



## Simulating stuff

By Warren Lovely

Feeling overstimulated these days? We sympathize. It would be fair to say that fixed income markets continue to gyrate with gusto, taking their cue variously from a string of noteworthy (and in a number of instances surprising) data releases, central bank actions and geopolitical events.

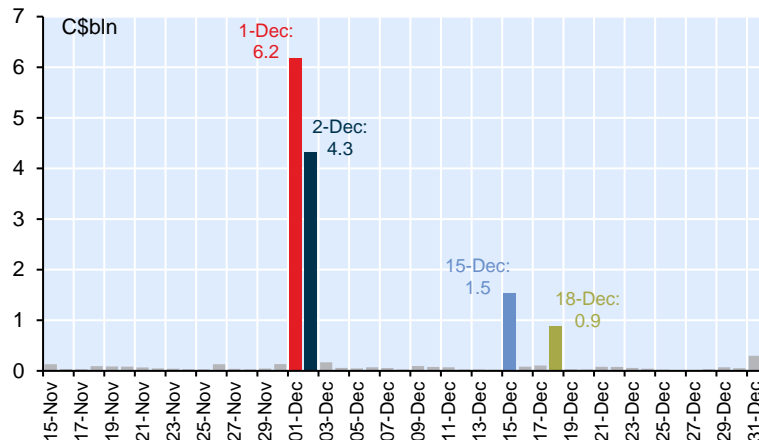
But *stimulation* is one thing, and *simulation* quite another. So embracing the 'more is more' school of thought, this *Market View Addendum* builds on our in-depth December cash flow preview ([link](#)) by presenting detailed bond index simulations for a handful of key dates we'll have our eye on this December. The particular subject for our simulations is the FTSE Canada Universe Bond Index.

Treat this as technical background ahead of December's ultra-lumpy cash flows. To be clear, our simulations are based on bond market constituents and prices at a precise moment in time and are thus subject to change. That's right, one must assume all else is equal... which is hardly the case as a Powell presser (Wed), Fall Economic Statement (Thurs) and jobs data (Fri) all reminded us.

### FTSE Canada Universe Bond Index: Simulating December's key dates (1<sup>st</sup>, 2<sup>nd</sup> & 15<sup>th</sup>)

**Chart 1: You can see Canada's jumbo cash flows a mile away**

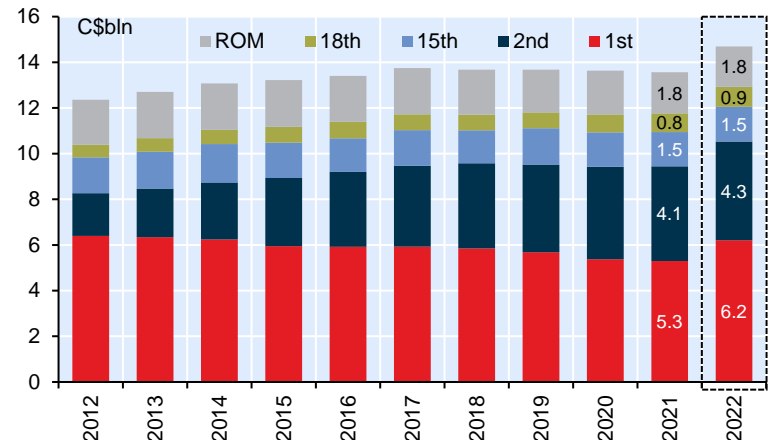
Projected FTSE Canada Universe Bond Index cash flows: 15-Nov to 31-Dec



Source: NBF, FTSE Russell | Note: Based on cash flow report generated as at 4-Nov-22; refer to Chart 2 for comparison of Dec-22 cash flows vs. prior years

**Chart 2: Even more index cash available this December**

Projected FTSE Canada Universe Bond Index cash flows: Dec-22 vs. prior 10Y

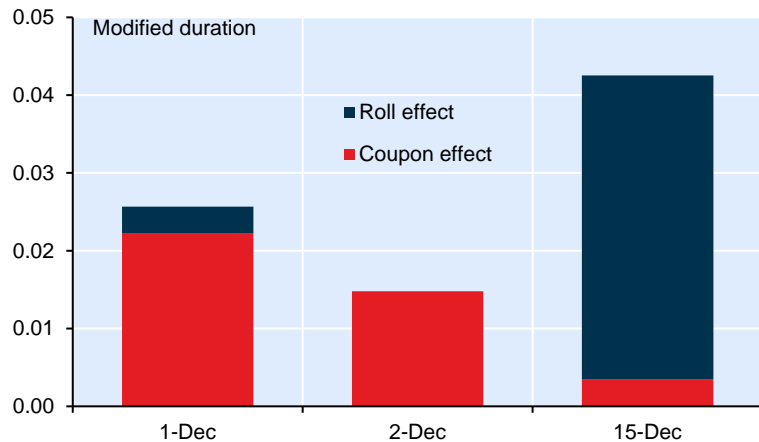


Source: NBF, FTSE Russell | Note: Based on cash flow reports generated as at 3-Nov of each year; ROM refers to rest of December (excl. 1<sup>st</sup>, 2<sup>nd</sup>, 15<sup>th</sup> & 18<sup>th</sup>)

As things stand, there's C\$14.7bln of FTSE Canada Universe Bond Index cash to be paid out over the course of December, a far greater tally than any other month of the year excepting June (which shows the six-month echo of maturities/coupons). We'll set a new high-water mark for the month of December in 2022, with the total amount of cash currently estimated to exceed the Dec-21 level by more than 10%. As always, the vast majority (over 70%) of December's index cash arrives on the 1<sup>st</sup> and 2<sup>nd</sup> of the month. Saying that, the 15<sup>th</sup> and 18<sup>th</sup> are also notable days in December, with the latter falling on the weekend this year. Note: NBF's complementary cash flow analysis, which incorporates the impact of maturities, puts this December north of ~C\$2bln—a new record.

**Chart 3: It's a different duration story on different days...**

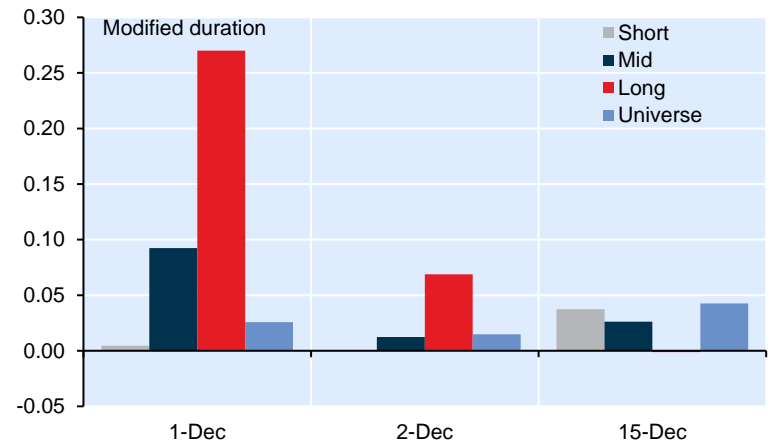
Nature of chg in duration of FTSE Canada Universe Bond Index: Key dates



Source: NBF, FTSE Russell | Note: NBF simulations based on index composition & closing prices as at 3-Nov-22; assumes no change in yield curve; subject to change

**Chart 4: ... with GoC impacts on Dec 1<sup>st</sup> particularly notable**

Chg in duration of FTSE Canada Universe Bond Index & tenor: Key dates

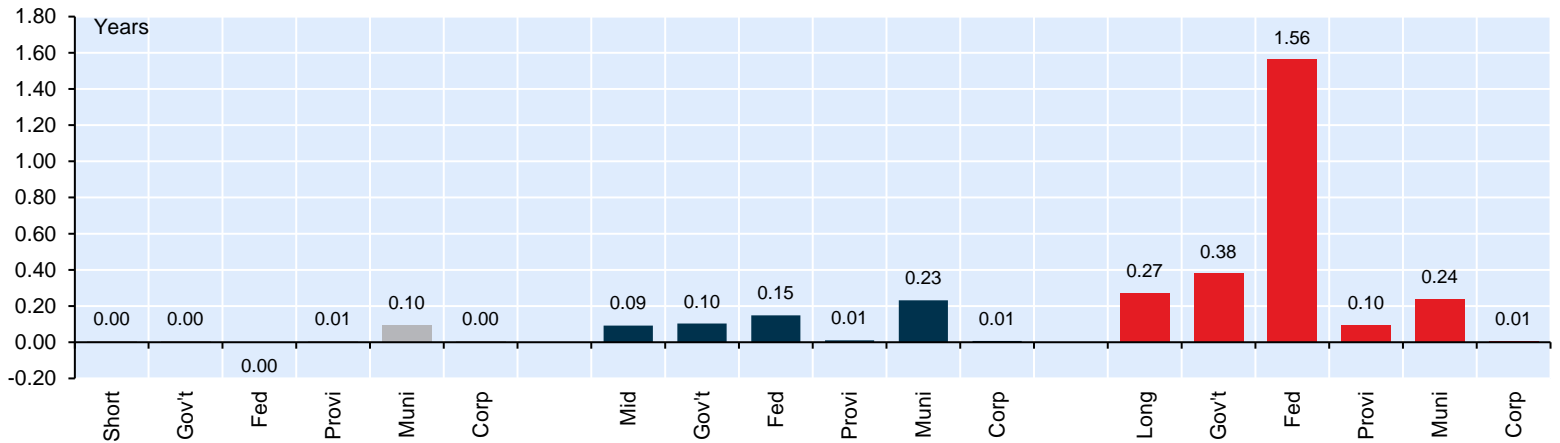


Source: NBF, FTSE Russell | Note: NBF simulations based on index composition & closing prices as at 3-Nov-22; assumes no change in yield curve; subject to change

We estimate December's super-sized coupons and roll outs will add successive amounts of duration to the FTSE Canada Universe Bond Index as December progresses (*ceteris paribus*). Specific cash flow impacts are hardly uniform, however. Simulation analysis (based on closing levels as at November 3<sup>rd</sup>) shows that the nature of the anticipated duration increase (coupon vs. roll) differs materially from the 1<sup>st</sup> to the 2<sup>nd</sup> to the 15<sup>th</sup>. Consistent with prior experience, simulated adjustments to duration and index weights also vary considerably by sector and/or bucket on these key days. All else equal, coupon/roll out/roll over effects should bolster investor demand in the days and weeks ahead, with bond issuers likely keen to capture some of this seasonal cash when/where possible.

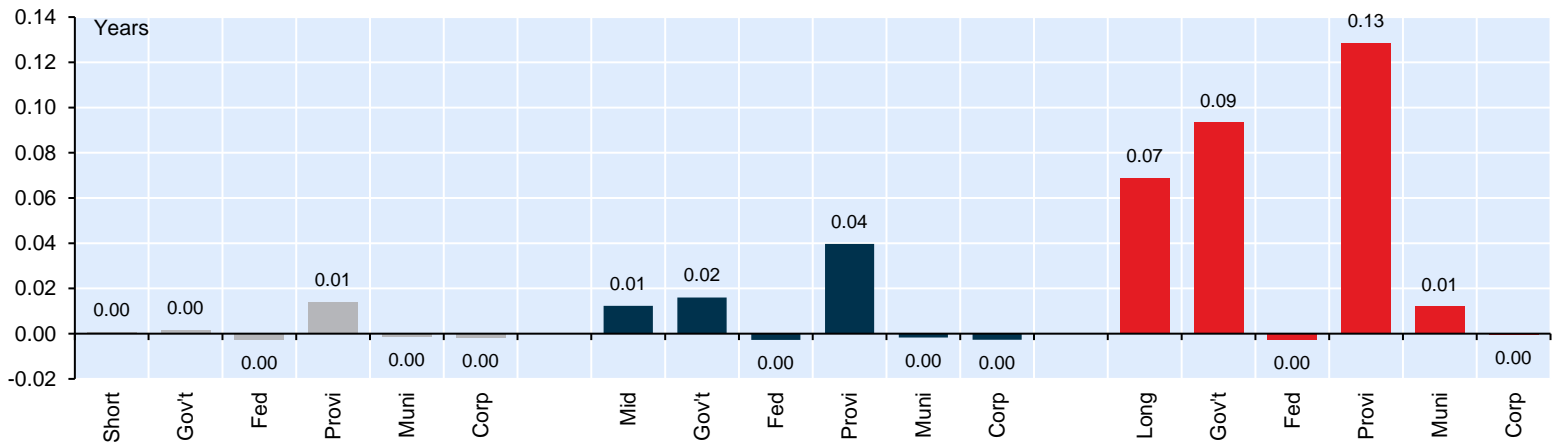
**Chart 5: Government of Canada coupon/roll effect the main story on December 1<sup>st</sup>**

December 1<sup>st</sup> effect – Projected change in modified duration of FTSE Canada Universe Bond Index by term & sector: 30-Nov to 1-Dec



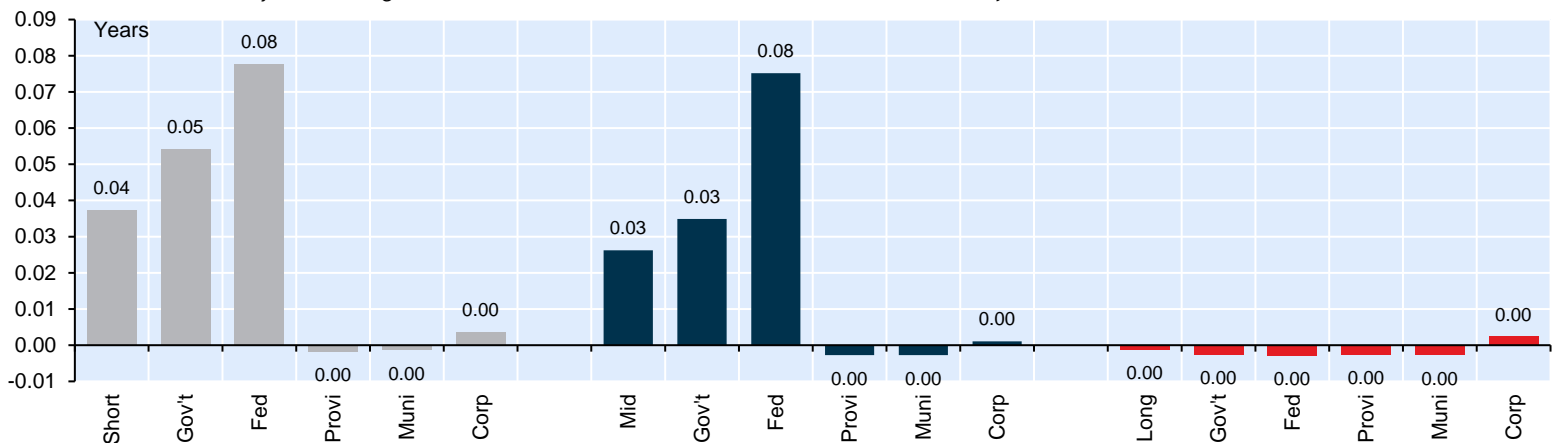
**Chart 6: Provincials generally in the spotlight come December 2<sup>nd</sup>**

December 2<sup>nd</sup> effect – Projected change in modified duration of FTSE Canada Universe Bond Index by term & sector: 1-Dec to 2-Dec



**Chart 7: Canada Mortgage Bonds (CMB) remain the key focus on December 15<sup>th</sup>**

December 15<sup>th</sup> effect – Projected change in modified duration of FTSE Canada Universe Bond Index by term & sector: 14-Dec to 15-Dec



For Charts 5-7 > Source: NBF, FTSE Russell | Note: NBF simulations based on index composition & closing prices as at 3-Nov-2022; assumes no change in yield curve

December 1<sup>st</sup> effects (Chart 5): C\$6.2bln in cash flows. NBF estimates +0.026 increase in modified duration of Universe, with the majority attributable to roll effects. Duration adjustments in the Long bucket will be particularly notable. Long Federal to extend +1.562 as CAN 2.5% 12/2032 (C\$17bln o/s) rolls Long to Mid. That should support performance of longer dated Canadas, all else equal.

December 2<sup>nd</sup> effects (Chart 6): C\$4.3bln in cash flows. NBF estimates +0.015 increase in modified duration of Universe, capturing a coupon effect as no bonds roll out of the Universe that day. The largest duration increase will be seen in the Long bucket. Provincials extend in all buckets. The only bond rolling over, in this case from Long to Mid, is MP 3.9% 12/2032 (C\$600mln o/s). Combined with the prior day's outsized cash and required portfolio repositioning, provincial issuers could issue into underlying investor demand, subject to market conditions and financing requirements.

December 15<sup>th</sup> effects (Chart 7): C\$1.5 billion in cash flows. NBF estimates +0.043 increase in modified duration of Universe, with much of that attributable to roll effects. This duration increase is primarily a CMB story. CANHOU 2.55% 12/2023 (-C\$11bln) rolls out of the Universe, while CANHOU 3.6% 12/2027 (C\$5bln o/s) will roll Mid to Short on the 15<sup>th</sup>.

Note: Refer to the detailed Table on page 3 for specific roll outs and roll overs for key days in December 2022.



**Table: Identifying the specific bonds in focus this December, with a small handful due to move the dial**

Specific bond issues rolling out of FTSE Canada Universe Bond Index or rolling from one bucket to another: December 1<sup>st</sup>, 2<sup>nd</sup>, 15<sup>th</sup> & 18<sup>th</sup>

December 1st: FTSE Canada Universe Bond Index rolls out/roll overs														
Rolling out of UNIVERSE					Rolling over MID to SHORT					Rolling over LONG to MID				
Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %
ALTA	3.40	01-Dec-23	500	0.03	BCMFA	4.95	01-Dec-27	657	0.04	CAN	2.50	01-Dec-32	17,000	0.88
NWRWPT	1.20	01-Dec-23	500	0.03	RLNCE	2.68	01-Dec-27	430	0.02	MNTRL	4.25	01-Dec-32	517	0.03
<b>Total rolling out</b>			<b>1,000</b>	<b>0.06</b>	<b>Total rolling over</b>			<b>1,087</b>	<b>0.06</b>	<b>Total rolling over</b>			<b>17,517</b>	<b>0.91</b>

December 2nd: FTSE Canada Universe Bond Index roll outs/roll overs														
Rolling out of UNIVERSE					Rolling over MID to SHORT					Rolling over LONG to MID				
Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %
N/A					N/A					MP				
										3.90 02-Dec-32 600 0.03				
<b>Total rolling out</b>			<b>0</b>	<b>0.00</b>	<b>Total rolling over</b>			<b>0</b>	<b>0.00</b>	<b>Total rolling over</b>			<b>600</b>	<b>0.03</b>

December 15th: FTSE Canada Universe Bond Index roll outs/roll overs														
Rolling out of UNIVERSE					Rolling over MID to SHORT					Rolling over LONG to MID				
Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %
CANHOU	2.55	15-Dec-23	10,485	0.58	CANHOU	3.60	15-Dec-27	5,000	0.28	BCECN	9.70	15-Dec-32	45	0.00
DTRGR	1.85	15-Dec-23	800	0.04	SE	6.75	15-Dec-27	150	0.01					
PRINCE	8.5	15-Dec-23	52	0.00										
<b>Total rolling out</b>			<b>11,337</b>	<b>0.63</b>	<b>Total rolling over</b>			<b>5,150</b>	<b>0.29</b>	<b>Total rolling over</b>			<b>45</b>	<b>0.00</b>

December 18th: FTSE Canada Universe Bond Index roll outs/roll overs														
Rolling out of UNIVERSE					Rolling over MID to SHORT					Rolling over LONG to MID				
Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %	Issuer Ticker	Cpn %	Maturity Date	O/S C\$mIn	Weight %
BRCOL	3.30	18-Dec-23	2,150	0.12	N/A					N/A				
<b>Total rolling out</b>			<b>2,150</b>	<b>0.12</b>	<b>Total rolling over</b>			<b>0</b>	<b>0.00</b>	<b>Total rolling over</b>			<b>0</b>	<b>0.00</b>

Source: NBF, FTSE Russell | Note: Relevant securities as of 3-Nov-2022; O/S and weight (in Universe) refers to "current holdings"; other bonds will roll out or roll over during December, but we have focused on key days

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