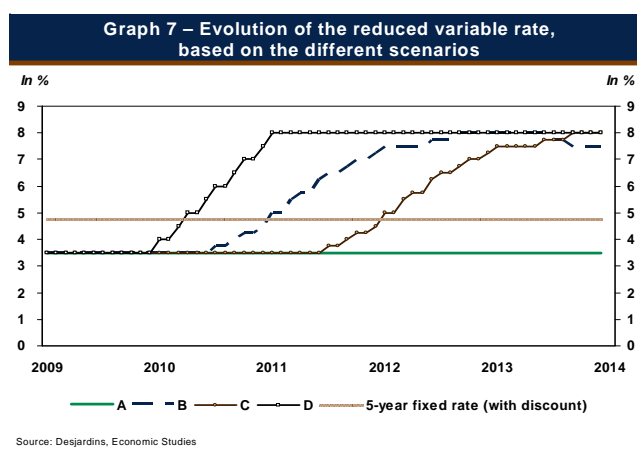
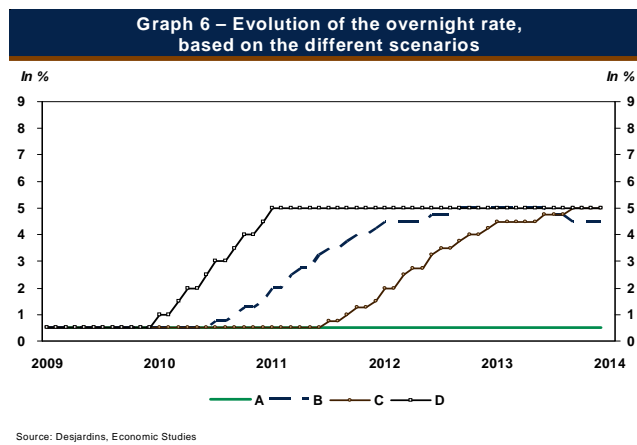
Let's move on to the variable rate mortgage. In this case, the currently posted rate of 3.50%, or prime +1%, leaves little room for a discount. This is because financial institutions currently prefer granting fixed rate mortgages rather than variable rate mortgages⁵. As we saw earlier, prime +1% is equivalent to the BoC overnight rate +3%, if we assume that the spread between the prime rate and the key rate remains constant. The cost of interest for a variable rate mortgage may therefore be calculated based on a variety of scenarios for the Canadian key rate.

A first scenario, too often used by mortgage borrowers, is to assume that interest rates will remain stable throughout the duration of the mortgage. In this case, scenario A, the variable rate would be constant at 3.50% and the cost of interest for the mortgage is only \$22,992.

Is this scenario realistic, however? Unfortunately for mortgage borrowers, the answer is no. Everything indicates that Canada's economy recently went into recession, arguing for very low key rates for several quarters. However, as in all the other recessions, the economy will bounce back sooner or later, and the BoC will have to bring its key rate up to more normal levels to keep an inflation spiral from developing. For scenario B, therefore, we will use our Canadian key rate forecast that calls for rates to be extremely low until mid-2010 then go up gradually to around 5%. The variable rate would thus stay at 3.50% until mid-2010, and then go back up to around 8%. This would put the interest costs for our variable rate mortgage at \$38,515.

We can also imagine a case, scenario C, in which the recession is longer than forecasted and key rate only start going up at mid-2011. In that situation, interest costs would be \$32,067, a

similar result to the fixed rate mortgage with a discount. Finally, we must also look at scenario D, in which the economy would see a stronger or faster recovery than anticipated, which would make key rates and the variable rate rise more steeply. In this case, the interest costs for a variable rate mortgage could be \$45,386. Graphs 6 and 7 depict the four scenarios for key rates and variable rates.



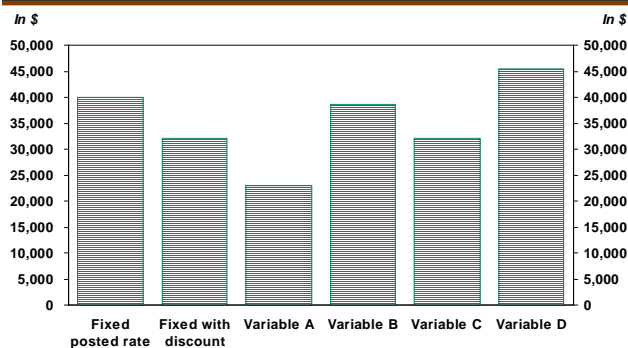
CONCLUSION: A FIXED RATE MORTGAGE SEEMS ADVANTAGEOUS FOR NOW, BUT...

Graph 8 summarizes the results of our various scenarios. As we can see, the variable rate mortgage's superiority is far from clear. According to scenario B, which we think is the most likely, the interest costs for a variable rate mortgage would be slightly lower than the interest rate costs for a fixed rate mortgage at the posted rate. With a 1% discount on the posted rate, a fixed rate mortgage would save about \$6,300 in interest over the variable rate mortgage. The gain would be even bigger with scenario D.

However, we must remember that no one can predict the future and we cannot definitively say how variable rates will move and, as a result, which type of mortgage will turn out better in

⁵ The fairly complex reasons behind this financial institution preference are outside the scope of this *Economic Viewpoint*. Simply speaking, what it boils down to is that financial market changes have made variable loans much more complex and costly for institutions to manage.

**Graph 8 – Total interest costs
for five years under the various mortgages examined**



Source: Desjardins, Economic Studies

the end. Moreover, our calculations are based on certain assumptions, especially on the variable and fixed mortgage rates that borrowers can negotiate with their financial institutions. We must also not overlook the reassuring, secure facets of a fixed rate mortgage, especially in the current economic context.

Some other riders must be added to our analysis. Our calculations assume that the variable mortgage is retained throughout its five-year term, regardless of the movement in rates. In reality, most variable rate mortgages offer an option that allows them to be turned into fixed rate mortgages at any time; some even have the option of setting a rate ceiling for the borrower. There are also hybrid products that split the mortgage into two portions, one fixed rate portion and one variable rate portion. In this context, choosing a variable mortgage may be a valid option for some borrowers who have a good tolerance for risk and think that key rates could remain low for a very long time. However, it is very important to understand these more complex mortgage products.

Given the broad variety of mortgage products, and the individual characteristics of each household, it is unfortunately impossible to assert that all borrowers should choose one type of mortgage over another. We can, however, reach some important conclusions as a result of this study:

- Subsequent to the changes that have affected Canada's mortgage market, we can no longer assert, at the moment, that variable rate mortgages are largely better than fixed rate mortgages.
- When choosing a mortgage, we have to think about more than the current variable rate.
- Given our economic and financial scenarios, which call for interest rates to start to climb as of mid-2010, a fixed five-year mortgage currently seems very attractive for many borrowers.
- Borrowers who want a variable rate mortgage must make sure they are protected in case interest rates rise too steeply and that they can deal with an increase in their mortgage payments. The financial situation and the tolerance for risk of each borrower must be taken into account.
- The evolving situation in the financial markets could make us review this issue again if more changes hit Canada's mortgage sector.

Mathieu D'Anjou
Senior Economist