OBSERVATION

TD Economics

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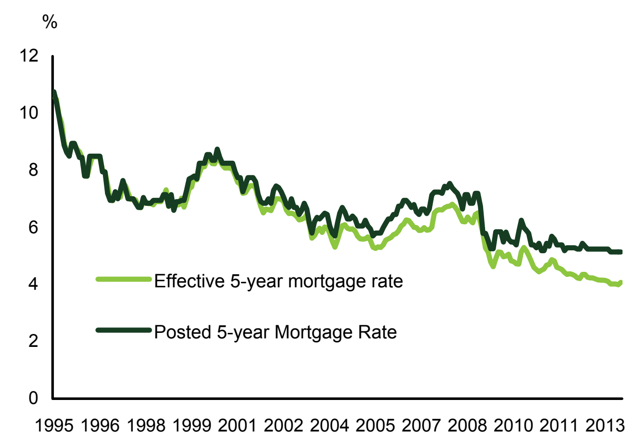
RECENT MORTGAGE RATE HIKES IN CANADA – ANSWERS TO SOME COMMON QUESTIONS

With a continued decline in interest rates since the mid-1990s, Canadians are used to low (and falling) mortgage rates. Accordingly, increases in mortgage rates announced in recent weeks have caught many Canadians off guard and prompted numerous questions. We address several of them in this report. One important note to readers: all discussion of future mortgage rates are purely for illustrative purposes and may not come to pass.

How much have rates increased?

- The most notable increases have occurred for longer-term mortgage rates (i.e., 5- and 10-year terms), which have been hiked by 70 basis points since mid-June.
- For most mortgage products, banks have two types of rates. The first type is the "posted" rate, which is the interest rate banks advertise to the general public. However, banks usually offer customers a discounted "special" rate. For longer terms, this discount can be over a percentage point below the posted rate (see Chart 1). Special rates apply to the variable interest rate mortgage (VIRM) and all fixed maturities. As Chart 1 shows, the use of a special rate has become more popular in recent years.
- Posted interest rates have not been changed over the past few months. The special 5-year rate, however, has been increased from 3.1% to 3.8% since June. Since 2011, this rate has ranged between 3.0% and 4.4%.
- Fixed-term posted and/or special mortgage rates for shorter maturities (1-3 years) have also been nudged up, but only by a minimal 10 basis points since June.
- The special and posted rates on VIRM, which have a mortgage rate that floats with bank's prime rate, have not changed.

CHART 1: CANADIAN MORTGAGE RATES



Source: Bank of Canada, CMHC

What has fuelled the rate increases?

- Mortgage rates offered to clients are affected by a number of factors, including competition, regulatory costs and, perhaps most importantly, the costs that banks encounter in securing funding in the marketplace.
- Banks typically match the terms at which they lend out with the cost of funding for the same term. For example, for 5-year mortgage terms, banks will set the pricing of those mortgages based on the 5-year bond yield (plus a spread).
- Since mid-May, yields on 5- and 10-year government bonds have increased by about 80 basis points. This upward movement is largely due to recent signals that the U.S. Federal Reserve is poised to taper its asset purchase program, or in

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Table 1: Canadian Interest Rate Outlook									
Level at End of Period									
TD Economics Canadian Interest Rate Outlook, %						Potential Implied Mortgage Rate Increase, % Chg. (Illustrative)			
	2013F	2014F	2015F	2016F	2017F		2013	2014	2015
Overnight Rate	1.00	1.50	2.00	2.75	3.25	**VIRM Rate**	0.00	0.50	0.50
1-Year Govt. Bond Yield	1.10	1.65	2.35	3.15	3.55	**1-Year Term**	0.01	0.55	0.70
2-Year Govt. Bond Yield	1.25	1.70	2.75	3.25	3.75	**2-Year Term**	0.11	0.45	1.05
5-Year Govt. Bond Yield	1.90	2.35	3.00	3.65	4.15	**5-Year Term**	0.52	0.45	0.65
10-Year Govt Bond Yield	2.55	2.85	3.35	4.00	4.45	**10-Year Term**	0.75	0.30	0.50

Source: Bank of Canada, Forecast by TD Economics as of August 2013

other words lessen the amount of quantitative easing. Canadian longer-term bond yields have followed U.S. yields higher. Shorter-term bond yields have also increased, but by much less. Hence, short-term mortgage rates have only been nudged up slightly.

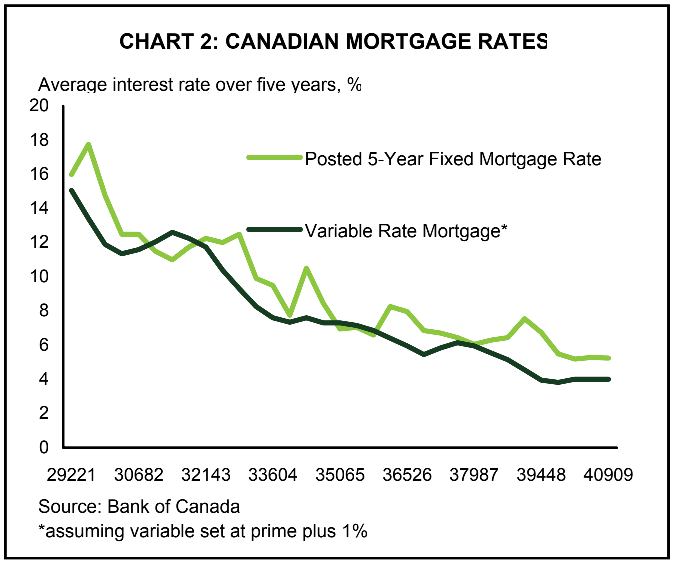
- The variable rate has not changed, since the chartered banks prime rate tends to be set as a spread (currently 200 basis points) against the Bank of Canada overnight rate. The Bank of Canada has not changed the overnight rate since September 2010.

What has fuelled the rate increases?

- While forecasting the future is rife with challenges, most analysts believe that interest rates across the maturity spectrum have indeed passed their lows and are likely to rise over the medium term. Overall, the increases are expected to be quite gradual.
- The chartered banks – including TD – do not publish mortgage rate forecasts. They do, however, typically release projections of the Bank of Canada overnight rate as well as short- and longer-term government bond yields. Given the tight relationship between these rates and mortgage interest rates, we can use the expected increase in government bond yields to illustrate what rising interest rates could imply for Canadian borrowers(see Table 1).
- In light of an expectation of firmer economic growth on both sides of the Canada-U.S. border, government bond yields are likely to head higher in the coming quarters, pushing up cost of funding for banks in tandem.
- Increases in the Bank of Canada overnight rate will likely be slower to take shape. We anticipate the overnight rate to remain at 1.00% until the end of 2014, at which point it will begin to increase gradually. We anticipate a 50 basis point hike in the last quarter of 2014, and a further 50 basis points in 2015.
- Table 1 shows the "implied" increases in VIRM and fixed rate mortgages through to the end of 2015. TD Economics does not anticipate any further significant increase in government bond yields over the remainder of 2013. This implies a calmer period ahead for longer-term mortgage rates (and little change in short term rates) in the near term.
- Looking out over the next few years, our rate expectations on bond yields would be consistent with moderate increases in shorter- and longer-term mortgage rates.
- As noted, factors other than market bond yields can affect bank's cost of funding. For example, the recently-announced changes to the amount of mortgage backed securities that will be guaranteed by CMHC will have lead to somewhat higher costs in funding for financial institutions. The banks could choose to pass these costs down to households through higher lending rates.
- It should also be stressed that bond yield forecasts can fail to come true for a number of reasons. And, there are still a number of economic risks that could ultimately tie interest rates down over our forecast horizon.

Should I go variable or fixed?

- The answer to this question, however, really depends on a number of factors, including risk tolerance for rising interest rates as well as desired and anticipated cash flow.
- Moreover, there are many different permutations and combinations open to households in terms of how long they stay in floating, or how long to fix in for.
- In Table 2, we show the average cost of a few options based on our implied interest rate calculations.
- Historically, the VIRM option has been the better one as interest rates have been on a structural downward



trend since the mid-1990s. As Chart 2 shows, even if one assumes a pricing of the bank prime rate plus 1, a VIRM has yielded a lower average interest rate over a five year term since the late 1990s.

- Based on the possible course of short-term interest rates as projected by TD Economics, we might be at a point of inflection where locking into a fixed 5-year rate could actually provide interest cost savings relative to a VIRM over the next 5 years. Locking in at today's special 5-year rate at 3.8% would compare with an average VIRM base rate of 4.1% through 2017. Again, this is just an illustration of what the average interest rate on a five year mortgage rate could be given our interest rate outlook. The actual increase in mortgage rates will depend heavily on bank pricing strategies and the actual path of interests. Forecasts can be wrong.
- Table 2 also shows other possible mortgage combinations, including going variable for a few years and locking in at 5 years in two years time or taking on a series of 1 year terms for the next five years. Either way, locking into a 5-year mortgage rate would yield the lowest average interest rate over the next five years.
- Despite average expected rates, a variable rate mortgage taken out today could still offer the lowest required monthly mortgage payment. This is because the payment on a variable rate mortgage is set based on the rate in effect at the beginning of the term and the 5-year VIRM base rate is lowest today. As the base rate increases in the coming years, the principal repayment portion will fall. The monthly payments may be lower, but the borrower will have saved less equity in his/her home at the end of the five year term.

How much will the recent rate increase weigh on housing activity?

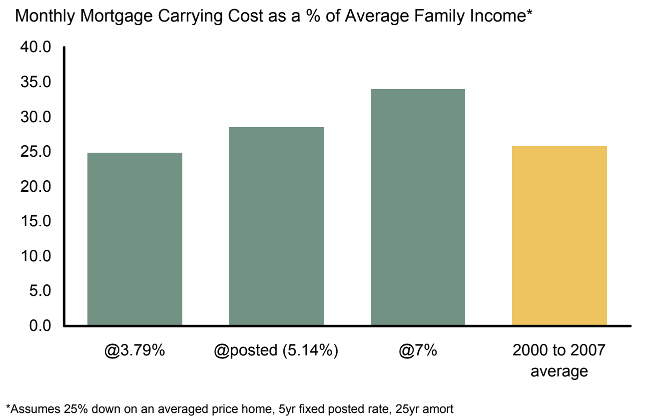
- The impact of rising interest rates on home sales is two-fold.
- First, the announced rise in interest rates encourages homebuyers to jump into the market to get ahead of interest rate increases. Households with pre-approved mortgages rush to take advantage of lower interest rates. Second, as rate hikes are implemented, home sales tend to fall over the next few months that follow.
- Our models suggest that historically, every 1 percentage point increase in interest rates leads to an immediate increase in sales of 6 percentage points as buyers rush to take advantage of lower rates, followed by a 7% decline in the months that follow. Hence, the net impact is a 1 percentage point permanent decline in existing home sales due to every 1 percentage point increase in interest rates.
- Based on these modeled impacts, the net hit to sales from the recent 80 basis point increase in the 5-year government bond yield would be quite small, but will likely lead to volatility in home sales in the coming months. That said, the timing of the mortgage rate increase can matter. Higher rates during a time of weak economic growth and/or a declining market can have outsized effects on both sales and prices. In additions,

Table 2: Average Mortgage Interest Rates Under Various Financing Options
% at end of period

	Current	2014	2015	2016	2017	Avrg over five years
5-year VIRM	3.0	3.5	4.0	4.8	5.3	**4.1**
Series of 1 year terms	3.1	3.6	4.3	5.1	5.5	**4.4**
Lock in at 5-year	3.8	3.8	3.8	3.8	3.8	**3.8**
Combine two year at variable and locking into a 5-year fxed thereafter	3.0	3.5	4.8	4.8	4.8	**4.2**
Combine a 1 year fixed rate and locking into a 5-year thereafter	3.1	4.1	4.1	4.1	4.1	**3.9**

*Source: Bank of Canada, forecast by TD Economics as of August 2013. Assumes mortgage rates move in lockstep with bond yields as shown in Table 1

CHART 3: HOUSING AFFORDABILITY
(keeping home prices and incomes constant)

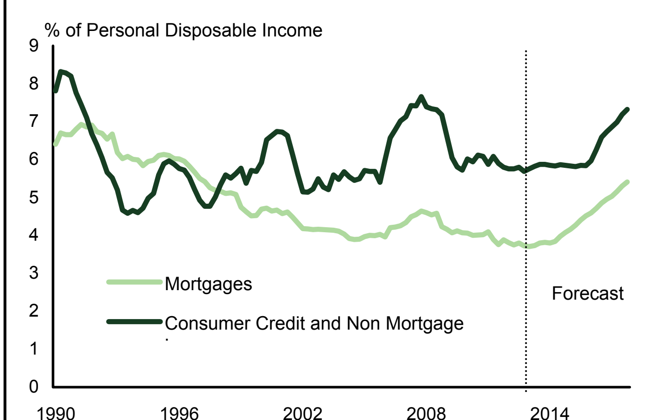


given an estimated 8% overvaluation in the price of existing homes, the Canadian housing market has likely become more sensitive to rising interest rates and even small changes could have a larger impact on sales than has historically been the case.

What are the impacts on affordability of taking out or refinancing a mortgage?

- TD Economics defines affordability as the share of income that must be devoted to making mortgage payments for a family with an average Canadian income, purchasing an average priced Canadian home. Affordability can deteriorate with falling incomes and/or rising interest rates and home prices. Conversely, affordability can improve alongside rising incomes, falling interest rates and/or falling prices.
- Banks income test at the five-year posted rate and as such, a household's ability to secure a mortgage has not changed.
- Despite low interest rates, the sharp rise in home prices in recent years has left affordability using the 5-year posted rate at the worst is has been in almost 13 years. And, if 5-year interest rates were at more normal levels of around 7%, housing would be unaffordable to the average Canadian household.
- However, give concerns over Canadian household debt and global financial and economic risks, the Bank of Canada is very unlikely to bring interest rates to more normal levels in the near future. Rather, rate increases will be gradual over the next few years.
- In addition, it is more common to transact at the special rates. Using the 5-year special mortgage rate, housing affordability in this country is actually at its most favourable level since early 2000's. This markedly different picture shows how important each quarter point change in interest rates is to the affordability of Canadian housing in view of the elevated average home price.
- The recent increase in mortgage rates is likely to lead to a deterioration in affordability, at least when evaluated at the 5-year fixed rate (see chart 3). However, affordability is still likely to remain decent from a historical perspective.
- For households purchasing an average priced home, with an average income and putting 25% down, on a 25 year amortization mortgage at the 5-year special rate, monthly mortgage payments are expected to rise by $130 relative to when rates troughed in May.
- For those refinancing, the increase in interest rates is likely to have less of an impact. Still, the potential increase in mortgage rates over the next few years will likely mean that households will have to devote a percentage point more of their income to debt interest costs (chart 5).
- The anticipated 3%-4% growth in personal incomes over the next two years will likely help offset much of the impact of gradually rising rates, helping to keep household debt affordable to the average Canadian.

CHART 4: HOUSEHOLD INTEREST DEBT COSTS



Source: Statistics Canada, Forecast by TD Economics as of August 2013