



Forecast Summary

By Taylor Schleich, Warren Lovely & Ethan Currie

- While central banks have begun to acknowledge a moderation of inflationary pressures, we continue to view more downside to headline inflation in 2023, relative to their own outlooks and the forecasting community more broadly. By the second half of 2023, we see inflation returning to target in both the U.S. and Canada.
- Meanwhile, the impact of cumulative tightening has yet to be fully reflected in the real economy. Zero (or negative) growth and normalizing labour markets in the first half of 2023 will give the Fed and Bank of Canada confidence they've set (more than) sufficiently restrictively policy. We therefore expect no more hikes from the BoC and are looking for a pause from the Fed after next month.
- We endorse market expectations for central bank easing to begin towards the end of the year, continuing into the first half of 2024. The absence of an outright recession call in our forecast, and thus, a modest rebound in growth in 2024 suggests that the impulse to quickly return to neutral policy rates could stall out in late 2024.
- Our baseline forecast still incorporates lower bond yields in 2023 but the broad-based rally that's taken hold since the fall limits how much further rates will fall. That's especially true in Canada, where most of the yield curve already resides below 3%. As a result, we continue to look for GoC underperformance this year as medium-term Canada-US rate expectations come back into alignment.
- Yield curves in Canada and the U.S. are primed for some dis-inversion this year. A long-awaited Fed pivot is likely to be the primary catalyst; this view supported by the empirical record. Nonetheless, we don't expect a return to a normal, positively-sloped curve until at least late 2024 given our above neutral policy rates throughout the forecast horizon.
- Credit spreads should enjoy some modest performance upon the Fed's imminent pause (and eventual rate cuts). However, expectations for such an outcome have already spurred a significant rally since Q3:2022, which doesn't leave valuations glaringly attractive from a risk-reward standpoint.

United States						
Quarter	Fed funds	3-month	2-year	5-year	10-year	30-year
2-Feb-23	4.75	4.65	4.08	3.47	3.37	3.53
Q1:2023	5.00	4.85	4.05	3.45	3.35	3.50
Q2:2023	5.00	4.80	3.75	3.35	3.25	3.40
Q3:2023	4.75	4.45	3.40	3.15	3.10	3.30
Q4:2023	4.25	3.90	3.10	3.05	2.95	3.15
Q1:2024	3.75	3.55	2.95	2.95	2.90	3.10
Q2:2024	3.50	3.30	2.85	2.90	2.90	3.10
Q3:2024	3.25	3.15	2.75	2.85	2.95	3.15
Q4:2024	3.25	3.05	2.80	2.90	3.00	3.20

Canada						
Quarter	Overnight	3-month	2-year	5-year	10-year	30-year
2-Feb-23	4.50	4.45	3.64	2.89	2.81	2.92
Q1:2023	4.50	4.45	3.60	2.90	2.80	2.90
Q2:2023	4.50	4.40	3.40	2.80	2.75	2.85
Q3:2023	4.50	4.10	3.15	2.75	2.70	2.80
Q4:2023	4.00	3.60	2.95	2.70	2.65	2.75
Q1:2024	3.50	3.30	2.85	2.65	2.60	2.70
Q2:2024	3.25	3.15	2.75	2.65	2.65	2.70
Q3:2024	3.25	3.10	2.70	2.70	2.70	2.75
Q4:2024	3.25	3.10	2.75	2.75	2.75	2.80

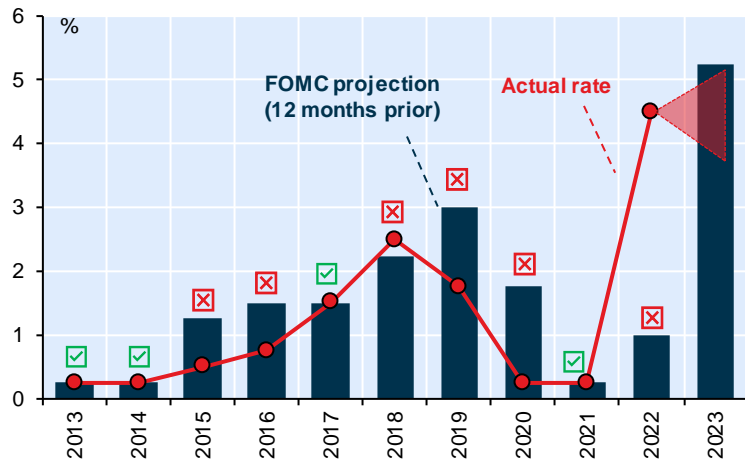
FOMC Update: Don't fight the Fed... funds futures

The Federal Reserve continued their aggressive hiking campaign in February, a more modest 25 basis point adjustment (after 50 in December and 75 in November) bringing the policy rate to 4.75% and cumulative tightening to 450 bps. On the surface, the rate statement felt largely the same as December's. The FOMC still judges that ongoing rate increases "will be appropriate" as they're not yet at a sufficiently restrictive setting. Powell reiterated that December's 'dot plot', which showed fed funds rising above 5% and staying there through year-end, was likely appropriate to tame inflation. Nevertheless, markets were elated by the meeting's conclusion; equities gained and rates across the term structure fell.

One might naturally wonder how we, or markets, can justify year-end rate expectations that are well below the Fed's own projections (by 100 bps in our case). The Fed's dot plot isn't even two months old and was endorsed again in early February. Shouldn't we put more weight on what those who actually set policy are telling us? To that, we'd highlight that their own track record doesn't inspire much confidence. Look back over the past decade and you'll see that more often than not the Fed doesn't deliver on what they signal. The most obvious example is last year. In December 2021, the median dot implied a 1% policy rate at year-end 2022. Instead, an additional 350 basis points of tightening was realized. Sure, this recent episode may be a once in a generation outlier but even in more "stable" environments pre-COVID, the Fed often missed the mark and not insignificantly.

History says to short the FOMC

FOMC fed funds (upper bound) projection 1-year ahead vs. realized rate



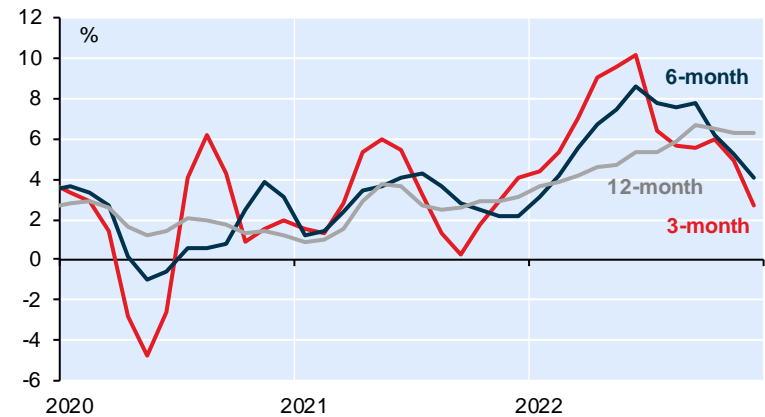
Source: NBF, Bloomberg, FRB | Note: Fed funds projections rounded to nearest 0.25. Example interpretation: 2013 blue bar is the fed funds estimate for December 2013, published by Fed in December 2012. Red dot is actual rate.

That demonstrates a significantly lower rate than signaled can be achieved. But more importantly, why will it? The answer lies with inflation. Recall, as we discussed in our December monitor, that the Fed now looks at inflation in three component parts: core goods, shelter and core services, excluding shelter. Powell, reiterated that there is a "credible story" about continued and/or expected disinflation in those first two measures. The third, in his view, remains too high and might not come down without weaker labour market conditions. This is where we'd respectfully disagree.

Yes, as the Chair noted, 6-month and 12-month rates of inflation here are still above 4%. But consider where they'd been. In June, 6-month inflation here was above 8%. The current 4.1% reading would qualify as disinflation to us. But more importantly, for the last three months we've seen momentum fizzle out even more. In the fourth quarter, Powell's preferred sub-index ran at just 2.6%. If he is waiting to see these longer-term measures fall, it's just a matter of time before base effects work their magic. Certainly, demand is unlikely to be a key driver of this component in the first half given there will be little-to-no domestic growth. By the March meeting we'll have two more inflation reports to assess the progress the Fed has made taming price pressures. If this super-core measure continues to be the focus, his assessment that disinflation hasn't taken hold will be even weaker.

Powell's preferred measure is dis-inflating

Core services CPI, excluding rent of shelter: 3-, 6- & 12-month annualized

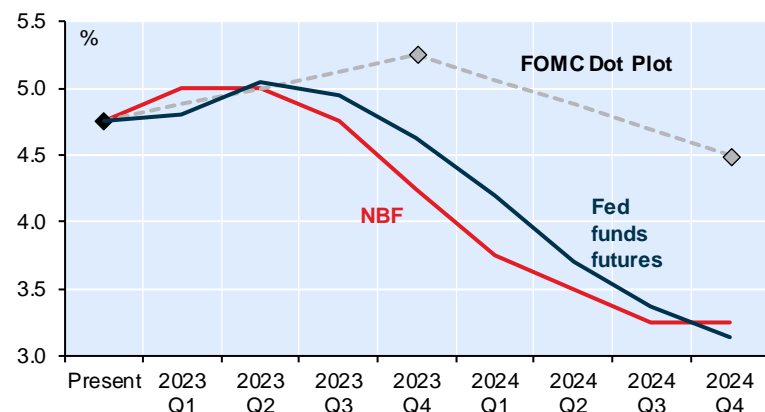


Source: NBF, BLS

Even with expected inflation relief, we recognize the FOMC might not feel fully comfortable staying sidelined in March. But we do think a March increase will be the last. From there, the pressure to ease will mount. While the moniker "don't fight the Fed" would've served investors well last year, we believe deteriorating economic prospects and faster-than-expected inflation relief will break their resolve and see them relent before the year is out. This year, we'd warn don't fight the Fed funds futures.

Markets don't believe the Fed

Fed funds expectations: NBF, FOMC dot plot, fed funds futures



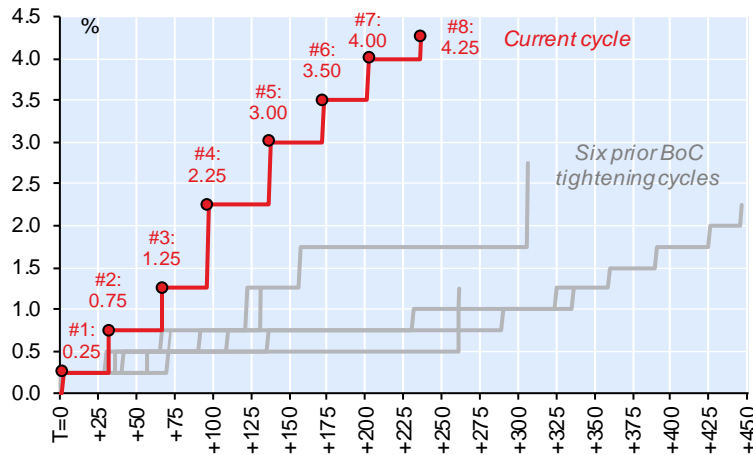
Source: NBF, Bloomberg | Note: Dots/FFF adjusted to show implied upper bound

BoC Update: Time to think about rate cuts

With a 25 basis point increase in January, the Bank of Canada may have put the final touches on a relatively brief but far from dull monetary tightening cycle. Less than a year ago the policy rate stood at 0.25%. Today, the central bank bears an overnight target of 4.5%. In the last quarter century, there's nothing comparable.

There's no (recent) comparison to this remarkable hiking cycle

Cumulative BoC tightening under last six hiking cycles & 2022-23 cycle



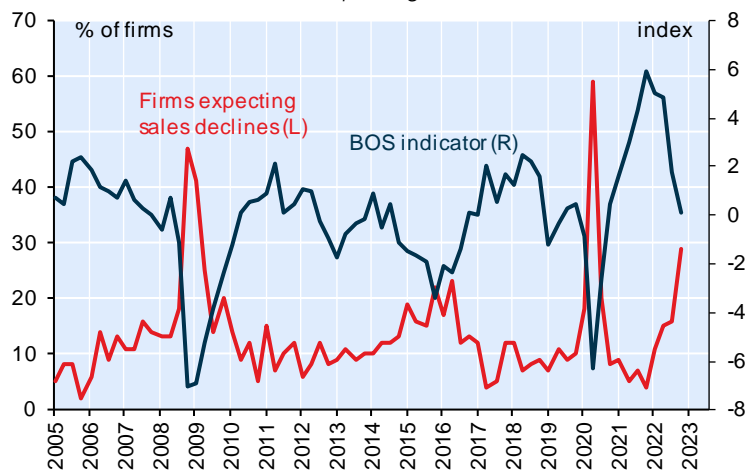
Source: NBF, Bloomberg | Note: X-axis refers to days since first hike of tightening cycle

While the Bank stopped short of guaranteeing that further rate hikes are off the table, they came as close as we could reasonably expect. Indeed, as long as the economy evolves "broadly" in line with their expectations, they plan to hold the policy rate at the current level while they assess the impact of their cumulative tightening.

Simply put, we don't expect any further action will be needed. No, our primary concern is that the Bank of Canada has already done too much. While economic data, released and affected by rate hikes with considerable lags, has yet to indicate significant pain, there's a growing risk that could soon come. As we [recently wrote on](#), variable rate mortgage holders have been decimated over the past year. A rapidly deteriorating business outlook doesn't inspire much confidence either.

Rate hikes have clearly worked on business sentiment

BOS indicator (R) and % of firms expecting sales to fall in next 12M (L)

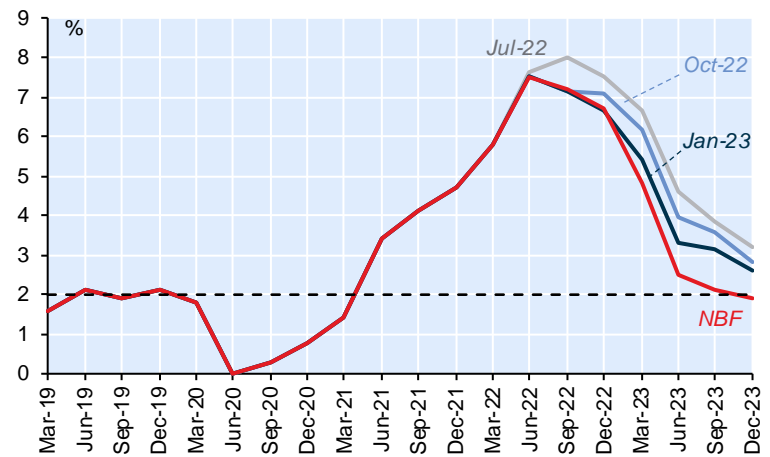


Source: NBF, Bank of Canada

Fortunately, the BoC has set the bar for further rate hikes high. For one, Governor Macklem clarified that they'd need to see an "accumulation" of evidence that inflation wasn't coming down in line with the forecast. In other words, not one or two above-consensus pieces of data. This effectively takes a March (and probably April) hike off the table, with any risks of additional tightening skewed to the summer. More importantly, the Bank presented a relatively sticky inflation forecast and somewhat optimistic growth expectation. Although January's consumer price outlook was marked lower for the second straight quarter, their expected path remains well above our own. Barring any unforeseen shocks, slower growth and inflation should render further tightening unnecessary.

Despite downgrades, there remains downside to BoC outlook

BoC inflation outlook in last three MPRs vs. current NBF forecast



Source: NBF, BoC

For what it's worth, the market would appear to agree. The implied risk of additional hikes is minimal, with interest rate expectations skewed lower by year-end. Late 2023 rate cuts aren't a new development—these had been priced before the Bank "pivoted" in late January. But now that the central bank has declared itself on hold, this is naturally where the focus is moving. Macklem pushed back on this discussion, noting that "it's far too early to be discussing rate cuts". That's mild resistance at best, far less emphatic than Fed policymakers who've been more insistent that rates will remain high.

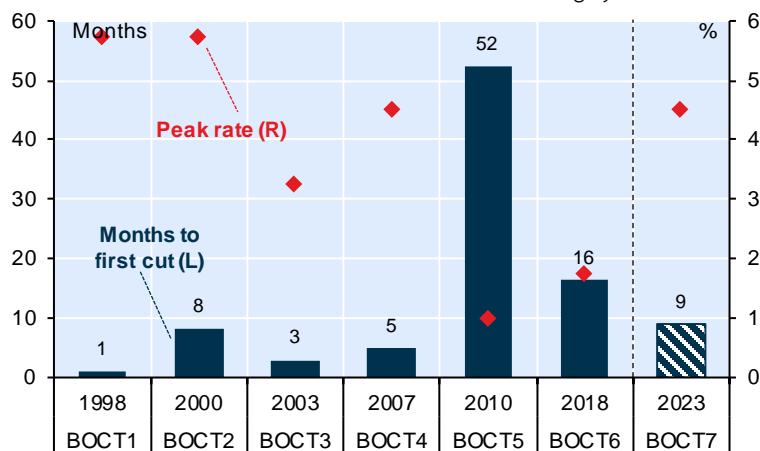
We feel the discussion of 2023 rate cuts is entirely appropriate. As per our own economic outlook, data will clearly support an easing bias in the second half, when all-items inflation is not only within the 1-3% control band but perhaps all the way back to target. Given the indisputable restrictiveness of policy today, these initial cuts should prove "easy". But absent a full-blown recession, there may be hesitancy in returning policy to pre-COVID levels lest we see an unwanted inflation resurgence. And while we're confident in our near-term forecast of rapid inflation normalization, medium-term structural factors (namely, the global energy transition) tend to point to more inflation than we've been used to in recent decades. To us, expected rate cuts this year could stall out in 2024 at a level higher than many might expect. Canadian interest rates are already discounting a fairly rapid return to neutral (2.5%, the middle of the BoC's estimated range. A failure to get their leaves upside risks to rates in 2024.

What less restrictive policy might mean for markets

As we've outlined above, we tend to agree with markets which are increasingly pricing non-trivial easing in the back half of the year. Our justification for this view is primarily a real economy story: we expect inflation back to target, growth slowing more significantly than the BoC and Fed expect and labour markets returning to better balance. But it's also true that the empirical record is on our side. In the admittedly limited sample of earlier central bank tightening cycles, there's a tendency for the peak policy rate to be maintained for a relatively brief period of time. At the BoC, simple averages tend to be skewed by hold periods following relatively shallow hiking cycles. Unsurprisingly, it's easier to avoid cuts when the overnight target is below neutral as it was in the early 2010s and 2018. Needless to say, this recent cycle was not a shallow one. Nor is the policy setting anywhere near accommodative.

An empirical look at BoC 'hold' periods

Months from final hike to first cut and terminal rate in hiking cycle

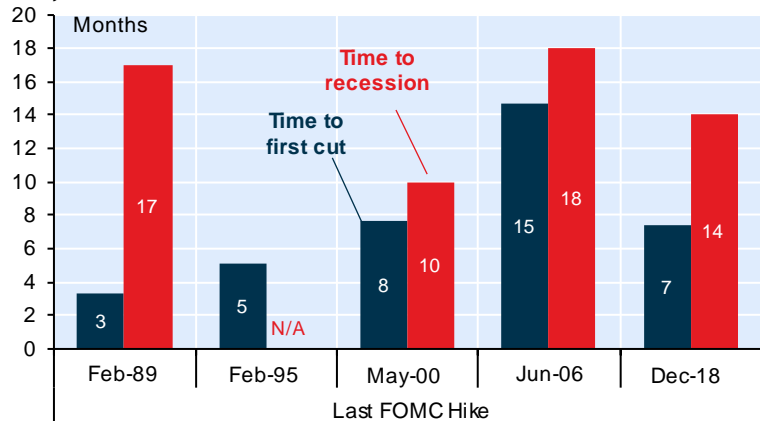


Source: NBF, Bloomberg | Note: X-axis refers to days since first hike of tightening cycle. BOCT7 represents current NBF forecast

The Fed's even smaller sample of historical tightening cycle yields the same conclusion. It's tough to maintain tight policy for long. Importantly, it has also proven to have economic consequences with recessions following more often than not. To be clear, we think this outcome can be avoided but the path to a soft landing remains narrow and will require cooperation from monetary policy.

How long has the Fed (and economy) held on?

Delay from last FOMC rate hike to (i) first rate cut & (ii) economic recession

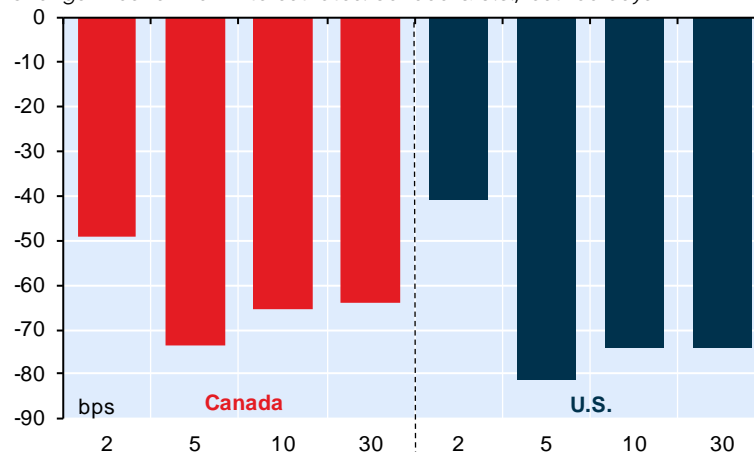


Source: NBF, Bloomberg, FRB, NBER

Should our expectations for 2023 easing materialize, what will it mean for financial markets? Typically, we haven't even needed the onset of cuts for "risk-on" behaviour to take hold and yields to start declining. Rather, the final hike has proven to be the turning point as markets anticipate that easier conditions are ahead. This cycle, we'd still expect a relief rally to take hold as soon as the elusive Fed pause materializes. However, it's important to contextualize where we've come from. As markets have come to adopt our more dovish central bank outlook, risk assets have already enjoyed a formidable rally. Bellwether credit spreads have erased a good deal of the 2022 sell-off. And at the same time, we fear that the economic risks of realized rate hikes haven't been fully incorporated into valuations. Overall, we judge that tighter spreads are still ahead but much of the juice has already been squeezed. Certainly, we'll be looking for continued volatility ahead as waning rate expectations battle with a deteriorating economic outlook.

North American rates have fallen steeply from peaks

Change in benchmark interest rates: Canada & U.S., last 100 days



Source: NBF, Bloomberg

As for longer-term interest rates, there's also already been front-running of an eventual central bank pivot to lower rates, in addition to normalizing inflation expectations. 10-year yields are now down ~75 basis points from their peaks on both sides of the border. We still expect performance this year, but rates aren't as glaringly mispriced as they appeared to us a few months ago. That's particularly true in the GoC market where all but the short end of the curve has dipped below 3%. As such, we continue to expect GoC underperformance ahead as BoC-Fed rate expectations come back into alignment. We tend to view neutral policy rates as broadly similar which doesn't lend itself to a 50+ bp GoC premium sustaining over the long run.

We also maintain our conviction in curve steepener trades in 2023. Historically, these have taken hold upon the final Fed rate hike being notched. That's proven successful most, if not all of the time, and today's still-extreme levels only bolsters the odds this plays out again. That's not to be confused with a return to a positively-sloped yield curve, however. The absence of an outright recession call in our forecast means that, although some cuts will surely be needed/appropriate, there won't be the impulse to quickly retreat all the way back to neutral levels over the next two years. Indeed, it might be some time before we see a "textbook" curve structure again.

Table 1: Interest Rates, Spreads & Foreign Exchange

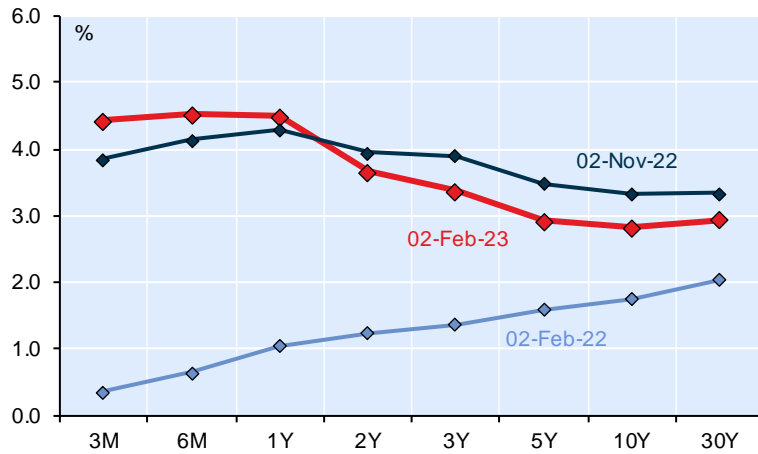
Canada						
Closing:	Current	3M	6M	9M	12M	5Y Avg
Interest Rates (%)						
3M	4.44	3.84	2.66	1.44	0.36	1.23
1Y	4.49	4.28	3.37	2.48	1.05	1.51
2Y	3.64	3.94	3.18	2.61	1.24	1.53
3Y	3.36	3.90	3.09	2.66	1.38	1.56
5Y	2.90	3.49	2.81	2.76	1.60	1.62
10Y	2.81	3.33	2.71	2.92	1.76	1.77
30Y	2.92	3.34	2.78	2.87	2.04	2.02
Spreads (bps)						
3M-10Y	-163	-51	6	149	140	54
2Y-10Y	-84	-61	-47	31	52	23
5Y-10Y	-9	-16	-9	16	15	14
10Y-30Y	11	1	7	-5	28	25
Currencies						
USD/CAD	1.33	1.37	1.28	1.27	1.27	1.31
EUR/CAD	1.46	1.35	1.31	1.35	1.43	1.48

United States						
Closing:	Current	3M	6M	9M	12M	5Y Avg
Interest Rates (%)						
3M	4.64	4.13	2.48	0.87	0.19	1.36
1Y	4.62	4.72	3.09	2.01	0.73	1.58
2Y	4.08	4.62	3.07	2.65	1.16	1.67
3Y	3.75	4.57	3.01	2.82	1.37	1.73
5Y	3.46	4.31	2.83	2.91	1.61	1.84
10Y	3.38	4.10	2.71	2.94	1.78	2.08
30Y	3.55	4.14	2.95	3.04	2.11	2.50
Spreads (bps)						
3M-10Y	-126	-3	23	207	158	72
2Y-10Y	-70	-52	-36	29	62	41
5Y-10Y	-8	-21	-12	2	17	24
10Y-30Y	17	4	24	10	33	41
Currencies						
CAD/USD	0.75	0.73	0.78	0.79	0.79	0.77
EUR/USD	1.10	0.98	1.02	1.06	1.13	1.13

Source: NBF, Bloomberg | Note: values quoted in 3-month intervals from present day to the nearest trading date 3M, 6M, 9M, and 12M prior

Chart 1: Evolution of the Canadian yield curve

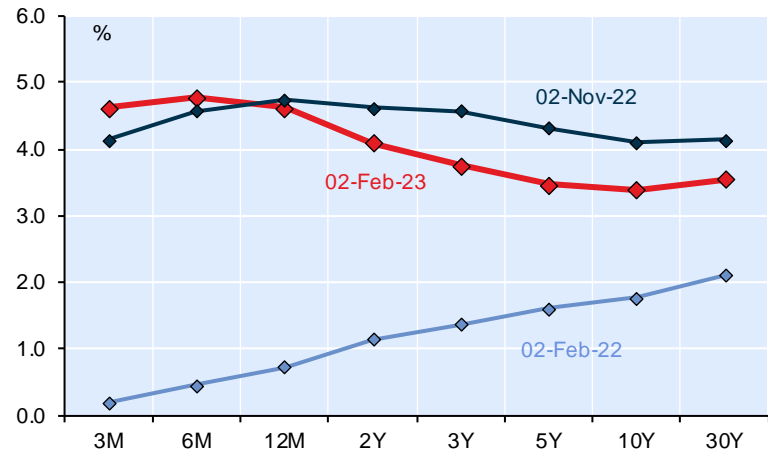
GoC Benchmark Bond Curve – Current & 3/12 Months Ago



Source: NBF, Bloomberg

Chart 2: Evolution of the U.S. yield curve

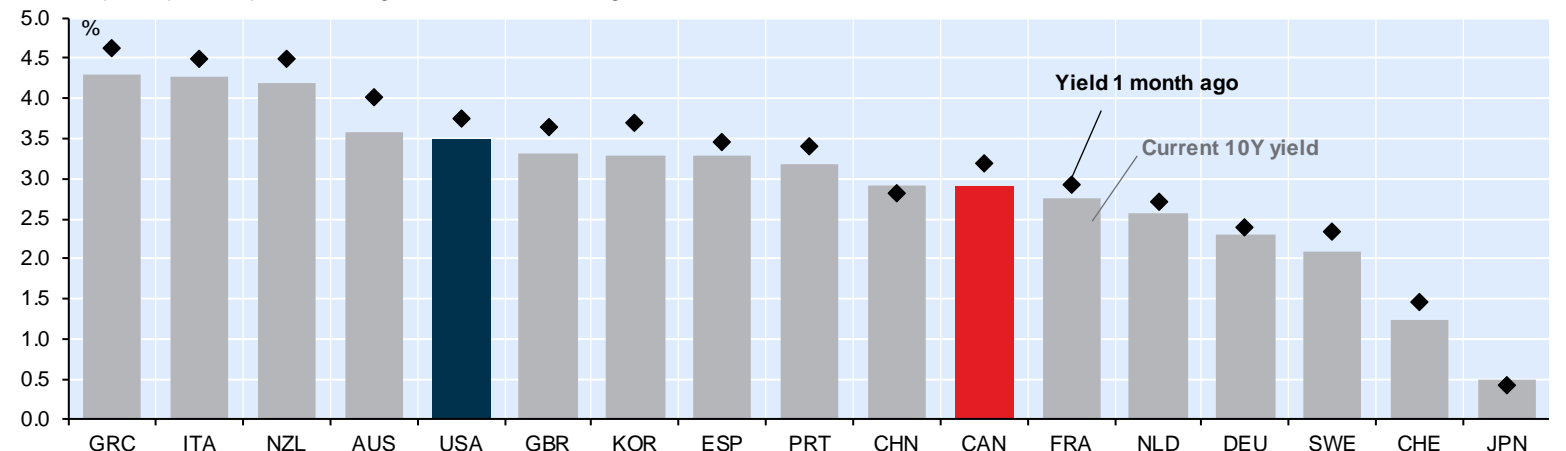
UST Benchmark Bond Curve – Current & 3/12 Months Ago



Source: NBF, Bloomberg

Chart 3: World bond market snapshot

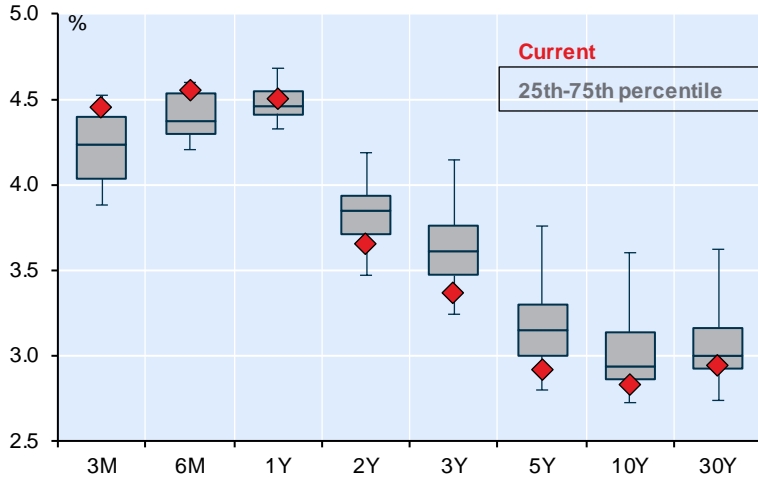
10Y bond yield by country (Descending) – Current & 1 month ago



Source: NBF, Bloomberg

Chart 4: Canada yields

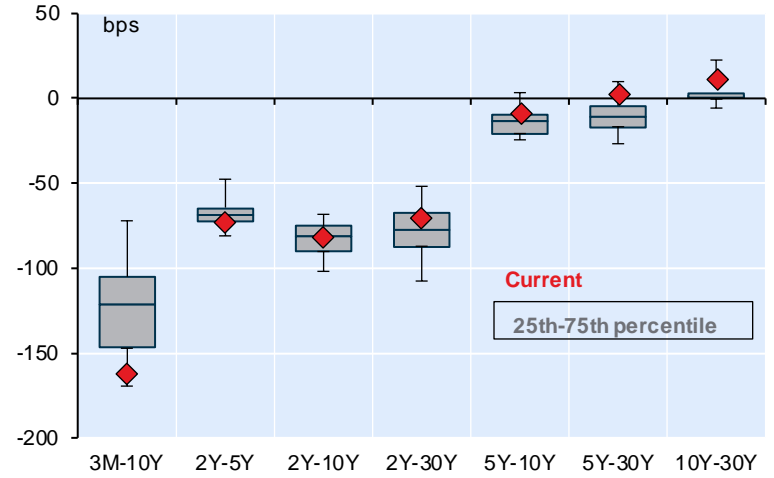
GoC Benchmark Bond Yields: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 5: Canada curve

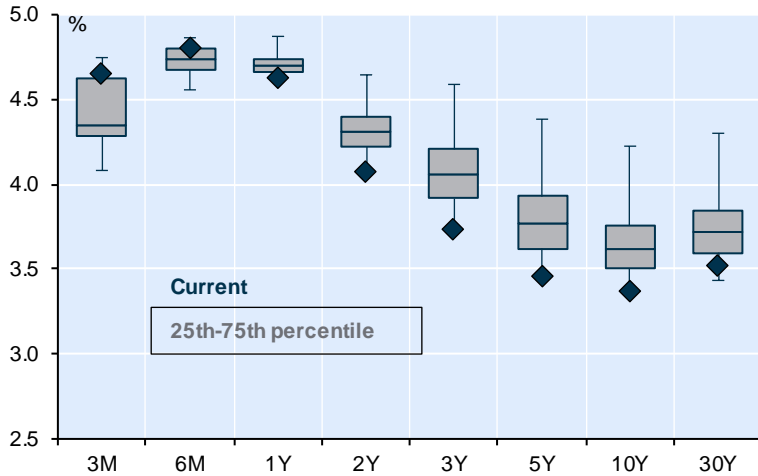
GoC Benchmark Bond Yield Differentials: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 6: U.S. yields

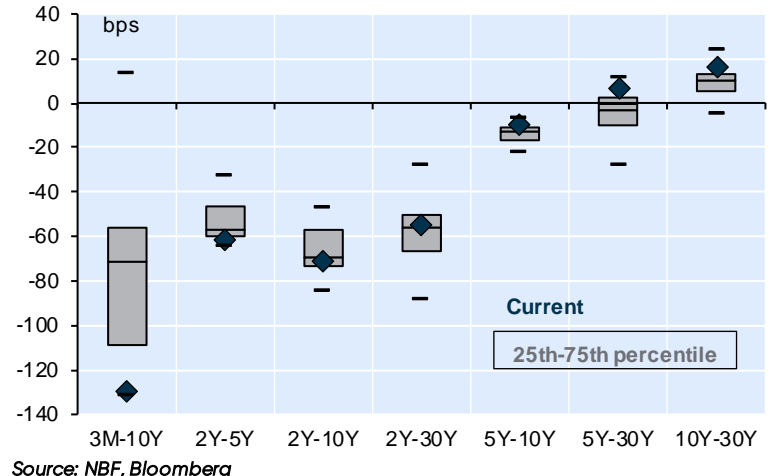
UST Benchmark Bond Yields: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 7: U.S. curve

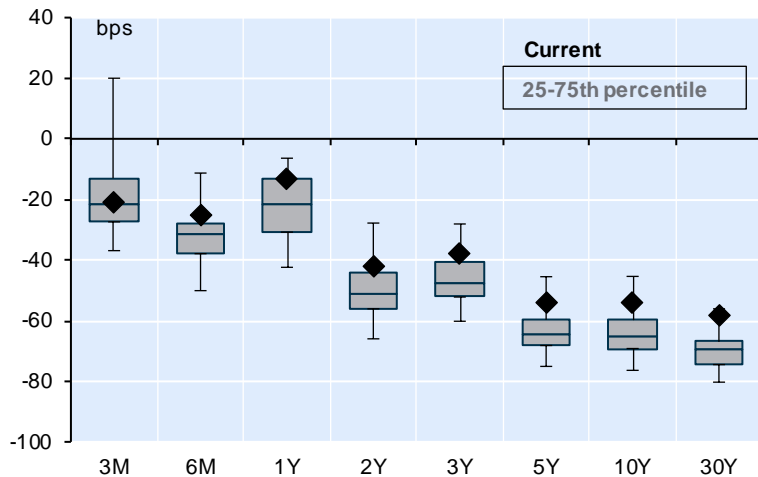
UST Benchmark Bond Yield Differentials: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 8: Canada – U.S. yield differential

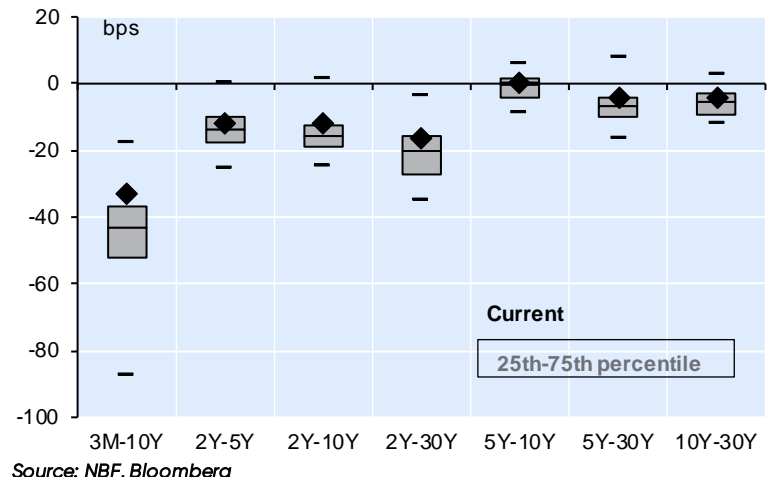
GoC Less UST Benchmark Bond Yields: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 9: Canada – U.S. box

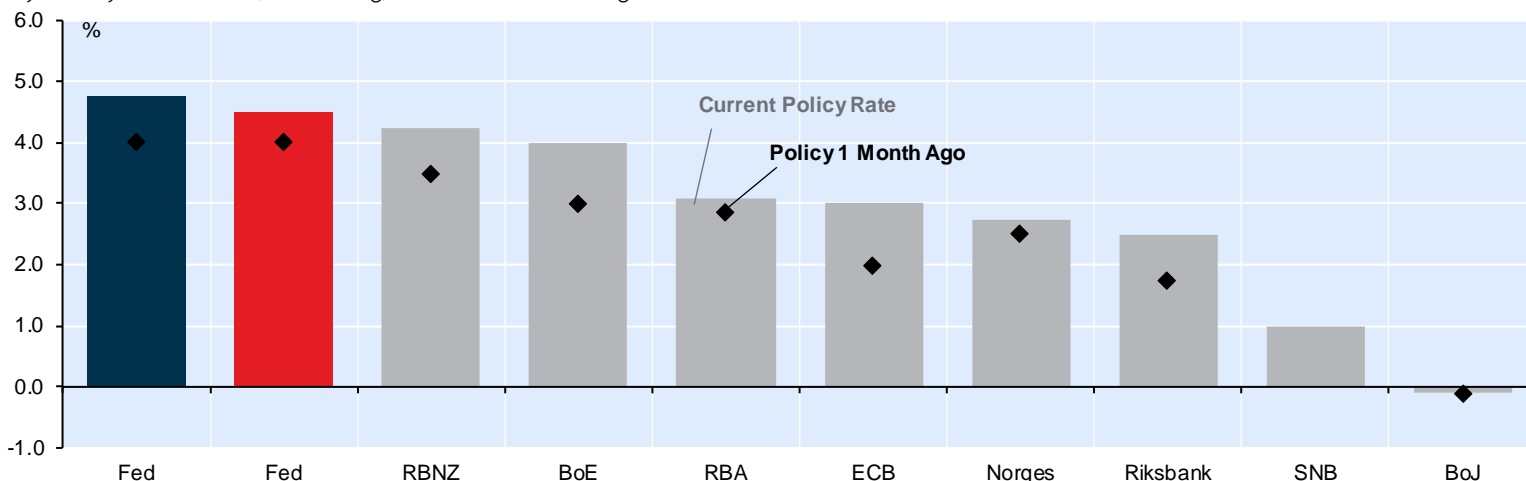
GoC Less UST Yield Curves: Current & 3-month trading range



Source: NBF, Bloomberg

Chart 10: Global Policy Rate Snapshot

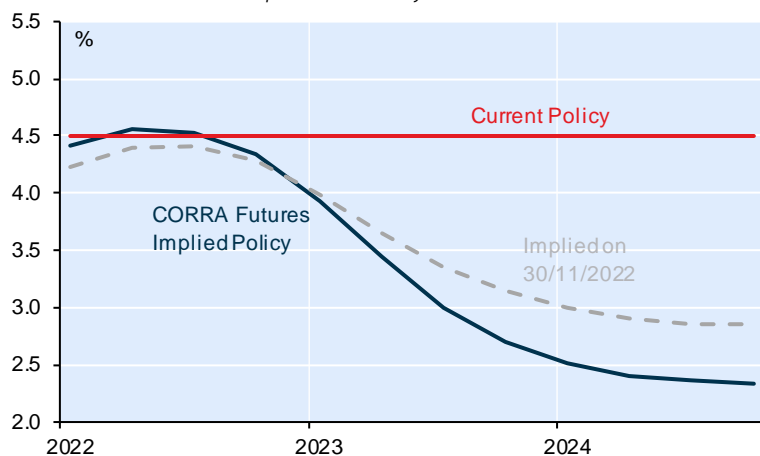
Policy Rate by Central Bank (Descending) – Current & 3 Months Ago



Source: NBF, Bloomberg | Note: Fed Value Reflects Upper-Bound Rate

Chart 11: Canada Overnight Rate Implied by Futures Pricing

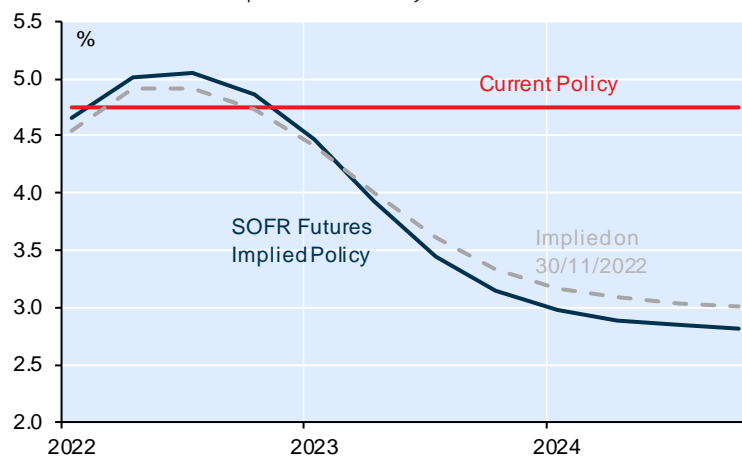
CORRA Futures Market-Implied BoC Policy Rate



Source: NBF, Bloomberg

Chart 12: U.S. Overnight Rate Implied by Futures Pricing

SOFR Futures Market-Implied FOMC Policy Rate



Source: NBF, Bloomberg | Note: Value Reflects Upper-Bound Rate

Table 2: World Policy Rate Snapshot

OIS Market-Implied Policy Rates by Upcoming Central Bank Meeting Date, Next 5 Meetings

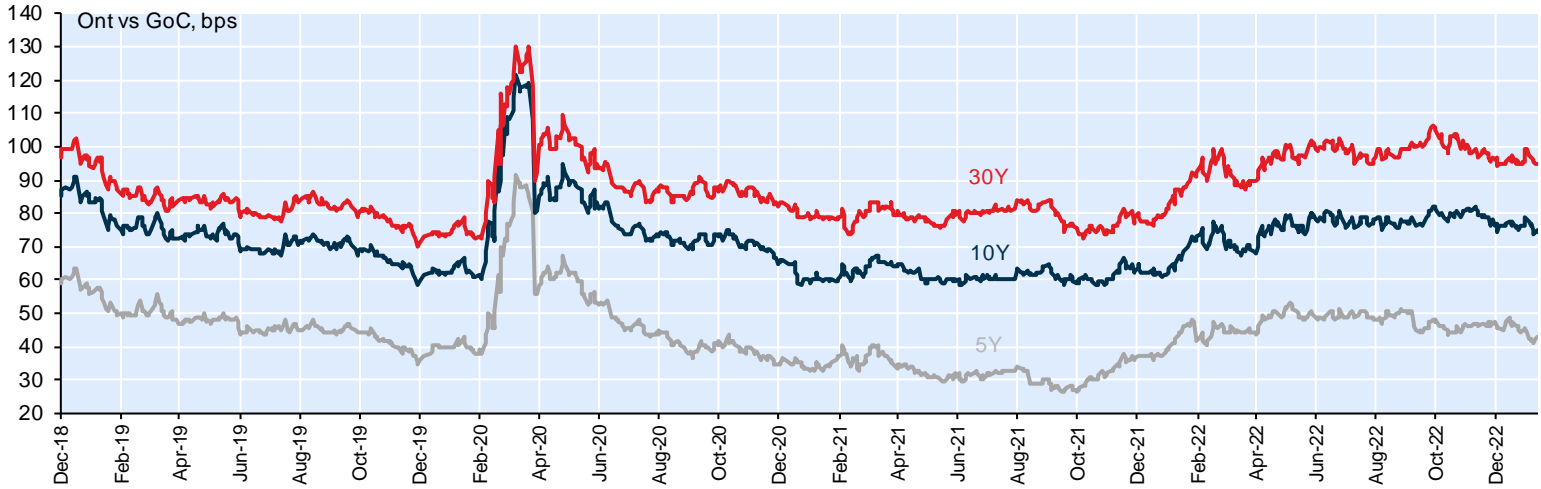
BoC		FOMC		BoE		ECB	
Current Rate: 4.50		Current Rate: 4.75		Current Rate: 4.00		Current Rate: 3.00	
Meeting	Implied Rate	Meeting	Implied Rate	Meeting	Implied Rate	Meeting	Implied Rate
08-Mar-2023	4.52	22-Mar-2023	4.95	23-Mar-2023	4.23	16-Mar-2023	3.60
12-Apr-2023	4.56	03-May-2023	5.04	11-May-2023	4.29	04-May-2023	3.89
07-Jun-2023	4.54	14-Jun-2023	5.04	22-Jun-2023	4.35	15-Jun-2023	4.05
12-Jul-2023	4.54	26-Jul-2023	4.97	03-Aug-2023	4.36	27-Jul-2023	4.09
06-Sep-2023	4.36	20-Sep-2023	4.86	21-Sep-2023	4.28	14-Sep-2023	4.09

RBA		RBNZ		BoJ		Riksbank	
Current Rate: 3.10		Current Rate: 4.25		Current Rate: -0.10		Current Rate: 2.50	
Meeting	Implied Rate	Meeting	Implied Rate	Meeting	Implied Rate	Meeting	Implied Rate
06-Feb-2023	3.30	21-Feb-2023	4.71	10-Mar-2023	-0.10	09-Feb-2023	2.99
06-Mar-2023	3.44	04-Apr-2023	5.09	28-Apr-2023	-0.06	26-Apr-2023	3.161
04-Apr-2023	3.53	23-May-2023	5.19	16-Jun-2023	-0.03	29-Jun-2023	
02-May-2023	3.61	11-Jul-2023	5.26	28-Jul-2023	0.00		
06-Jun-2023	3.65	15-Aug-2023	4.91	22-Sep-2023	0.03		

Source: NBF, Bloomberg | Note: Fed Value Reflects Upper-Bound Rate

Chart 13: Ontario constant maturity spreads to GoCs

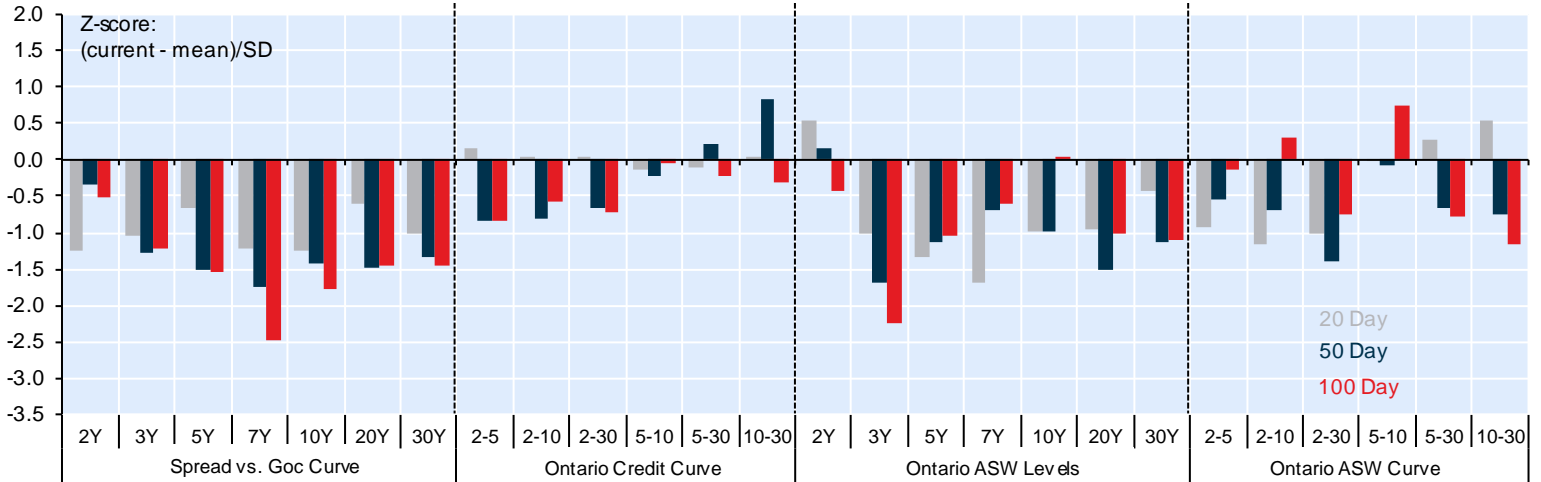
GoC Less ONT Yield Differential – Last 1000 Trading Day Observations, for 5Y, 10Y & 30Y tenors



Source: NBF, Bloomberg

Chart 14: Ontario credit spread z-scores

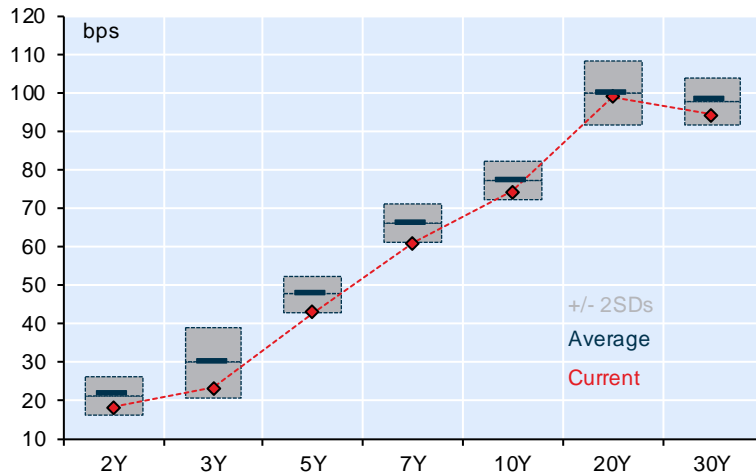
20D / 50D / 100D Z-Scores for Ontario Credit spreads



Source: NBF, Bloomberg

Chart 15: Ontario spread to GoC by tenor

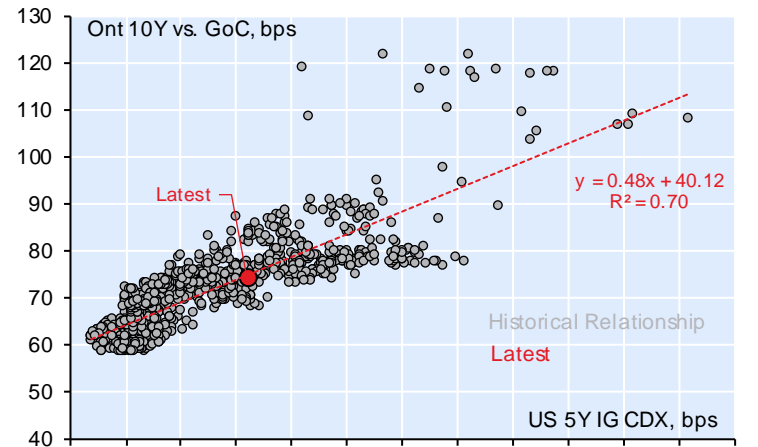
GoC Less ONT Yield Differential – Current & 200D Average / 2SD Range



Source: NBF, Bloomberg

Chart 16: 10Y Ontario spreads vs. U.S. credit

ONT credit spread & US 5Y IG CDX: Last 1000 trading days



Source: NBF, Bloomberg



Table 3: GoC Bond Issuance for FY 2022

Tenor	FYTD Issuance	Target Issuance	Remaining Implied	Progress	Target Benchmark Size	Current Benchmark Bond	Building Benchmark Bond	Anticipated Roll Date
2Y	60.5	68.0	7.5	89%	\$14-18 billion	3.75% Feb-25	*New* May-25	April 2023
3Y	16.0	20.0	4.0	80%	\$8-12 billion	3.00% Oct-25	3.00% Apr-26	June 2023
5Y	27.5	31.0	3.5	89%	\$14-18 billion	2.75% Sep-27	3.50% Mar-28	March 2023
10Y	40.0	52.0	12.0	77%	\$18-24 billion	2.50% Dec-32	2.75% Jun-33	June 2023
30Y	11.0	14.0	3.0	79%	\$25-40 billion	1.75% Dec-53	2.75% Dec-55	2025
Total	155.0	185.0	30.0	84%	-	-	-	-

Source: NBF, Bank of Canada

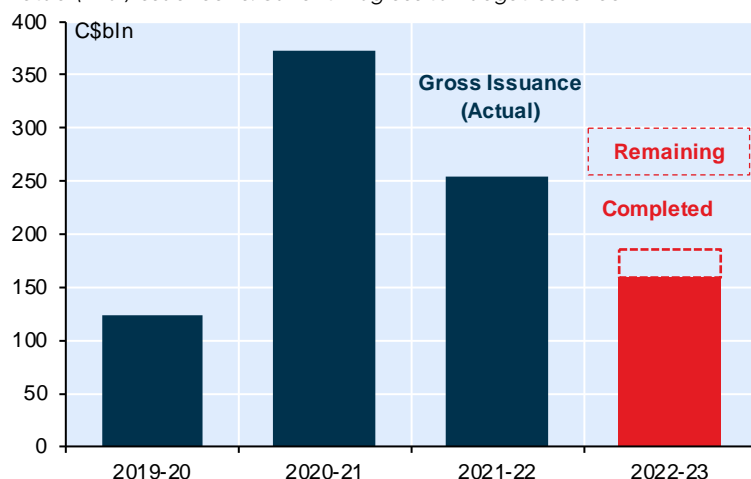
Table 4: Provincial Borrowing Program Update

NBF Provincial Borrowing Program Update								
2022-23 Fiscal Year (April 2022 – March 2023)								1-Feb-23
Province / Agency	Ticker	Required C\$bln	Required C\$/Capita	Completed C\$bln	Domestic %	Foreign %	Remaining C\$bln	Funded Status %
British Columbia	BRCOL	4.89	931	3.88	96%	4%	1.01	79%
Alberta	ALTA	1.30	290	1.30	100%	0%	0.00	100%
Saskatchewan	SCDA	1.93	1,631	2.06	35%	65%	0.00	106%
Manitoba	MP	3.80	2,718	3.62	94%	6%	0.18	95%
Ontario	ONT	32.20	2,155	27.65	87%	13%	4.55	86%
Quebec	Q	23.88	3,343	21.97	80%	20%	1.91	92%
Hydro-Quebec	QHEL	5.00		5.00	100%	0%	0.00	100%
New Brunswick	NBRNS	1.32	1,657	1.62	100%	0%	0.00	122%
Nova Scotia	NS	1.65	1,642	1.20	100%	0%	0.45	73%
Prince Edward Island	PRINCE	0.25	1,498	0.20	100%	0%	0.05	80%
Newfoundland & Labrador	NF	1.80	3,445	1.70	100%	0%	0.10	94%
Total		78.0	2,032	70.2	86%	14%	8.2	90%

Source: NBF, Provincial Governments, Bloomberg, StatCan | Notes: a) Long-term gross funding requirement based on latest available estimates; includes refinancing requirements; excludes prospective pre-funding for coming fiscal year b) Per capita needs based on 2022:Q1 population estimates from StatCan c) Funds borrowed to date d) Includes certain hydro-related financing under province's banner e) Includes financing for Financement-Quebec f) Funds in own name with explicit provincial guarantee; C\$5bln req't relates to calendar 2022, with \$5bln req't anticipated for calendar 2023 g) Fiscal year is January – December h) Includes requirements for NB Municipal Finance Corp. i) Includes funding for N&L Hydro

Chart 17: GoC Gross Issuance by Fiscal Year

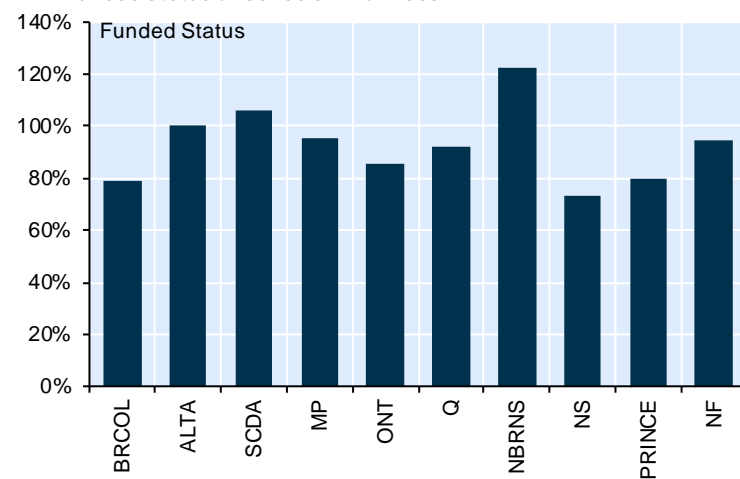
Actual (Prior) Issuance vs. Current Progress to Budget Issuance



Source: NBF, Bloomberg

Chart 18: Provincial Standing on Target Borrowing

FYTD Funded Status of Canadian Provinces



Source: NBF, Bloomberg | Note: Funded Status = Completed Borrowing / Target



Table 5: Domestic Bond Tracker

NBF Domestic Bond Tracker									
C\$billion	Monthly Issuance			Prior Yr	Calendar YTD		Calendar Year Sum		
	Jan-23	Dec-22	Nov-22	Jan-22	2023	2022	2022	2021	2020
Government of Canada	11.5	7.5	15.0	17.5	11.5	17.5	199.0	281.4	321.2
2Y	4.0	3.5	3.5	3.5	4.0	3.5	66.5	82.0	117.0
3Y	2.0	-	2.5	3.0	2.0	3.0	22.0	35.0	49.3
5Y	4.0	-	3.5	4.0	4.0	4.0	31.5	48.0	73.9
10Y	-	4.0	4.0	5.0	-	5.0	60.0	79.0	56.9
30Y Nominal	1.5	-	1.5	2.0	1.5	2.0	17.0	33.0	23.0
30Y RRB	-	-	-	-	-	-	1.0	1.4	1.1
Extra-Longs	-	-	-	-	-	-	1.0	3.0	-
Weighted Avg Term (Years)	6.9	6.3	7.8	8.3	6.9	8.3	7.7	8.3	6.4
Canada Housing Trust	-	5.0	4.8	-	-	-	40.0	40.0	53.0
5Y Fixed	-	5.0	-	-	-	-	20.5	20.3	32.0
5Y FRN	-	-	1.3	-	-	-	4.8	4.3	6.0
10Y Fixed	-	-	3.5	-	-	-	14.8	15.5	15.0
Provincial Governments	7.2	4.4	11.1	5.6	7.2	5.6	69.1	81.8	108.3
Ontario	2.4	3.1	3.8	2.5	2.4	2.5	29.0	36.0	40.7
Quebec	2.2	1.0	4.1	1.1	2.2	1.1	24.6	20.9	24.2
British Columbia	-	-	1.0	0.5	-	0.5	5.8	6.3	10.3
Most Populous (Ont, Que, BC)	4.6	4.1	8.9	4.1	4.6	4.1	59.4	63.2	75.2
Alberta	-	-	0.5	0.6	-	0.6	1.9	8.8	15.4
Saskatchewan	0.1	-	-	0.3	0.1	0.3	1.2	3.0	4.3
Newfoundland & Labrador	0.3	0.3	0.3	0.3	0.3	0.3	1.8	1.3	3.0
Oil-Levered (Alta, Sask, N&L)	0.4	0.3	0.8	1.2	0.4	1.2	4.9	13.0	22.6
Manitoba	1.5	-	0.8	0.3	1.5	0.3	2.3	3.1	5.8
Maritimes	0.8	-	0.6	-	0.8	-	2.6	2.5	4.7
Public	6.9	3.7	11.1	5.6	6.9	5.6	67.9	80.4	102.9
Private / MTN / Auctions	0.4	0.8	-	-	0.4	-	1.2	1.3	5.4
Fixed	7.2	4.4	11.1	5.6	7.2	5.6	69.1	81.7	107.5
Floating	-	-	-	-	-	-	0.1	0.0	0.8
1-5Y	2.2	0.8	1.9	-	2.2	-	4.9	3.3	23.5
6-10Y	2.8	1.6	4.7	3.6	2.8	3.6	32.9	41.3	49.8
>10Y (Longs)	2.3	2.1	4.6	2.0	2.3	2.0	31.3	37.2	35.1
Weighted Avg Term (Years)	16.1	19.0	18.3	17.0	16.1	17.0	19.4	19.5	16.2
<i>International Issuance</i>	3.3	-	0.0	5.2	3.3	5.2	12.2	29.6	40.9
<i>Prov'l Total (Including Non C\$)</i>	10.5	4.4	11.1	10.8	10.5	10.8	81.4	111.4	149.2
Municipal Governments	-	0.3	0.6	0.1	-	0.1	4.7	5.9	5.4

Source: NBF, Bloomberg, Bank of Canada, Provincial Government | Note: Figures represent gross bond supply; issuance totals based on par amount; deals recorded as per issue date; unless otherwise noted, figures refer to C\$-denominated issues only; GoC figures exclude Green issuance; provincial figures include issuance by guaranteed entities; provincial international issuance presented for reference purposes, converted to C\$-equivalent amounts at prevailing exchange rates; municipal government issuance refers to publicly syndicated deals only.

Prepared by NBF; contact Warren Lovely (+1-416-869-8598 | warren.lovely@nbc.ca) for additional information



Economics and Strategy

Montreal Office

514-879-2529

Stéfane Marion

Chief Economist and Strategist

stefane.marion@nbc.ca

Kyle Dahms

Economist

kyle.dahms@nbc.ca

Alexandra Ducharme

Economist

alexandra.ducharme@nbc.ca

Matthieu Arseneau

Deputy Chief Economist

matthieu.arseneau@nbc.ca

Daren King, CFA

Economist

daren.king@nbc.ca

Angelo Katsoras

Geopolitical Analyst

angelo.katsoras@nbc.ca

Jocelyn Paquet

Economist

jocelyn.paquet@nbc.ca

Toronto Office

416-869-8598

Warren Lovely

Chief Rates and Public Sector Strategist

warren.lovely@nbc.ca

Taylor Schleich

Rates Strategist

taylor.schleich@nbc.ca

General

This Report was prepared by National Bank Financial, Inc. (NBF), (a Canadian investment dealer, member of IIROC), an indirect wholly owned subsidiary of National Bank of Canada. National Bank of Canada is a public company listed on the Toronto Stock Exchange.

The particulars contained herein were obtained from sources which we believe to be reliable but are not guaranteed by us and may be incomplete and may be subject to change without notice. The information is current as of the date of this document. Neither the author nor NBF assumes any obligation to update the information or advise on further developments relating to the topics or securities discussed. The opinions expressed are based upon the author(s) analysis and interpretation of these particulars and are not to be construed as a solicitation or offer to buy or sell the securities mentioned herein, and nothing in this Report constitutes a representation that any investment strategy or recommendation contained herein is suitable or appropriate to a recipient's individual circumstances. In all cases, investors should conduct their own investigation and analysis of such information before taking or omitting to take any action in relation to securities or markets that are analyzed in this Report. The Report alone is not intended to form the basis for an investment decision, or to replace any due diligence or analytical work required by you in making an investment decision.

This Report is for distribution only under such circumstances as may be permitted by applicable law. This Report is not directed at you if NBF or any affiliate distributing this Report is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to you. You should satisfy yourself before reading it that NBF is permitted to provide this Report to you under relevant legislation and regulations.

National Bank of Canada Financial Markets is a trade name used by National Bank Financial and National Bank of Canada Financial Inc.

Canadian Residents

NBF or its affiliates may engage in any trading strategies described herein for their own account or on a discretionary basis on behalf of certain clients and as market conditions change, may amend or change investment strategy including full and complete divestment. The trading interests of NBF and its affiliates may also be contrary to any opinions expressed in this Report.

NBF or its affiliates often act as financial advisor, agent or underwriter for certain issuers mentioned herein and may receive remuneration for its services. As well NBF and its affiliates and/or their officers, directors, representatives, associates, may have a position in the securities mentioned herein and may make purchases and/or sales of these securities from time to time in the open market or otherwise. NBF and its affiliates may make a market in securities mentioned in this Report. This Report may not be independent of the proprietary interests of NBF and its affiliates.

This Report is not considered a research product under Canadian law and regulation, and consequently is not governed by Canadian rules applicable to the publication and distribution of research Reports, including relevant restrictions or disclosures required to be included in research Reports.

UK Residents

This Report is a marketing document. This Report has not been prepared in accordance with EU legal requirements designed to promote the independence of investment research and it is not subject to any prohibition on dealing ahead of the dissemination of investment research. In respect of the distribution of this Report to UK residents, NBF has approved the contents (including, where necessary, for the purposes of Section 21(1) of the Financial Services and Markets Act 2000). This Report is for information purposes only and does not constitute a personal recommendation, or investment, legal or tax advice. NBF and/or its parent and/or any companies within or affiliates of the National Bank of Canada group and/or any of their directors, officers and employees may have or may have had interests or long or short positions in, and may at any time make purchases and/or sales as principal or agent, or may act or may have acted as market maker in the relevant investments or related investments discussed in this Report, or may act or have acted as investment and/or commercial banker with respect hereto. The value of investments, and the income derived from them, can go down as well as up and you may not get back the amount invested. Past performance is not a guide to future performance. If an investment is denominated in a foreign currency, rates of exchange may have an adverse effect on the value of the investment. Investments which are illiquid may be difficult to sell or realise; it may also be difficult to obtain reliable information about their value or the extent of the risks to which they are exposed. Certain transactions, including those involving futures, swaps, and other derivatives, give rise to substantial risk and are not suitable for all investors. The investments contained in this Report are not available to retail customers and this Report is not for distribution to retail clients (within the meaning of the rules of the Financial Conduct Authority). Persons who are retail clients should not act or rely upon the information in this Report. This Report does not constitute or form part of any offer for sale or subscription of or solicitation of any offer to buy or subscribe for the securities described herein nor shall it or any part of it form the basis of or be relied on in connection with any contract or commitment whatsoever.

This information is only for distribution to Eligible Counterparties and Professional Clients in the United Kingdom within the meaning of the rules of the Financial Conduct Authority. NBF is authorised and regulated by the Financial Conduct Authority and has its registered office at 70 St. Mary Axe, London, EC3A 8BE.

NBF is not authorised by the Prudential Regulation Authority and the Financial Conduct Authority to accept deposits in the United Kingdom.

U.S. Residents

With respect to the distribution of this report in the United States of America, National Bank of Canada Financial Inc. ("NBCFI") which is regulated by the Financial Industry Regulatory Authority (FINRA) and a member of the Securities Investor Protection Corporation (SIPC), an affiliate of NBF, accepts responsibility for its contents, subject to any terms set out above. To make further inquiry related to this report, or to effect any transaction, United States residents should contact their NBCFI registered representative.

This report is not a research report and is intended for Major U.S. Institutional Investors only.

This report is not subject to U.S. independence and disclosure standards applicable to research reports.

HK Residents

With respect to the distribution of this report in Hong Kong by NBC Financial Markets Asia Limited ("NBCFMA") which is licensed by the Securities and Futures Commission ("SFC") to conduct Type 1 (dealing in securities) and Type 3 (leveraged foreign exchange trading) regulated activities, the contents of this report are solely for informational purposes. It has not been approved by, reviewed by, verified by or filed with any regulator in Hong Kong. Nothing herein is a recommendation, advice, offer or solicitation to buy or sell a product or service, nor an official confirmation of any transaction. None of the products issuers, NBCFMA or its affiliates or other persons or entities named herein are obliged to notify you of changes to any information and none of the foregoing assume any loss suffered by you in reliance of such information.

The content of this report may contain information about investment products which are not authorized by SFC for offering to the public in Hong Kong and such information will only be available to those persons who are Professional Investors (as defined in the Securities and Futures Ordinance of Hong Kong ("SFO")). If you are in any doubt as to your status you should consult a financial adviser or contact us. This material is not meant to be marketing materials and is not intended for public distribution. Please note that neither this material nor the product referred to is authorized for sale by SFC. Please refer to product prospectus for full details.

There may be conflicts of interest relating to NBCFMA or its affiliates' businesses. These activities and interests include potential multiple advisory, transactional and financial and other interests in securities and instruments that may be purchased or sold by NBCFMA or its affiliates, or in other investment vehicles which are managed by NBCFMA or its affiliates that may purchase or sell such securities and instruments.

No other entity within the National Bank of Canada group, including National Bank of Canada and National Bank Financial Inc, is licensed or registered with the SFC. Accordingly, such entities and their employees are not permitted and do not intend to: (i) carry on a business in any regulated activity in Hong Kong; (ii) hold themselves out as carrying on a business in any regulated activity in Hong Kong; or (iii) actively market their services to the Hong Kong public.

Copyright

This Report may not be reproduced in whole or in part, or further distributed or published or referred to in any manner whatsoever, nor may the information, opinions or conclusions contained in it be referred to without in each case the prior express written consent of NBF.