November 10, 2022

All we are saying is give RRBs a chance

By Warren Lovely & Stéfane Marion

Buried in the Government of Canada's 96-page *Fall Economic Statement* (released November 3rd) was a seemingly innocuous 3-page Annex serving as an update to the debt management strategy. Zeroing in on that rather limited borrowing update, two sentences sounded an apparent death knell for Canada's long-standing real return bond (RRB) program:

> *"The government has decided to **cease issuance of Real Return Bonds (RRBs) effective immediately**. This decision reflects **low demand for this product** and will allow the government to **promote liquidity by consolidating funding** within our core funding sectors."*
>
> *– Fall Economic Statement, page 69 (our bolding)*

Introduction & executive summary

Finance's decision to make, but…

Primary dealers, bond investors, public sector strategists and economists don't set the government's borrowing strategy. Nor, it must be emphasized, does the Bank of Canada. As the government's fiscal agent, the Bank of Canada facilitates/operates the GoC wholesale domestic debt program via regular bond auctions and T-bill tenders. The Bank would also point out that it offers policy advice on "the efficient management of this debt". But make no mistake, legislative responsibility for Canada's public debt—the when, where and how Canada borrows its money—rests squarely with the Minister of Finance, as set out in the *Financial Administration Act*.

The RRB announcement is just the latest adjustment to Ottawa's debt strategy, with Finance keeping market participants on their toes of late. Relative to April's borrowing strategy (in Budget 2022), the feds have: run a skinnier-than-expected T-bill program; axed Ultra-Long Bond issuance; announced a retail-focused Ukraine Sovereignty Bond; opened the door to a sustainable bond framework; abruptly reinstated a Cash Management Bond Buyback program; and thrown in the towel on RRBs. Stability, it seems, is not the utmost priority, although in fairness the economic, fiscal and geopolitical ground continues to shift under the government's feet.

We don't wish to dissect and rehash *each* of the above decisions. To us, however, it is worth revisiting (and reversing) the RRB cancellation.

… there are key arguments for maintaining RRBs

Objectively speaking, RRBs don't benefit from the same type of demand profile as nominal Canada bonds. They never have. Albeit narrow, an established institutional investor base (notably the domestic pension fund community) has nonetheless valued the product. Moreover, it may be appropriate for Canada's central government to continue to offer inflation-sensitive investors a direct and low-risk inflation hedge, denominated in their home currency, during what could be an extended period of above-target inflation.

To us, the liquidity promotion argument (via consolidation of issuance into 'core' tenors) should not be overplayed. On an annual basis, RRB issuance had been running a snick below $1½ billion, equivalent to less than 1% of current gross bond issuance. That's not nothing, of course. Nevertheless, in the short-term, diverting RRB issuance into other 'core' tenors won't move the liquidity dial to any great extent. Heck, if you really want to promote liquidity in 'core' benchmark tenors, axing a chronically undersubscribed 3-year tenor might be a more effective/efficient way to go.

Nor should we view Ottawa's finances as being in anything approaching a 'steady state'. Up till now, burgeoning nominal GDP has keyed a once-in-a-generation revenue windfall, allowing for speedy progress on the deficit and leaving appreciably lighter financing needs in its wake. But as the fall update made clear, downside economic risks are mounting, which could result in greater issuance needs, all else being equal. That's before contemplating any potential consolidation of borrowing by explicitly backed entities, which itself could key a structural increase in the size (and liquidity) of the overall GoC bond program.

But the more important consideration may be the optics inherent in the government's announcement. Back in the day, the introduction of RRBs was held up as an anti-inflation signal by a country trying to wrestle inflation under control and needing to limit the political temptation to run abusive fiscal stimulus. Flipping that notion on its head, the abandonment of RRBs at this point in the economic cycle raises unnecessary questions about Canada's commitment to fighting surging inflation. The timing couldn't be worse, with monetary and fiscal credibility in focus and a minority government facing calls for more spending from a third-party partner. Canceling RRB issuance would also leave Canada as the sole G7 nation without an active inflation-linked bond (ILB) program. Again, not great optics.

Nuking RRBs would also immediately distort and gradually rob us of a market-based tool for gauging long-term inflation expectations. No question, break-even inflation rates are imperfect, particularly in a relatively small and less-liquid market like ours. Still, if not outright superior to survey data, break-even rates provide marginal and timely intelligence as it relates to the evolution of price expectations. This can help decision making by economic agents *and* the central bank alike. So even if demand isn't particularly broad/diverse, a functioning/active RRB market provides some utility, perhaps even more so in extreme inflation environments.

Our bottom line: Ottawa should rescind its decision on RRBs. Cancel the cancellation as it were, in favour of a continuation of the status quo (i.e., regular quarterly offerings of 30-year RRBs). Assuming there's a willingness to reconsider, we'd communicate the reversal as soon as possible. It's not clear if there would be sufficient time (and enough advance warning to market participants) to reinstate the quarterly RRB auction originally planned for December 1st. Even forgoing that single operation would be a missed opportunity since this date (along with June 1st) coincides with well-established RRB cashflows and seasonal demand for GoC duration.

Let us be clear, no one is going to confuse narrowly held and less-actively traded RRBs with deeper, more liquid and broadly disseminated nominal Canada bonds. But there's some value in RRBs all the same, arguably more now than in years gone by. That makes this a particularly poor time to walk away from the product, even if the government currently finds itself with some extra cash lying around. All we are saying is RRBs must be given a chance to prove their worth in a world of elevated uncertainty around Canada's economy, inflation and public finances.

Additional context & detailed considerations

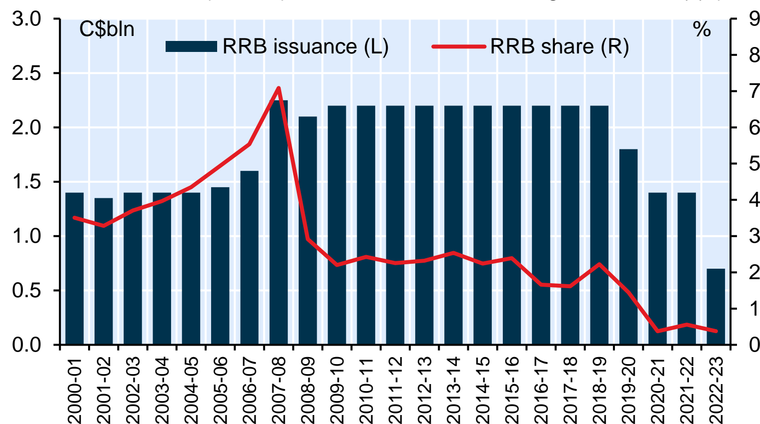
Canada's experience with RRBs

Canada introduced its real return bond program back in December 1991 (i.e., more than 30 years ago). The very first issue was the CANRRB 4.25% 12/01/2021 bond, where outstandings ultimately surpassed the C$5 billion threshold. That remains the one and only Canada RRB to have reached maturity, leaving eight active bonds with combined outstandings (prior to inflation adjustments) of ~C$48 billion.

Excepting a single brief sojourn in 2019-20, we've had one RRB auction each and every quarter for ages, making real return bonds one of the more historically consistent (albeit modest) components of Canada's contemporary domestic bond program. For a number of years, annual RRB supply ran a bit above C$2 billion/year, but the program's size has been scaled back in recent years (Chart 1), ultimately giving way to the announced cancelation.

Chart 1: RRBs a long-standing feature of GoC debt program

GoC RRB issuance by fiscal year: Level & share of total gross bond supply



Source: NBF, GoC, BoC | Note: 2022-23 as per FES & includes auctions from May/Sep

In the period leading up to the introduction of Canadian RRBs, inflation had been relatively elevated in Canada. In and around that time, one could observe a broader movement on the part of advanced economy sovereigns to provide bond investors with direct inflation hedges via inflation-linked bonds.

Canada wasn't necessarily at the vanguard of the ILB movement but nonetheless saw linkers serving a few purposes. The government of the day's rationale was multi-faceted and included:

i) Cost-effectiveness vs. other funding sources;
ii) Bond program diversification;
iii) Investor base diversification;
iv) Secondary market development;
v) Anti-inflation signal to the market; and
vi) Indicator of real return & long-term inflation expectations.

Now, 1991 was a long time ago and it's fair to say that some of the goals and objectives of the RRB program may have evolved over time. Reading between the few dedicated lines in the *FES*, it seems RRBs have failed to deliver on some of their promise; the government announced a cancelation of the program after all. To us, however, some of the old arguments in favour of RRBs may still hold, which could argue for continuing the program.

Let's explore each of the six elements in turn…

i) Cost-effectiveness vs. other funding sources

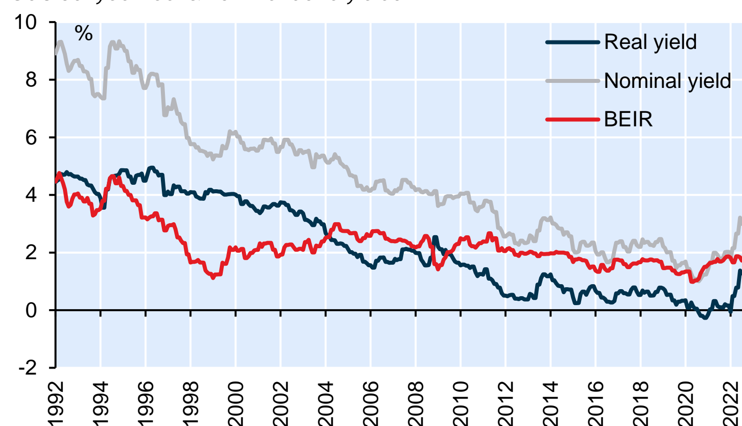
The purely economic argument in favour of RRBs is hardly cut and dry. Nor are relative cost assessments static/stable over time, particularly since RRBs have been issued time and again. Inflation has had its ups and downs (more 'up' of late), leaving break-even rates to oscillate.

In theory, RRBs can provide a lower relative cost of funds vs. a conventional nominal bond to the extent the government is compensated for taking on inflation uncertainty risk. There's also the potential for a so-called 'clientele effect', whereby decidedly inflation-averse investors are willing to pay a premium for RRBs (i.e., accept a relatively lower real yield).

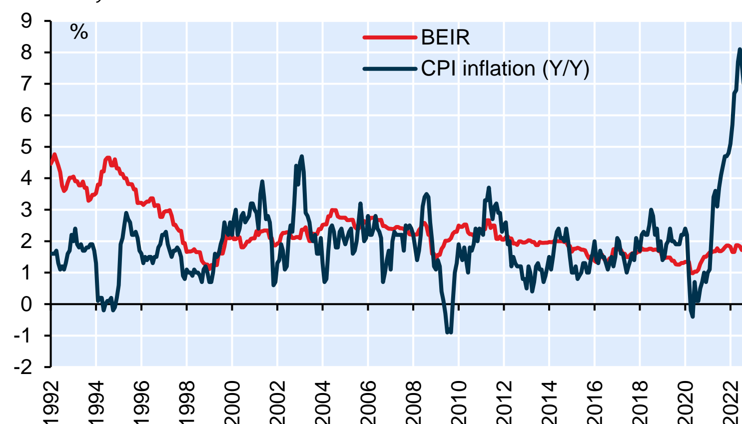
Putting theory to the test, the cost-effectiveness of RRBs can be assessed a couple of ways, including via a discounted cash flow method. Earlier research by the Bank of Canada showed that during the initial years of Canada's RRB program, the product was distinctly cost-effective vs. nominal bonds. Our own DCF analysis of early RRB tranches reinforces this finding. As per BoC analysis, the relative cost savings tended to decline through the 1990s as inflation, and inflation expectations, were gradually brought to heel (thereby reducing the inflation uncertainty risk premium investors were willing to pay).

Charts 2-3: Evolution of real yields & inflation break-evens

GoC 30-year real & nominal bond yields



GoC 30-year break-even inflation rate & Canada all items CPI inflation



Source: NBF, BoC, Bloomberg, StatCan | Note: Yields & BEIR reflect monthly average

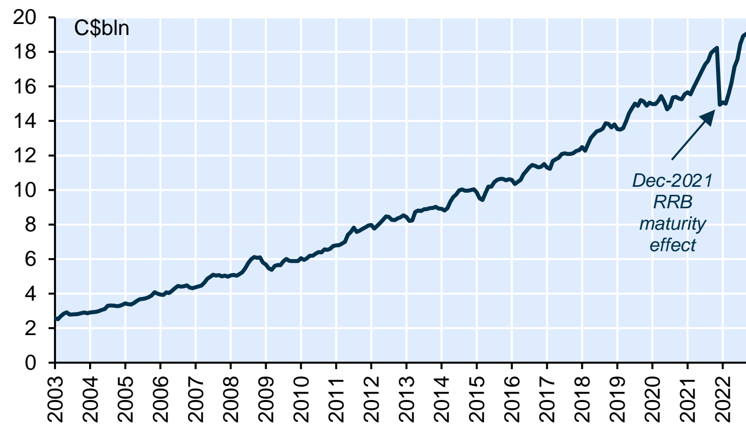
The relative cost comparison of RRBs vs. nominals continued to evolve in the 20-odd years leading up to the pandemic (Charts 2-3). We caution that long-term averages mask distinct periods of relative RRB bond performance, in part reflecting shifting economic conditions.

The differential between 30-year nominal and real yields (i.e., the 30-year break-even inflation rate or BEIR) averaged more than 2.3% from 2000 until the GFC, easing temporarily in the resulting recession/deleveraging phase.

After a couple years near 2%, 30-year break-evens were pushed down by a global growth wobble in 2014-15 and never really bounced back. By 2019, the long-term BEIR had drifted down to as little as 1.3%, capturing some combination of lower inflation expectations, reduced inflation uncertainty and/or a liquidity-risk premium vs. larger/deeper nominals. It would be fair to say that prior to COVID, break-evens hinted at a less-than-voracious appetite for inflation protection, which we explore in the next section. That brings to the current period. The 30-year BEIR had breached 2% at the time of the announced cancellation—the highest level since 2014.

To be clear, government debt has generally become less affordable, in both nominal and real terms. A series of aggressive/rapid BoC rate hikes—part of a global policy rate normalization exercise—have pushed conventional bond yields higher. Meantime, above-target inflation is adding to debt servicing costs associated with outstanding RRBs. We've seen some particularly hefty inflation adjustments this year (Chart 4), despite the fact that the pre-IA stock of RRBs has registered only limited growth since last December. As an ultra-simple example, when inflation runs 1%-pt faster than 'trend' or 'target' or 'normal' or 'expected', it now adds almost C$700 million to Canada's inflation-adjusted debt stock in year 1, *ceteris paribus*. That's something we'll have to live with. After all, the current stock of RRBs isn't going anywhere fast, with a weighted average term to maturity of nearly 18 years and the next closest maturity still four years away (i.e., December 2026).

Chart 4: Sizeable inflation adjustments on existing RRB stock
Total inflation adjustment related to unmatured GoC RRBs



Source: NBF, StatCan

Still, history shows that high(er) inflation periods tend to spawn greater inflation uncertainty risk. So we may be headed into a period where investors desire greater inflation certainty/protection and are willing to pay a premium for it. As we saw in the first half of the 1990s, that could make RRBs a potentially cost-effective source of funds for the government on a go-forward basis (relative to nominals).

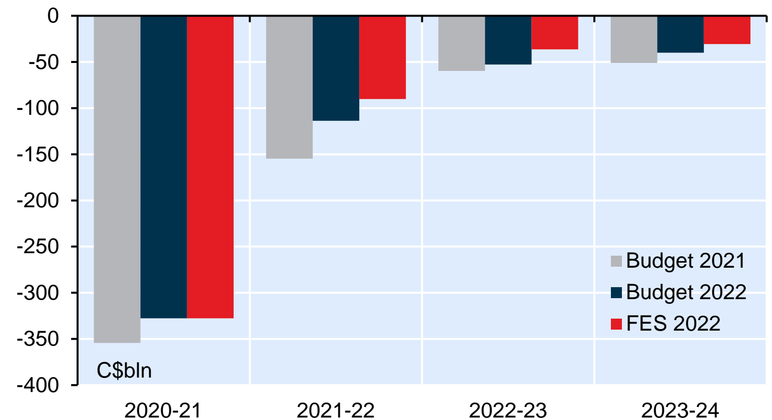
To be fair, we've been in an elevated inflation regime for more than a year and a half now, and RRB flows/feedback haven't necessary betrayed a massive up swell in demand for inflation protection. But perhaps we should give it a bit more time to thoroughly test investor sensitivity to inflation risks, particularly if a quick and easy victory over inflation proves hard to come by. This goes to the ill-timed nature of the announcement, which we'll come back to.

ii) Bond program diversification

To judge from the announcement, borrowing program diversification via RRBs is no longer a major consideration. Just the opposite, Finance touts a preference for promoting liquidity in 'core' sectors.

Taking a step back, it's no secret that the Government of Canada's budgetary position has improved markedly and rapidly (Chart 5). We're further and further removed from the dark days of 2020-21, when economic disruptions and extraordinary measures resulted in a net financial requirement of $315 billion. Since that time, the deficit has been chopped down to size, the 2022-23 shortfall now estimated at $36 billion (or a less-than-scary 1.3% of GDP).

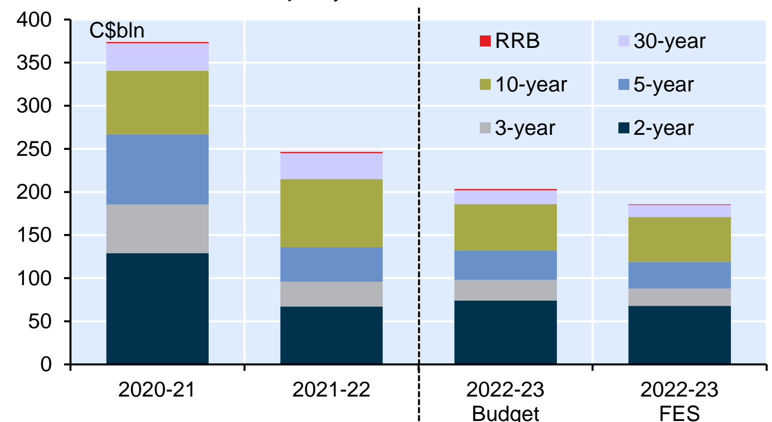
Chart 5: Ottawa's finances improved quickly & significantly
GoC budgetary balance projections: Budget 2021 to FES update



Source: NBF, GoC

Nominal GDP has been on a more elevated plane than previously anticipated, with revenue exceeding expectations. It's a similar story for most if not all provinces. The exceptional fiscal improvement leaves governments with less borrowing to do (vs. plan). In Ottawa's case, T-bills have served as a partial shock absorber, the end-of-fiscal year target marked down again. But even with a smaller T-bill program, the budgetary improvement has been material enough to result in less GoC bond issuance in 2022-23 (Chart 6).

Chart 6: Supply scaled back (with limited RRB consolidation benefit)
Gross GoC bond issuance by major sector/tenor (excl. Greens & ULBs)



Source: NBF, GoC

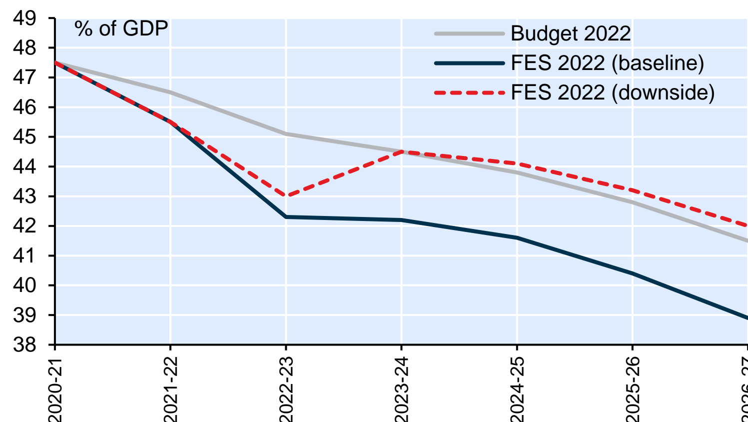
So the present fiscal situation calls for borrowing rationalization/adjustment. Expressed another way, the value of a

diversified bond program appears positively correlated with the borrowing requirement. This line of argument was implicitly advanced in June when a more-fleeting/less-developed Ultra-Long Bond program was axed due to "declining borrowing needs generally".

Notwithstanding budgetary progress, no one should confuse 2022-23 with a 'steady state'. Without being unduly alarmist, Canadian growth is transitioning to something (much) slower than in the early stages of the pandemic recovery. That's true of real and nominal GDP, the latter doubly impacted as global growth fears see commodity prices come off their highs. All that to say, the federal government's 'downside scenario' is no fantasy; it may well be the avenue we walk down the next couple of years.

As per the *FES*, a downside economic scenario might entail ~C$13 billion in extra red ink in 2022-23, more than C$20 billion in 2023-24 and some C$95 billion over a full six-year horizon. Again, we've no interest in scaremongering and have long held that Canada's general government sector is far more sustainable than most advanced economy peers. But if, as seems increasingly likely, slower economic growth takes hold, the days of positive budgetary adjustments and bonus cash could be behind us. Instead, the feds could find themselves with more debt and extra borrowing relative to the baseline assumptions set out in the *FES* (Chart 7).

Chart 7: Downside scenario implies more debt (vs. FES baseline)
GoC debt burden: Budget 2022, FES baseline & downside scenario



Source: NBF, GoC

Even with BoC QT continuing apace, we don't really sense any legitimate capacity constraints in the market for GoC securities. If anything, volatility and risk aversion have seen investors favour more liquid names and sectors. That could continue for some time. But given the current economic/fiscal risk profile, the argument for concentrating/consolidating issuance into fewer tenors/segments might not be as valid. Put another way, there might be enough bonds to go around after all. And that's before allowing for any potential consolidation (under the GoC banner) of borrowing currently conducted by explicitly guaranteed entities/trusts. To be clear, no Crown borrowing is done on a 30-year real return basis. But if Ottawa ever opts to fully consolidate sovereign-backed supply, there would clearly be more bonds to steer into so-called 'core' tenors and even less reason to sacrifice RRBs at the alter of 'liquidity'.

iii) Investor base diversification

This gets to the demand side of the argument. In theory, RRBs were once seen as a vehicle to extend the reach of the GoC bond program, with diverse investor participation thought to promote price tension and lower borrowing costs more generally.

But the "low demand" the government has pointed to suggests the investor diversification argument seemingly holds less sway these days. This isn't the first time we've heard about low (or narrow) investor demand for RRBs. From the outset, this specialized product has catered to something of a niche market, with investor subscription more concentrated/less broadly based than with nominal Canadas. Domestic pension managers have, from the beginning, been key players, using RRBs to match longer-term inflation-sensitive liabilities.

Successive rounds of consultations have tended to highlight demand-side issues. Take, for example, the targeted round of RRB discussions conducted in 2019. At that time, the 30-year BEIR was well shy of 2%. High-level feedback went something like this:

- General preference for other sovereign ILBs and real assets over Canada RRBs;
- Pessimistic assessment of future demand due to poor liquidity in the RRB market, lower inflation risk and a preference for higher yielding asset classes (given what was a low yield environment);
- Limited confidence in the break-even inflation rate as an indicator of inflation expectations, partly a reflection of distortions caused by underlying demand for long bonds.

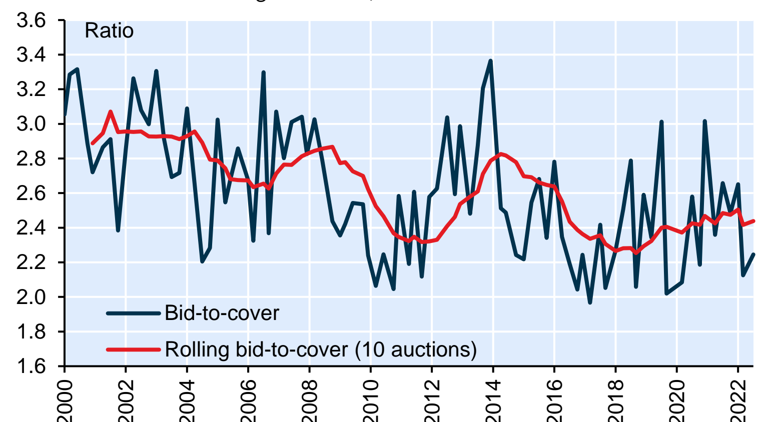
In response to this feedback, Finance further reduced the size of the RRB program to C$1.4 billion starting with fiscal 2020-21. (As previously illustrated, RRB issuance ran at a steady C$2.2 billion/year for a solid decade before starting to move lower in 2019-20.)

No question, the underlying market backdrop has evolved in the past three years. Normal-course *DMS* consultations were held this fall and included, as usual, questions related to RRBs. The latest queries:

> *"Has investor demand for RRBs changed during the current, high inflation environment? What are the main drivers for any change in demand in this sector? Are investors seeking other inflation-protected products and, if so, what are these instruments?"*

Summary feedback (presented in the *FES*) spoke to still-weak RRB demand and relatively thin liquidity, which presumably influenced the decision to cancel the program outright.

Chart 8: Gauging primary market demand for RRBs
GoC RRB auction coverage ratio (i.e., total bids vs. amount auctioned)



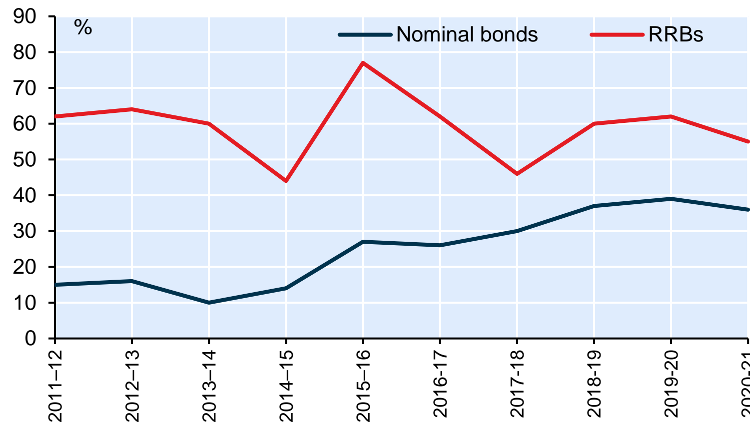
Source: NBF, BoC | Note: Last auction conducted 1-Sep-22

Primary market (i.e., auction) data provide one way to test investor demand. Here again, we benefit from a lengthy time series and

considerable degrees of freedom. The last couple times out, RRB auction coverage was nothing to write home about, running at 2.1-2.2X and clearly below trend (closer to 2.5X) (Chart 8). The spread between median and allotted yield has hardly been extreme, however. Although a bit stale, distribution stats showed still-solid customer participation at RRB auctions through 2020-21. Note that customers have consistently taken down a larger share of RRB auctions than for nominals, reflecting historically narrow but chunky demand and limited dealer warehousing of linkers (Chart 9).

Chart 9: More material customer participation at auction

Share of GoC bond auctions distributed to customers: RRBs vs. nominals



Source: NBF, GoC

It may be that RRBs have failed to materially diversify the investor base for Canada sovereign debt. That in turn might imply limited fallout from doing away with the product. Absent fresh RRBs, pure-duration players would still have access to AAA-rated nominal Canada bonds (to say nothing of regular long-term supply from the provinces). Those legitimately desiring/requiring inflation protection would have recourse to the existing pool of grandfathered RRBs.

As reflected in feedback, alternatives to Canada RRBs exist, including U.S. TIPS and other sovereign ILBs. Mind you, where liabilities are expressed in Canadian dollars and/or where domestic (i.e., Canadian) inflation is to be hedged, international linkers may not be the most viable option. There may be some residual non-sovereign Canadian-dollar ILBs, but these typically entail credit risk and would also generally result in a further step down in relative liquidity/tradability and/or available duration.

Real estate and infrastructure are alternatives to RRBs and we've seen pension funds and other asset managers increase holdings of hard assets over the years. But real assets can be harder to value and may not provide as effective/efficient an inflation hedge. All that to say, for Canadian dollar investors, available substitutes are generally imperfect. A good option for many key players it seems would be continued access to long-dated Canada RRBs.

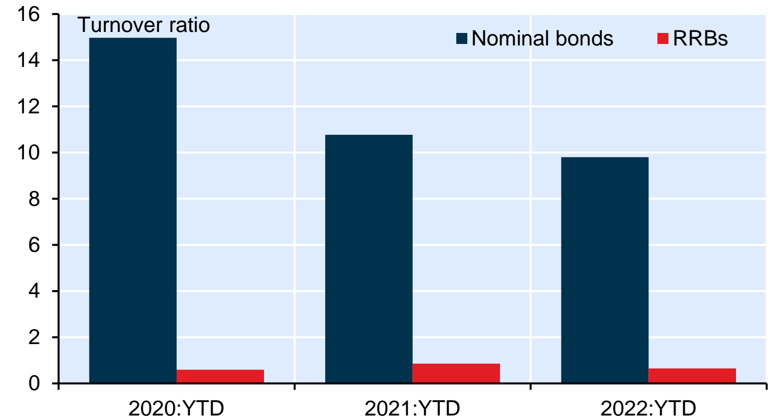
iv) Secondary market development

While some participants have used RRBs to generate trading gains over the years, many of the traditional (i.e., 'real') players in this space prefer to lock their positions away for longer. This buy-and-hold mentality means secondary market turnover in RRBs (on a volume-adjusted basis) is structurally lower than for nominal bonds (Chart 10).

So if you're looking for a product to really drive secondary market liquidity, RRBs are not the most natural choice. Fewer primary dealers have been consistently and actively engaged, and secondary liquidity has often been event-driven, picking up in/around primary supply and/or Canada's lumpy cash flows.

Chart 10: Structurally limited turnover in RRBs

GoC bond trading volumes relative to outstandings: RRBs vs. nominals



Source: NBF, IIROC, BoC | Note: YTD refers to Jan-Oct; volumes scaled to avg o/s level

When thinking about liquidity and market distortions, note that the Bank of Canada took C$2.8 billion of RRBs off the street during an earlier QE exercise. The Bank's RRB ownership share is 5½%, far below that for nominals (36% and falling). But under current (i.e., passive) QT rules, these bonds won't roll off the balance sheet anytime soon.

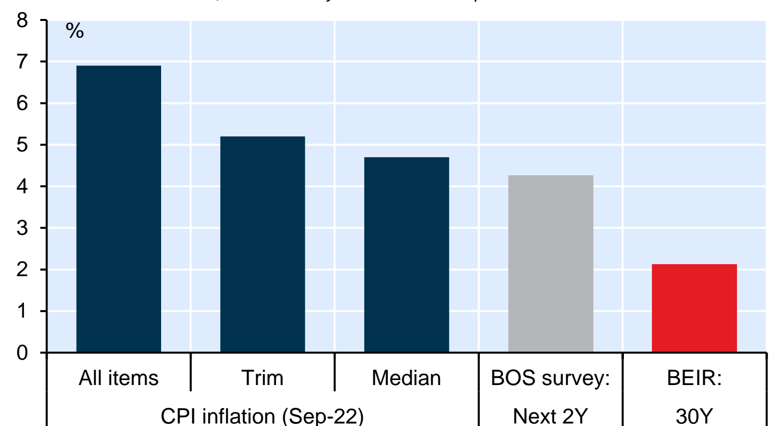
Even if RRB issuance were to continue, no one should be looking for a revolution in related trading volumes. But there are other, more vital arguments for continuing with the RRB program...

v) Anti-inflation stance signal

We're moving beyond economic and market functioning considerations into arguably subjective terrain now. When RRBs were first introduced, the product was held up (in part) as a means to demonstrate Canada's seriousness when it came to inflation control/price stability. After all, here was a sovereign willing to take direct inflation risk. You could think of that decades-old decision as putting Canada's public money where the central bank's mouth was.

Chart 11: Expectations valuable in such extreme CPI world

Canada CPI inflation, BoC survey of inflation expectations & current BEIR



Source: NBF, StatCan, BoC, Bloomberg | Note: BOS from Oct-22; BEIR as at 9-Nov-22; we advise some caution in interpreting inflation expectations based purely on BEIR

We're not for a moment suggesting that the onus for securing price stability rests with the managers of the public debt at Finance. The Bank of Canada serves this most vital role. But what kind of signal

does it send when the sovereign is no longer willing to take marginal inflation risk in its debt portfolio? Not a good one really. Moreover, the precise timing of the announcement couldn't have been worse, with headline inflation still far too elevated (Chart 11) and the Bank of Canada striving to keep inflation expectations under wraps.

Ironically, Deputy Prime Minister and Finance Minister Freeland concedes that now is not the time to make the BoC's life more difficult via expansive fiscal policy. But she might have missed the fact that abandoning RRBs sends a poor signal to a market already anxious about inflation containment. She's not helping the BoC here. Canceling RRB issuance would also leave Canada as the sole G7 nation without an active ILB program. Finance never misses a chance to remind investors that Canada has the lowest general government net debt burden of these large industrialized nations. But when it comes to RRB issuance (and our potential lack thereof), this might be one international comparison that does Canada no favours.

vi) Indicator of long-term inflation expectations

Another argument for maintaining an active RRB program is the resulting availability of a market-based indicator of inflation expectations. Yes, we've read the literature, including the BoC's own work that cautions on the use of the BEIR as a true measure of inflation expectations. Distortions may be more acute in a relatively small and less-liquid RRB market like the one we have in Canada.

But the benefit of having consistently issued RRBs for over three decades (and of steadily building up the number and size of relevant securities) has been the development of an observable/tradable RRB curve. It gives us multiple points to test and measure the evolution of longer-term inflation expectations. As noted, ending RRB issuance wouldn't take existing bonds out of the market; we'd still technically be able to calculate some form of break-even inflation rate at least until 2054. But the liquidity impairment resulting from program cancelation would make these measures less reliable over time.

Should we care about measuring inflation expectations? In a word, yes! Whether imperfect or imprecise, a market-based measure of inflation expectations is in some respects superior to softer data that arrive via ad hoc or less-frequent surveys of businesses and consumers. Market-based inflation expectations afford a central bank timely perspective, particularly valuable at times—such as these—when CPI inflation readings are so extreme.

In the end, there's a reason why the Bank of Canada includes the BEIR in its list of 'Indicators of Capacity and Inflation Pressures for Canada'. Measures of inflation expectations continue to serve as a key input into the monetary policy decision process… not just at the Bank of Canada, but at the Fed, the ECB, the BoE and elsewhere. In the current environment, we could do with *more and better* data on inflation expectations, not *less or more distorted* readings. Here again, one can argue (strongly) for maintaining RRB supply.

Conclusion & recommendation

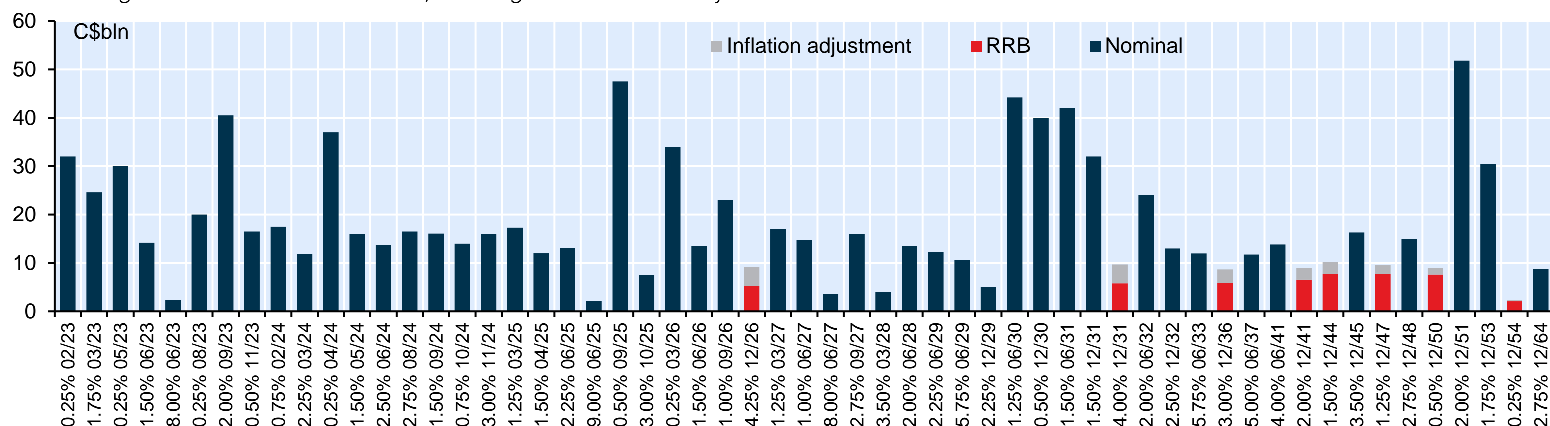
Canada's Real Return Bond market is far from perfect. RRBs are in many respects a distinct sector/asset class, having been utilized by a relatively narrower set of investors than one routinely sees in nominals. But that's nothing new.

We've been in a high-inflation environment for some time now, and RRB demand isn't exactly rabid. But perhaps it would be appropriate to give it some time, in an effort to ascertain whether more investors ultimately desire/require inflation protection. Sure, Ottawa has been handily beating its fiscal targets. With more cash on hand, there's less borrowing to do, bond supply stepping down in all tenors (and in T-bills too). To us, steering a modest amount of RRB supply to 'core' tenors won't materially bolster liquidity. Here again, we might want to be a bit cautious, particularly as risks of a 'downside scenario' mount.

Setting aside relative cost assessments, bond allocation math, underlying investor demand and/or secondary market liquidity considerations, there are important (and apparently underappreciated) arguments for maintaining RRB supply. While perhaps unintended, abandoning RRBs in a high-inflation environment sends a poor signal about our country's commitment to price stability. Given recent CPI readings, the timing is hardly ideal. More fundamentally, why deprive market participants, economic agents and the central bank of a valuable (albeit imperfect) gauge of longer-term inflation expectations?

It may be tricky to quantify all of the arguments precisely, but to us, the cost (to Canada's inflation reputation) and loss (in terms of valuable market-based expectations) could outweigh any notional gains from canceling the long-standing RRB program. So we ask Finance to reconsider its decision and to reinstate RRB issuance at the earliest possible opportunity.

Chart 12: A closer look at where & how RRBs fit within broader GoC bond stock
Outstanding GoC bonds: Nominals & RRBs, including related inflation adjustment



Source: NBF, BoC | Note: Outstanding par value amounts as at 31-Oct-22

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