



## Highlights

By Taylor Schleich & Warren Lovely

- Additional tightening must be expected, with the Bank of Canada (on December 7<sup>th</sup>) and then the FOMC (on December 14<sup>th</sup>) poised to hike for a seventh consecutive time in the final announcement of 2022.
- In the BoC's case, it's possible that December's hike (we currently anticipate 50 bps, with that contingent on the next inflation print) could be the last. To be clear, there's nothing terribly magical about the turn of the calendar when it comes to monetary policymaking. But after pushing the policy rate further into restrictive territory (up to 4.25%), it will be appropriate to pause in order to assess the slowdown in Canadian growth and inflation.
- Jay Powell's Fed may opt for an additional anti-inflation insurance policy early in 2023, in the form a final rate hike to 4.75% for fed funds upper. Here again, however, an expectation of rapidly moderating U.S. inflation should give the FOMC what it needs to declare a cease fire (in terms of policy rate hikes), kicking off what could be a traditionally short period of monetary policy stability.
- Further out, markets are still expecting fed funds (upper bound target) to remain near 4% through 2024—just as the FOMC signaled in its September dot plot. But we continue to push back. We can concede the point the Fed will likely be more reluctant to provide ultra-easy monetary again in the future (as it did in 2020 and 2021). But lowering rates from close to 5% to 3% is not that. The Fed still views 2.5% as the long-run neutral rate. Theoretically, at least, a policy rate at or above that level won't add upward pressure to inflation. The same goes for the Bank of Canada. Simply put, suffocatingly restrictive monetary policy won't be needed in a year's time.

## Forecast dated November 14, 2022

United States						
Quarters	Fed Funds	3 Mth Bill	2YR	5YR	10YR	30YR
14-Nov-22	4.00	4.19	4.41	3.99	3.86	4.05
Q4	4.50	4.55	4.50	4.10	3.95	4.10
Q1:2023	4.75	4.65	4.45	4.05	3.85	4.00
Q2	4.75	4.50	4.05	3.75	3.60	3.80
Q3	4.50	4.05	3.45	3.40	3.35	3.60
Q4	3.50	3.40	3.00	3.10	3.20	3.45
Q1:2024	3.00	2.90	2.90	3.05	3.15	3.35
Q2	3.00	2.80	2.85	3.00	3.10	3.30
Q3	3.00	2.70	2.80	2.95	3.05	3.25

Canada						
Quarters	Overnight	3 Mth Bill	2YR	5YR	10YR	30YR
14-Nov-22	3.75	4.02	3.85	3.31	3.14	3.26
Q4	4.25	4.30	4.05	3.40	3.25	3.30
Q1:2023	4.25	4.25	3.95	3.35	3.20	3.25
Q2	4.25	4.20	3.50	3.20	3.10	3.20
Q3	4.25	4.05	3.30	3.05	3.00	3.15
Q4	3.75	3.60	3.15	2.95	2.95	3.10
Q1:2024	3.25	3.10	2.95	2.90	2.95	3.05
Q2	3.00	3.05	2.80	2.85	2.95	3.00
Q3	3.00	2.90	2.70	2.85	2.90	3.00

## Nearing the end of the line?

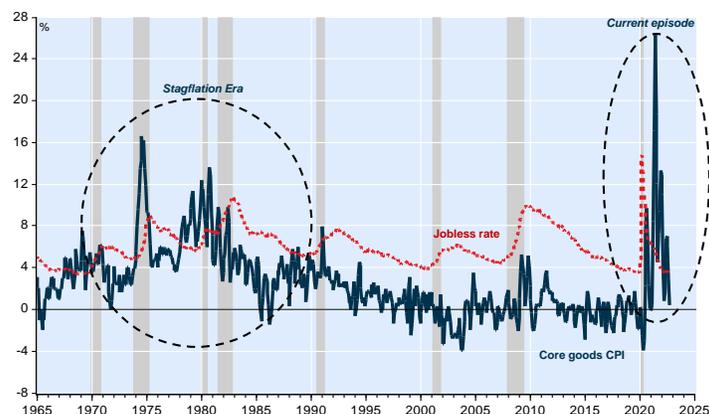
With the end of the year not all that far off, it's a natural enough time for reflection. After all, 2022 has been one of the more remarkable years most will be able to remember, with central bank policy rate adjustment a catalyst for radical re-pricing in not just global rates markets but virtually every asset class.

We're careful not to overreact to a single data release (or two), but the necessary pre-condition for a standing down on rate hikes—specifically a cooling in inflation—seems to be falling into place. We've arguably been headed in the needed direction for a couple months in Canada, which provided some scope for the Bank of Canada to under-deliver on policy tightening the last time out.

Most vitally, U.S. inflation trends have looked somewhat less alarming of late. U.S. CPI inflation eased more than expected in October, with goods inflation falling much faster than in the stagflation era and manufacturing supply chains rapidly becoming more fluid.

### U.S.: Goods inflation falling much faster than in the stagflation era

Three-month annualized change in the core goods CPI vs unemployment rate



NBF Economics and Strategy (data via Refinitiv)

### U.S.: Significant drop in international transportation costs

Price to transport a 40-foot container from Shanghai to Los Angeles



NBF Economics and Strategy (data via Bloomberg)

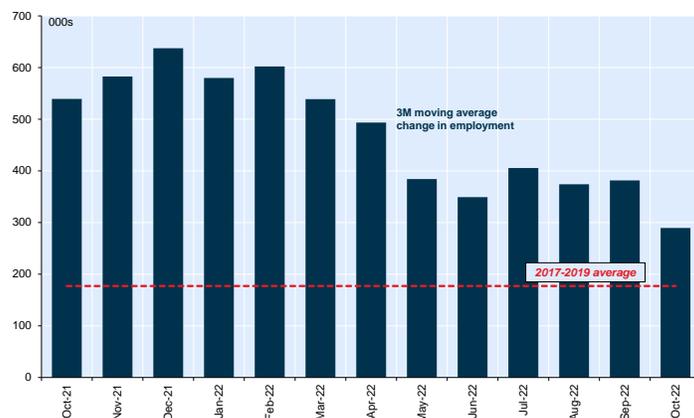
A more pragmatic BoC stance and some soothing of U.S. inflation have prompted something of re-think in terms of the terminal rates discounted by market participants. For if sustained, the taming of inflation (combined with accumulating damage to key interest-

sensitive demand sectors like housing) would argue for standing down sooner and at a lower level than some previously believed.

Again, we caution that the hawks on the FOMC are unlikely to be appeased by a single CPI report. Having consistently underestimated inflation pressure for the better part of two years now, it's likely a bit premature to declare an inflation victory. Indeed, not long after the inflation report was released, FOMC Governor Christopher Waller stressed that while the latest data was "good news", "we've still got a ways to go". And to be clear, inflation is not exactly cool either... it's just less red hot. Moreover, labour markets have yet to buckle; rather, employment levels, unemployment rates, job vacancies and wage readings continue to showcase labour market resilience on both sides of the border.

### The U.S. labour market is slowing... but considerable momentum remains

Monthly change in U.S. employment : 3-month moving average vs. pre-COVID average



NBF Economics and Strategy (data via Bloomberg)

Additional tightening must therefore be expected, with the BoC (on December 7th) and then the FOMC (on December 14th) poised to hike for a seventh consecutive time in the final announcement of 2022. In the BoC's case, it's possible that December's hike (we currently anticipate 50 bps, with that contingent on the next inflation print) could be the last. To be clear, there's nothing terribly magical about the turn of the calendar when it comes to monetary policymaking. But after pushing the policy rate further into restrictive territory (up to 4.25%), it will be appropriate to pause in order to assess the slowdown in Canadian growth and inflation.

Jay Powell's Fed may opt for an additional anti-inflation insurance policy early in 2023, in the form a final rate hike to 4.75% for fed funds upper. Here again, however, an expectation of rapidly moderating U.S. inflation should give the FOMC what it needs to declare a cease fire (in terms of policy rate hikes), kicking off what could be a traditionally short period of monetary policy stability.

Don't confuse the end of rate hikes in/around the turn of the year with the onset of easy financial conditions. Central bank balance sheets will continue to shed weight, the associated drainage of liquidity via QT likely dulling the extent of a risk-on rally in our opinion. But a pivot to lower/less-restrictive policy rate settings could be taking shape by late summer, our official forecast incorporating rate cuts—first by the FOMC followed closely by the BoC—in 2023:Q3.

## Has the Fed found an off-ramp?

Judging by recent investor sentiment, the end of the Fed hiking cycle is upon us. Okay, perhaps it's premature to declare victory quite yet but new developments—read: one extremely encouraging CPI report—have perhaps sewn the seeds of a Fed tightening pause in the not-too-distant future. Certainly, that's what the interest rate, credit and equity markets would have you believe based on their reaction to the inflation data. More on that shortly, but first, what else have we learned since our last edition of our Fixed Income Monitor?

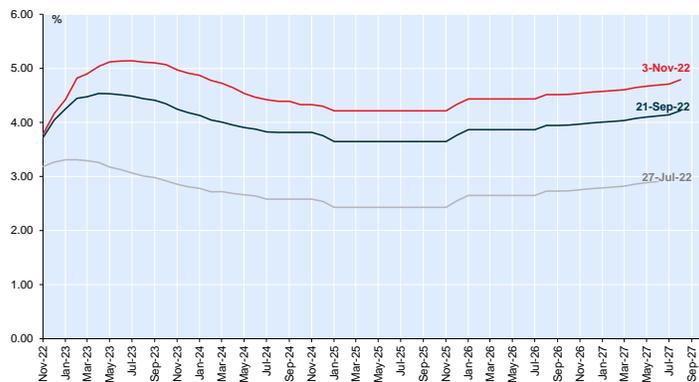
The Fed's early November meeting, in its totality, was another hawkish revelation that shifted rate expectations higher still. No, there was no surprise on the Fed's decision to hike by 75 basis points. Nor was anything in the rate statement that *more* hawkish than before. If anything, a newly-added acknowledgement that "the [FOMC] will take into account the cumulative tightening" and "the lags with which monetary policy affects economic activity and inflation" suggested a less aggressive tightening trajectory all else equal. But Chair Powell's press conference quickly changed our interpretation of the Fed's decision. While his comments didn't preclude a downshift shift in the pace of hikes in December (to 50 bps), he noted that the terminal rate for the policy rate is probably *higher* than they'd estimated in late-September:

*"At some point, [...] it will become appropriate to slow the pace of increases, as we approach the level of interest rates that will be sufficiently restrictive... There is significant uncertainty around that level of interest rates. Even so, we still have some ways to go, and incoming data since our last meeting suggest that the ultimate level of interest rates will be higher than previously expected."*

And with that, Fed expectations were catapulted above 5%. Just as we'd seen after other meetings this year, rate expectations, in the near-, medium- and long-term, were repriced higher.

### Fed continued to push rate expectations higher at November's meeting

Fed fund futures implied policy rates to 2027: After July, September and November FOMC meetings

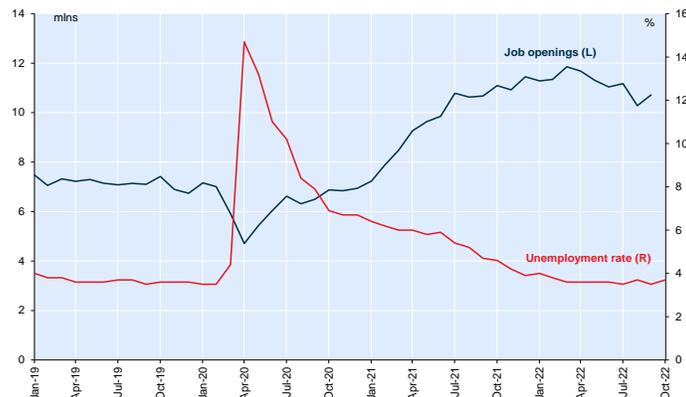


NBF Economics and Strategy (data via Bloomberg)

To be fair to the Fed, at the time, evidence to support anything other than higher rates was limited. The labour market, while showing signs of deceleration, remained historically tight. Non-farm employment continued to defy gravity and job openings—a key gauge for the Fed—had only grown, suggesting that the sought-after deterioration was still far off.

## Conditions remain tight in the U.S. labour market

United States job openings (left) and unemployment rate (right)



NBF Economics and Strategy (data via Bloomberg)

GDP growth rebounded (as expected) from the first half of the year, with the details of the report pointing to more underlying strength than expected. Nowcasts (via the Atlanta Fed) of fourth quarter growth suggested a further acceleration. And, most importantly, September's CPI data provided an upside surprise.

Fast forward to November 10<sup>th</sup>. October CPI inflation came out well below consensus, with details of the report offering plenty of encouraging signs. While energy prices rebounded and food inflation remained hot, core measures decelerated much faster than expected. Of concern, at least on the surface, was shelter inflation which accelerated to 0.8% m/m, or ~10% on an annual basis. But keep in mind, the measure for rent (and owner's equivalent rent) inflation reflects prices paid by *all* lessees. In other words, it's not fully reflecting current changes in asking rents/prices (which are now flat-to-declining). Instead, it's capturing the run-up in prices from early this year and in 2021. Indeed, **BLS research** shows that "rent inflation for new tenants leads the official BLS rent inflation by 4 quarters". The implication is that, to the extent shelter inflation boosts all-items/core CPI (>30% and >40% of the indices, respectively), the Fed would be setting policy on developments from a year ago and risk an overshoot of policy tightening.

Jerome Powell and the FOMC are smart people though. They're aware of these dynamics, even if they aren't willing to declare inflation victory on the back of them. The Fed Chair spoke to this in the November press conference:

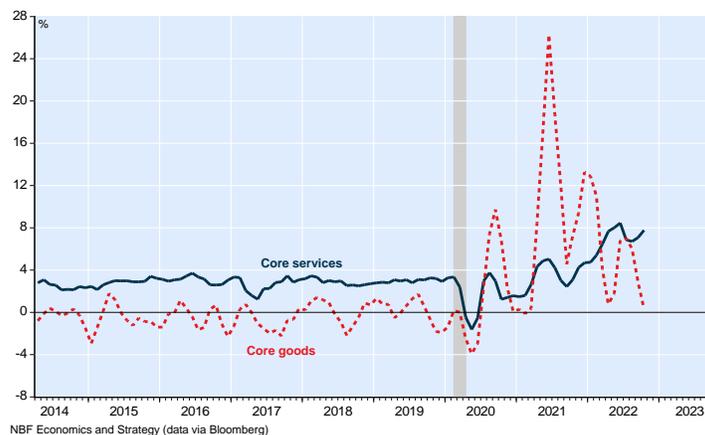
*"There's still some significant increases coming [in the CPI rent index] ... But at some point, once you get through that, the new leases are telling you is there will come a point at which rent inflation will start to come down. But that point is well out from where we are now. Of course, well-aware of that of course and we look at it... But I would say that the right way to think about inflation is to look at the measure that we do look at, while considering that we also know at some point you'll see rents coming down."*

Even if Powell views the CPI measure of rent as the "right way to look at it", this should start to decelerate in early 2023 too. And as inflation elsewhere continues falling, the Fed might just have its off-ramp. On this front, we are encouraged where recent data have been pointing. Core goods inflation, which led on the way up, is in free fall, running at less than 1% over the last three months. We'd view this as a leading indicator for services

inflation which, *for now*, is elevated. That's where the lags, that the Fed acknowledged in their rate statement come into play.

### U.S.: Core goods lead the way downward

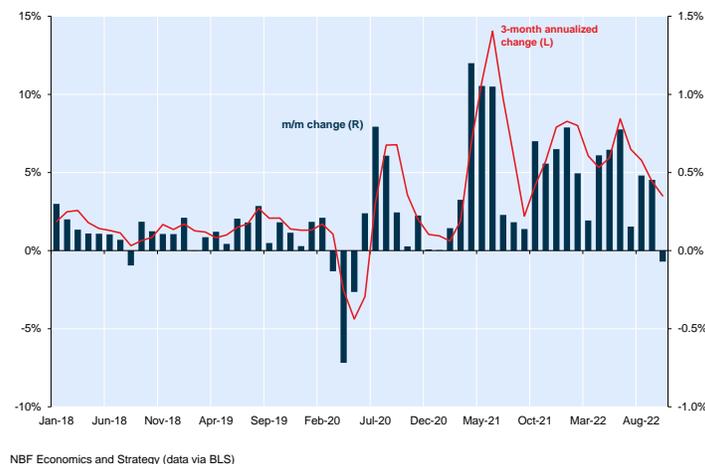
Consumer Price Index, core services/goods indices (excluding food and energy), 3-month annualized change



Moreover, while one should always be skeptical of selective/exclusionary inflation data, we would highlight that CPI inflation, excluding food, energy (largely out of the Fed's control) and shelter (demonstrably lagged) *turned negative* in October for the first time since May 2020. On a 3-month basis, this measure is running at relatively cooler 3.5%.

### Underlying inflation momentum might be easing

Month-over-month and 3-month annualized CPI inflation excluding food, energy and shelter



Again, we caution against relying too much on a measure that excludes more than half of the overall consumer basket, but we'd argue that true underlying inflation pressures are closer to this than the still-elevated 7.7% headline rate. Considering the lags with which monetary policy impacts inflation and the amount of monetary policy tightening implemented to date, there's *considerable* downside to inflation ahead. Be sure to read our Economic Monitor for more details on the inflation outlook, but at this point we see all-items inflation returning to target as early as mid-2023.

As we look ahead, there's additional tightening still to be delivered. A 50 basis point hike in December looks to be a foregone conclusion at this point. Perhaps its also too late to avoid a hike at the early-February meeting. Indeed, Fed speakers were sure to make that clear, leaning against the

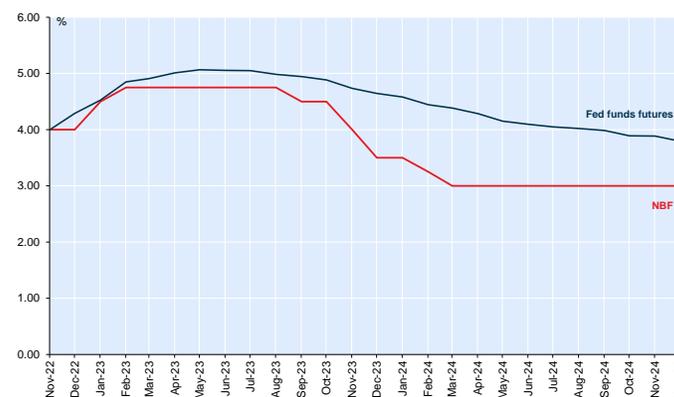
market's interpretation of October's CPI report. But make no mistake, an off-ramp for the Fed is being paved. Assuming labour markets deteriorate as we expect, continued inflation relief might mean the Fed's February hike will be its last.

Further out, markets are still expecting fed funds (upper bound target) to remain near 4% through 2024—just as the FOMC signaled in its September dot plot. But we continue to push back. We can concede the point the Fed will likely be more reluctant to provide *ultra*-easy monetary again in the future (as it did in 2020 and 2021). But lowering rates from close to 5% to 3% is not that. The Fed still views 2.5% as the long-run neutral rate. Theoretically, at least, a policy rate at or above that level won't add upward pressure to inflation.

Given that inflation is where it is, the Fed won't entertain any discussion of lower rates/easier policy yet, lest we see a premature improvement in financial conditions. But when inflation is back to target next year and when labour markets have sufficiently deteriorated (also next year), what will be the justification for suffocatingly restrictive policy? There won't be any. And the Fed will reverse some of its tightening. It won't frame that as setting a stimulative policy stance. And they'll be right. It won't be. It will simply be an equilibration of monetary policy meant to align with an equilibration in the real economy and inflation. In our view, many are now making the same mistake that Team Transitory™ did in 2021. That is, anchoring future expectations for inflation to recent inflation dynamics to their detriment. Monetary policy is well-positioned to deal with these inflationary pressures. That much will be clear in 2023.

### Even with CPI-driven rally, we still see big downside to future policy rates

Fed fund futures implied policy rates versus NBF forecasts to 2024

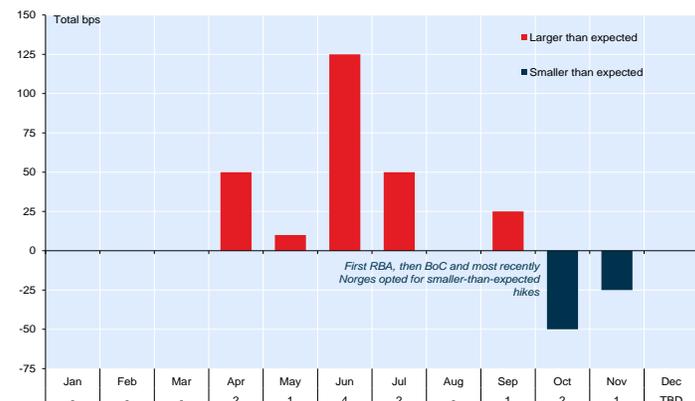


## Blinking at the Bank?

While Federal Reserve policymakers have yet to show any meaningful signs of letting up (even if the data is starting to support that), evidence of a Bank of Canada pivot emerging are more tangible. Case in point, the late-October rate decision. A 50 basis point rate hike, which by most measures is a supersized move, came as a dovish surprise to markets which had been fully braced for a second straight 75 basis point adjustment. With the consensus miss, the Bank joined a growing list of central banks who have either delivered smaller-than-expected rate increases or introduced more dovish/cautious language into their guidance.

### Some dovish surprises of late, just not at the Fed

Distribution/magnitude of policy rate surprises vs. consensus (2022:YTD)



NBF Economics and Strategy (data via Bloomberg)

To be clear, the Bank has not moved to the sidelines. With perhaps half a percentage point of policy adjustments left to go in the cycle, there is more wood to chop. And that's in addition to the 350 basis points of hikes that have yet to fully impact the economy and inflation. But as Governor Tiff Macklem would tell you, the Bank is "trying to balance the risks of under- and over-tightening". We don't envy the situation the central bank finds itself in. Inflation and wage pressures are still well above target. Signs of stabilization and deceleration are encouraging but it's undoubtedly difficult to take your foot off the brake with price pressures still near multi-decade highs. Nonetheless, we do believe that risks are quickly moving more skewed to over-tightening. And we believe the Bank will soon too (if they don't already).

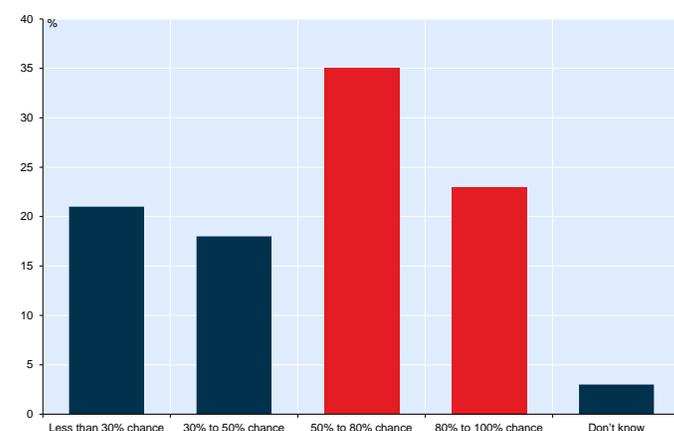
First, recall that even the Bank of Canada is conceding that a technical recession isn't unlikely:

*"Two or three quarters of slightly negative growth are just as likely as two or three quarters of slightly positive growth. That's not a severe recession, but it is a significant slowing of the economy".*

The outlook from Canadian businesses may be even more pessimistic. The Bank of Canada's most recent Business Outlook Survey revealed that over half of Canadian business are expecting a recession in the next 12 months.

### Canadian businesses are bracing for the worst

Business Outlook Survey: Probability of a Canadian recession in the next 12 months

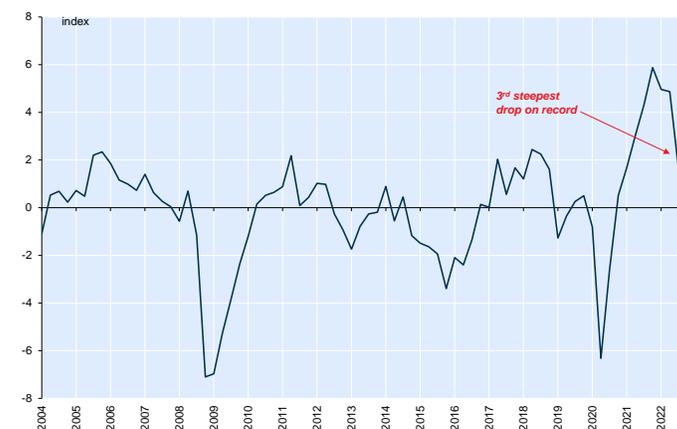


NBF Economics and Strategy (data via Bank of Canada)

There were plenty of other signs of a deteriorating outlook in that survey too, in addition to some modest (but welcomed) relief in inflation expectations. The BOS indicator, meant to encompass all of the key survey questions, fell by the third fastest pace on record (after the Global Financial Crisis and the early days of COVID-19) from an admittedly very elevated starting point.

### Rate hikes are clearly impacting Canadian business sentiment

Business Outlook Survey indicator



NBF Economics and Strategy (data via Bank of Canada)

Meanwhile, it's safe to say, Canada's housing market isn't in any position to boost growth over the coming year either. Of course, the slowdown we're seeing here isn't necessarily unexpected. Levels of activity in 2021 and early 2022 were entirely unsustainable. But we've now very quickly swung from a historically red-hot market to a historically ice-cold one. Price declines, which started earlier in the year, are picking up steam and look poised to continue over coming months.

### Canada's housing market has gone ice cold

Seasonally adjusted home sales



NBF Economics and Strategy (data via CREA)

Even the BoC has changed their tone here. For most of the tightening cycle, the Bank simply noted that housing market activity was decelerating "as intended" from "unsustainable" levels. The latest rate statement, however, was a bit less dismissive of growing weakness:

*"The effects of recent policy rate increases by the Bank are becoming evident in interest-sensitive areas of the economy: housing activity has retreated sharply".*

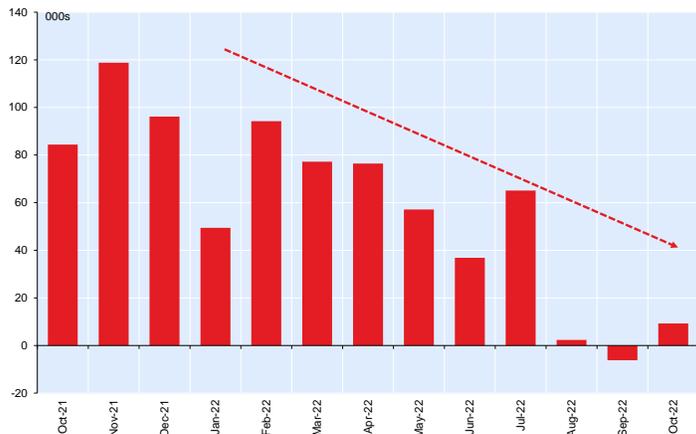
That's not necessarily the Bank sounding the alarm. But it is a subtle nod that rate hikes are working and with more in the pipeline (along with associated lags), it's only a matter of time before a "retreat" in activity is more broadly based.

Now one may be tempted to point to the labour market as an argument against the BoC moving to the sidelines soon. It's true that you'll see hiring in Canada has only accelerated of late. That's at least what the Labour Force Survey revealed in October when the expectation for a modest 10K in job gains was beaten ten-fold with over 100K net new jobs added. But as we often caution, this data is *extremely* volatile and relying on a single month's reading could lead to erroneous conclusions.

Zooming out and looking at labour market *trends*, it's clear to us that conditions are no longer tightening. That's true on headline job gains, vacancies and the unemployment rate which is a touch off its July low. And importantly, with the aforementioned growth outlook for the Canadian economy, we wouldn't expect any single-month pick-up to be sustained. Instead, the path of least resistance at this juncture is for a continued uptick in the unemployment rate. On second thought, path of least resistance might be underselling the probability of a rise in joblessness. Indeed, when the Governor of Bank of Canada tells you that the unemployment rate is "not sustainable", as Tiff Macklem did in November, you can feel reasonably comfortable that a rise in the unemployment rate will materialize. And while the Bank will suggest that it might not increase to historically high levels, we'd caution that, empirically, once labour market weakness takes hold, it has proven difficult to stop.

### Despite month-to-month volatility, Canada's labour market is slowing

Monthly Canadian employment change: 6-month moving average



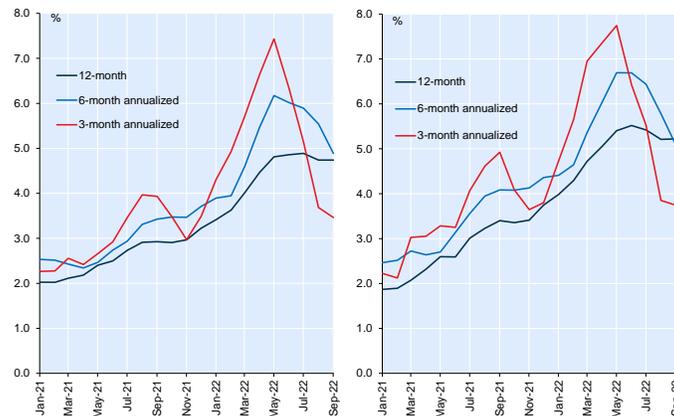
NBF Economics and Strategy (data via Bloomberg)

Even amidst a sluggish growth outlook and a BoC-engineered labour market loosening, the central bank will need to see inflation relief in order to take their foot off the brake. While a pause could be justified with inflation still above target, the rate cuts that we expect in 2023 won't be able to materialize without more fully normalized price pressures. On this front, even with an upside surprise to September's CPI data, we remain encouraged by decelerating core inflation momentum in Canada. That's now running at roughly 3.5%-4.0% which, while still too high, is considerably slower than all-items inflation (at 6.9% as of this writing) or the 5.3% core measure average on a year-over-year basis. Expect that deceleration to continue going forward and

start to manifest in annual readings as base effects become more of an obstacle and, more importantly, the effects of earlier rate increases continue to filter through.

### Short-term inflation momentum has eased meaningfully in Canada

3M, 6M and Y/Y CPI-Trim inflation (left) and CPI-Median inflation (right) since 2021



NBF Economics and Strategy (data via StatCan)

We were also encouraged to see the Bank take a more balanced inflation assessment in recent weeks too. Whereas Governor Macklem had previously posited (as recently as a month ago) that domestic inflation pressure "has yet to ease", he's now explicitly acknowledging the slowing momentum we've been highlighting for months. From the October Monetary Policy report:

*"Largely due to the drop in gasoline prices, 3-month CPI inflation has fallen sharply and is now well below the year-over-year measure. Measures of 3-month core inflation point to a slowdown to around 4%."*

Add it all together and we feel we've all the makings for a policy pivot in early 2023. No, "we're not there yet" as Macklem has been sure to stress. But we are getting closer, and in our view, it's closer than some might expect.

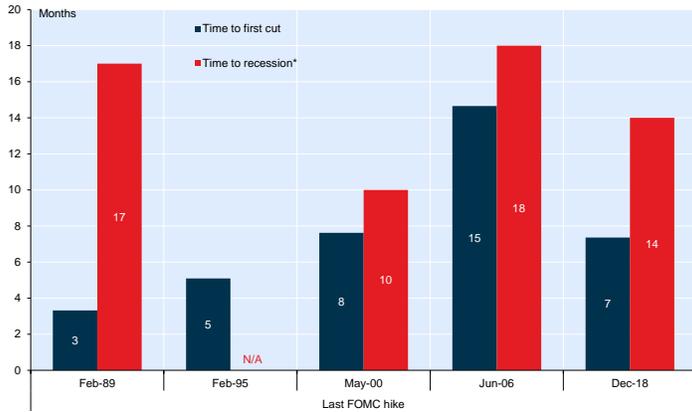
### Post-tightening tendencies

While the terminal rate and the time we reach it is up for debate, it's not a stretch to say that we're closer to the end of the Fed hiking cycle than we are the beginning. On that note, we've sought to identify common characteristics of the tail end of prior hiking cycles, the subsequent holding period and ultimately, the pivot to lower rates. While no two cycles are the same, the empirical record is always worth being cognizant of. And despite obvious differences between today and cycles past, we do believe that at some history's tendencies will be borne out again.

Firstly, how long does the Fed hold rates at their peak after it's done hiking? The historical record suggests not long. The Fed has typically been able to resist cutting for just 7-8 months, on average, after the final hike of the cycle. Only once in our (admittedly small) sample have they been able to hold out longer than a year. Given the ultimate destination for the rate (relative to neutral) and the speed with which we'll get there, we don't foresee the Fed bucking this trend this time. That would imply rate cuts as early as the third quarter next year—much faster than the Fed or markets are willing to signal at this point.

## How long has the Fed (and economy) held on after hiking cycles?

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



NBF Economics and Strategy (data via Bloomberg, FRB) | Note: Time to first cut based on observed ff rate; time to recession based on NBER business cycle dating; no recession following Feb-95 ff peak

Unfortunately, recessions have been difficult to avoid, arriving not long after the Fed's final hike. While we don't officially forecast a recession in our Monthly Economic Monitor, we concede that recessionary risks are extremely elevated.

How do interest rates respond to the Fed moving to the sidelines? Not surprisingly, a rally ensues as soon as the Fed notches its last hike. In other words, we don't need to see the central bank actually cutting for longer-term interest rates to fall. Markets have tended to anticipate that weaker growth prospects and easier monetary policy is just around the corner.

## Historically, USTs reluctant to rally until Fed delivers final policy rate hike

Evolution of fed funds & UST yields going into/coming out of last FOMC rate hike: Average of 5 prior cycles



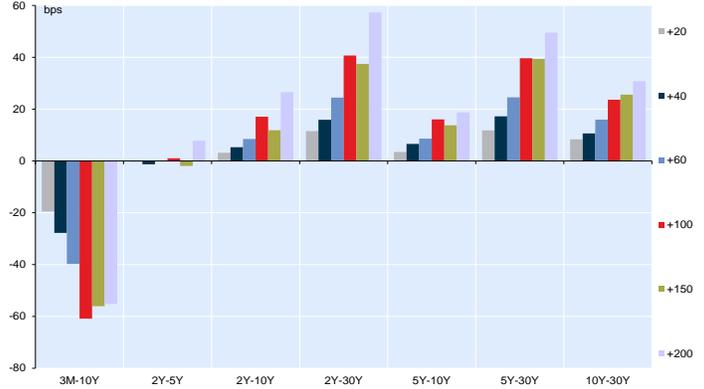
NBF Economics and Strategy (data via Bloomberg, FRB) | Note: Based on average of 5 historical FOMC tightening cycles; indexes ff & UST yields to day of last FOMC hike (where level=0); horizontal axis refers to week days

At first, the rally tends to be broad-based with short- and long-term rates falling roughly in tandem. But once cuts take hold, a more decisive curve steepener takes hold. Only in the 3M-10Y curve will you see continued flattened after the last hike.

Risk assets perform too. Equities have closed higher in the 100 days after the last hike four of the last five cycles. That's good for a 100-day run-up of ~11%, on average.

## Historical tendency for curve steepening after the final Fed rate hike

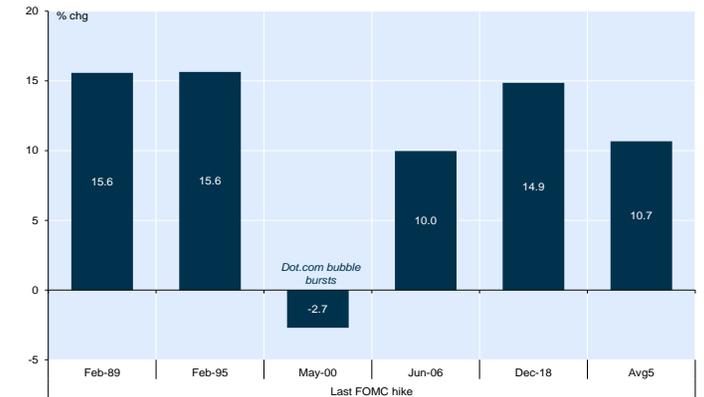
Average change in UST yield curves in days after final FOMC hike



NBF Economics and Strategy (data via Bloomberg, FRB)

## Stocks tend to breathe sigh of relief after final hike

Change in S&P 500 in 100 week days following final FOMC hike

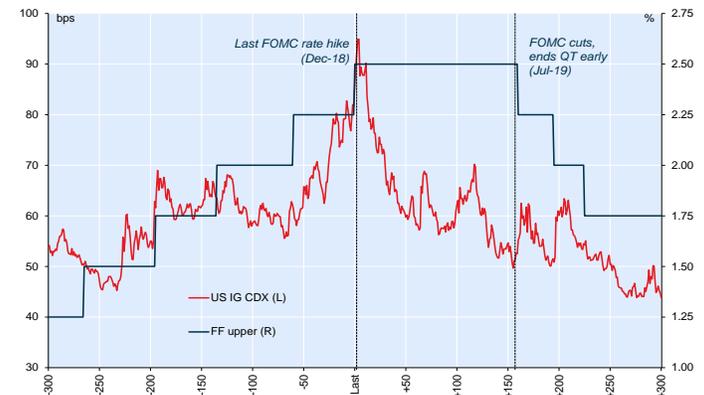


NBF Economics and Strategy (data via Bloomberg, FRB)

With global equity indices bruised and battered, it appears that we could be positioned for a relief rally at the end of this cycle too. It stands to reason that credit markets will cheer the Fed moving to the sidelines as well. That's certainly what we saw in 2018.

## A closer look at the Fed's 2018-19 policy pivot

Fed funds & US 5Y IG CDX going into/coming out of FOMC's Dec-18 hike



NBF Economics and Strategy (data via Bloomberg, FRB)

Again, we can't stress enough that each cycle is different and historical tendencies aren't guaranteed to repeat. But it's our hope that the analysis rendered here will be of some value as we approach the Fed's policy rate terminus. For more, see our detailed *In Focus*, where the preceding material was drawn from.



## Canadian Bond Market: Interest rates, spreads and currencies

Close on:	14-Nov-22	15-Aug-22	16-May-22	14-Feb-22	15-Nov-21
<b><u>Interest Rates</u></b>					
3 months	4.081	2.689	1.37	0.5	0.149
2 years	3.872	3.211	2.646	1.509	1.009
5 years	3.328	2.812	2.746	1.782	1.484
10 years	3.16	2.696	2.921	1.907	1.724
30 years	3.268	2.84	2.927	2.185	2.07
<b><u>Spreads</u></b>					
3 months - 2 years	-20.9	52.2	127.6	100.9	86
2 - 5 years	-54.4	-39.9	10	27.3	47.5
5 - 10 years	-16.8	-11.6	17.5	12.5	24
10 - 30 years	10.8	14.4	0.6	27.8	34.6
<b><u>Currencies</u></b>					
CAD/USD	1.3314	1.2906	1.2846	1.273	1.2516
EUR/CAD	0.7272	0.7629	0.7461	0.6948	0.7028

NBF Economics and Strategy (data via Bloomberg)

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