Futures Flash Series ARTICLE 15

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MONTRÉAL EXCHANGE

August 2023

Economic Pessimism Grips Canada Inflation Market

Sophisticated investors can go long (short) Canadian inflation expectations by buying (selling) Canada real return bonds (RRBs) while simultaneously selling (buying) an equivalent maturity Government of Canada nominal bond. The difference in yields between the two bonds indicates the implied level of realized inflation at which an investor would break-even over the term to maturity.

Inflation Markets Confidently Pessimistic

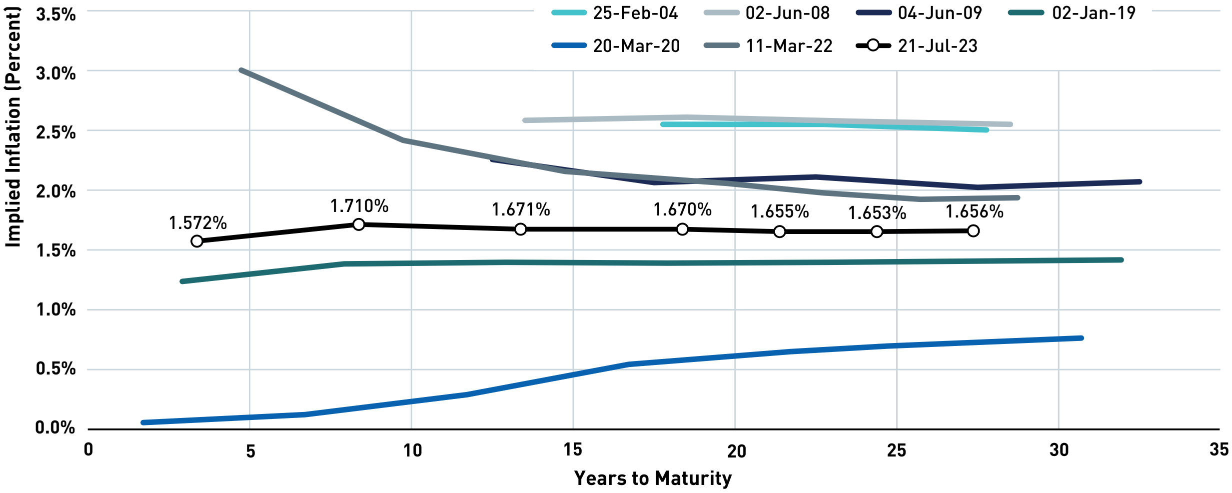
As with most fixed income markets, implied inflation levels fluctuate constantly and quickly reflect changes in economic expectations as they relate to the level of expected and/or current inflation, depending on the term to maturity observed. In a normal market, inflation expectations near the front end of the inflation curve reflect recent trends in actual Consumer Price Index (CPI) readings while the long end of the inflation curve should reach some asymptote quite close to the Bank of Canada target rate for inflation, assuming the Bank is credible and retains its 2% target for inflation in the future. In Canada, given the existence of a formidable central bank and recent transgressing of prior barriers to monetary policy such as taboos against unsterilized direct funding of government and the near-unlimited expansion of the central bank balance sheet, we think the Bank has the tools and wherewithal[1] to address inflation that is lower than desired.

However, the inflation market completely disagrees with the above and, in fact, views the Bank of Canada and the Canadian economy with extreme pessimism. Figure 1 shows the Canada Breakeven Inflation Curve – the levels of inflation implied by current yields on RRBs and Canada nominal bonds – and, evidently, the marginal buyer/seller of these markets has almost no confidence that the Bank of Canada will hit the 2% middle of its inflation target in the short term, the medium term, or even over the next 30 years. As can be seen in the figure, current implied inflation levels are about 1.57% for a 3-year term, far below current CPI levels, of course, and almost exactly flat at about 1.67% for all terms from 8 to 28 years. In short, market pricing implies that the Canadian economy, for all observable periods, will be so weak that even the Bank of Canada, with normal and emergency monetary policy tools, is incapable of hitting its inflation target… forever.

1 We assume here that the second potential use of a policy tool to overcome the so-called "zero lower bound" of monetary policy is far easier than the first. For example, witness all the hand-wringing that accompanied the Federal Reserve use of quantitative easing to combat the financial crisis versus the near-instantaneous response with the same tool during the COVID pandemic.

FIGURE 1

Canada Breakeven Inflation Curve



Source: BMO Capital Markets[i] Fixed Income Sapphire database

Setting aside the implied level for inflation – over 30 basis points lower than the central bank target – we can also ask whether the term structure of the inflation market looks correct. As described above, the shorter maturities should more closely reflect current CPI prints since each month's print is a larger component of the average inflation rate that composes the breakeven. But short-term inflation, although the next RRB maturity is in 3 years which can be quite some time as economic cycles go, is lower than the medium term despite stubbornly high inflation prints almost everywhere lately, including Canada. In fact, Canadian industries' tendency toward very large, oligopolistic corporations is a compelling argument that Canadian inflation will be a bit "stickier" and slower to fall than in more competitive markets.

Figure 1 also shows the inflation curve at selected points over the past 20 years, most of which reflect higher implied inflation than today's curve, with the obvious exception of the period between the financial and pandemic crises as well as the depths of the pandemic. The notion of sub-2% inflation sometimes seems reasonable given the post-2010 experience, but it is novel in comparison to prior years even when observing only 21st century market data[2].

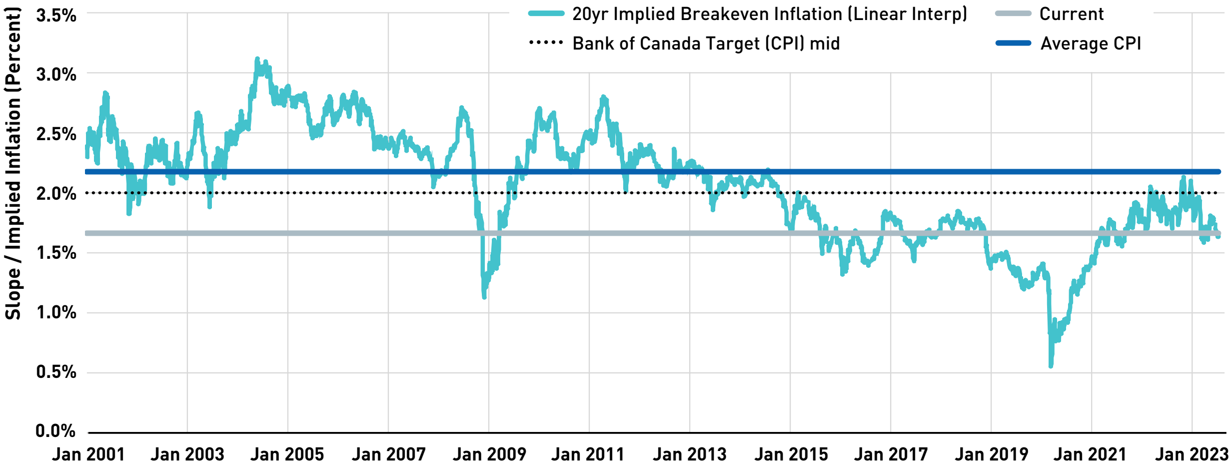
Historical Breakeven Experience

We can begin to put some of the theoretical arguments to an empirical test in Figure 2 where we plot the 20-year implied breakeven inflation since 2001, accompanied by various reference points such as the average CPI during that period as well as the Bank of Canada target rate for inflation. The figure shows that average inflation over the past 22 years at 2.18% has exceeded the 1.66% current implied level of 20-year inflation rates by over 50 basis points. In fact, even the average CPI between 2009 and 2019, let's call it the inter-crisis period, at 1.74%, exceeds the current implied level for all terms on the inflation curve. As mentioned above, the Bank target of 2%, which they've managed to achieve with regularity over the long-term, if not during the inter-crisis period, is well above current levels. Additionally, historical 20-year implied breakeven inflation has been above the current level almost 80% of the time since the turn of the century.

2 Of course, periods of really sustained inflation were common throughout the 70's and 80's.

FIGURE 2

20yr Implied Breakeven Inflation since 2001



Source: BMO Capital Markets[i] Fixed Income Sapphire database, Bank of Canada, Statistics Canada

We can also look at historical CPI levels to see if, over a 20-year period, CPI has averaged above or below these levels in the modern era. Since we are looking at a 20-year average of monthly data and our CPI data only goes back to 1992, our first observation is December 2011 in a greatly reduced data set. However, the absolute lowest the 20-year average (chained) inflation rate has been is 1.77% in October 2020, a period during the pandemic crisis but also encompassing almost all the post-financial crisis years; that's a level 10 basis points higher than that implied by the current pessimistic pricing in Canada's inflation market.

FIGURE 3

CURRENT 20-YR IMPLIED INFLATION	AVERAGE CPI SINCE 2001	AVERAGE CPI 2009-2019
1.66%	2.18%	1.74%

Source: BMO Capital Markets[i] Fixed Income Sapphire database, Statistics Canada

Theoretical Argument: Modern Monetary Theory

We are not experts on, or proponents of, Modern Monetary Theory (MMT) but even armchair economists can recognize that two of the pillars of implementation, near-limitless deficit spending combined with guaranteed jobs/income[3] were implemented during the pandemic crisis. In MMT, the only limit to deficit spending and hyper monetary policy in general is the threat of inflation, an eventuality that appears to have been borne out; a failure for the policymakers, perhaps, but also a kind of vindication for MMT proponents since giant deficits, zero rates, and direct bond purchases eventually created the predicted economic "cost" of high inflation.

While we don't embrace most of the MMT principles, central banks and governments certainly have via their actions[4], if not their words. Since there is no pragmatic limit[5] to combined aggressive monetary and fiscal policy – which equates almost to MMT in practice – and the psychological limits were already breached in 2009 and again in 2020, we question how markets can doubt the effectiveness of the central bank in achieving a 2% inflation target. After all, the Bank of Canada (and deficit spending) can only be easier to unleash in the future than in the past when fear, uncertainty, and doubt put barriers in the way of truly aggressive economic stimulus.

Nothing Is This Stable

Finally, the notion that 3, 8, 13, 18, 23, and 28-year realized inflation are all expected to be within a handful of basis points of each other is mystifying. Even the 20-year average CPI has varied between 1.77% and 2.15% over the past 12 years. The 5-year average CPI has ranged between 0.95% and 2.87% during the 27 years prior to June 2023; roughly the same amount of time left to the maturity of the longest RRB. There is simply no chance that all six 5-year periods represented by the Canadian inflation curve (including the stub) end up being roughly equal and the extremely flat inflation curve implied today by markets ends up being "correct".

3 In the COVID quarantine era, the "guaranteed job" prescribed by MMT for large numbers of workers was essentially to be paid to stay home and not seek work.

4 We stress that we are not critical of the actions of either the Bank or the government during the pandemic. Both entities did enough to successfully address extraordinary economic weakness in an environment of deficient information.

5 Political limits abound since almost no one in a position of power embraces Modern Monetary Theory entirely.

Futures Can Help: Trade Structure

Investors in the Canadian inflation markets have been helped recently by the introduction of the LGB (30-year) Government of Canada bond contract (open interest DV01 is currently equivalent to $300 million long bonds) as well as the huge liquidity available in CGB (10-year) contracts.

For example, an investor that believes Canadian implied inflation has fallen too far and too fast after the inflation event of 2021-22 can buy real return bonds in the cash market and sell futures contracts with no fear of experiencing unexpected costs or problems borrowing the nominal bonds in the repo market to cover their short position. The stability of LGB in 2023 is especially enticing since there are no potential issues associated with options embedded in the contract under the newly changed contract specifications[6]; it is a near perfect substitute for long bonds now.

For example, an investor could use real return bonds and a mixture of CGB (10-year) and LGB (30-year) futures contracts to create a long position in 20-year inflation in Canada via the structure in Figure 4. In the trade structure, an investor buys $14.2 million real return bonds in the cash market but hedges the nominal interest rate component using a 50/50 mix of CGBU23 and LGBU23 to retain only the inflation component of the trade. If 20-year inflation rises from current levels, the investor will gain $25,000 per basis point of increase (before adjusting for time carry on the trade). In a less-likely scenario, a very long-term investor could simply hold the trade for 20 years and, if CPI prints are higher than 1.66% over the two decades, the investor would also profit[7]. Various similar structures can be created to target virtually any other point on the inflation curve, if desired.

FIGURE 4

20y Breakeven Inflation

POSITION	SECURITY	DV01/ $100	POSITION DV01
14,200,000	Canada 1.50% Dec44	17.6	25,052
-133	CGBU23	9.3	-12,351
-37	LGBU23	34.3	-12,694
			6

6 Advisory Notice A22-013 - Modification of the delivery period of the LGB.

7 We doubt anyone would do this but, if they did, the long-term carrying costs and managing the quarterly roll of futures contracts would be important.

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