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 (Wednesday), Fall Economic Statement (Thursday) and jobs data (Friday) all reminded us.

As things stand, there’s C$14.7bn 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 1st and 2nd of the month. Saying that, the 15th and 18th are also notable days in December, with the latter falling on the weekend this year.

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 3rd) shows that the nature of the anticipated duration increase (coupon vs. roll) differs materially from the 1st to the 2nd to the 15th. Consistent with prior experience, simulated adjustments to duration and index weights also vary considerably by sector and/or bucket on these key dates. All else equal, coupon/roll out/roll in affects 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 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

Chart 2: Even more index cash available this December
Projected FTSE Canada Universe Bond Index cash flows: Dec-22 vs. prior 10Y

Chart 3: It’s a different duration story on different days...
Nature of change in duration of FTSE Canada Universe Bond Index: Key dates

Chart 4: ... with GoC impacts on Dec 1st particularly notable
Change in duration of FTSE Canada Universe Bond Index & tenor: Key dates

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 3rd) shows that the nature of the anticipated duration increase (coupon vs. roll) differs materially from the 1st to the 2nd to the 15th. Consistent with prior experience, simulated adjustments to duration and index weights also vary considerably by sector and/or bucket on these key dates. All else equal, coupon/roll out/roll in 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 1st

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

December 1st effects: C$6.2bn in cash flows. NBF estimates +0.26 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$17bn o/s) rolls Long to Mid. That should support performance of longer dated Canadas, all else equal.

Chart 6: Provincials generally in the spotlight come December 2nd

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

December 2nd effects: C$4.3bn in cash flows. NBF estimates +0.15 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.

Chart 7: Canada Mortgage Bonds (CMB) remain the key focus on December 15th

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

December 15th effects: C$1.5 billion in cash flows. NBF estimates +0.43 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$11bn) rolls out of the Universe, while CANHOU 3.6% 12/2027 (C$5bln o/s) will roll Mid to Short on the 15th.

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

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.
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 1st, 2nd, 15th & 18th

<table>
<thead>
<tr>
<th>Date</th>
<th>Rolling out of UNIVERSE</th>
<th>Rolling over MID to SHORT</th>
<th>Rolling over LONG to MID</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1st: FTSE Canada Universe Bond Index roll outs/roll overs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuer</td>
<td>Cpn</td>
<td>Maturity</td>
<td>O/S</td>
</tr>
<tr>
<td>ALTA</td>
<td>3.40</td>
<td>01-Dec-23</td>
<td>500</td>
</tr>
<tr>
<td>NWRWPT</td>
<td>1.20</td>
<td>01-Dec-23</td>
<td>500</td>
</tr>
<tr>
<td>Total rolling out</td>
<td>1,000</td>
<td>0.06</td>
<td>Total rolling over</td>
</tr>
<tr>
<td>December 2nd: FTSE Canada Universe Bond Index roll outs/roll overs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuer</td>
<td>Cpn</td>
<td>Maturity</td>
<td>O/S</td>
</tr>
<tr>
<td>MP</td>
<td>3.90</td>
<td>02-Dec-32</td>
<td>600</td>
</tr>
<tr>
<td>Total rolling out</td>
<td>0</td>
<td>0.00</td>
<td>Total rolling over</td>
</tr>
<tr>
<td>December 15th: FTSE Canada Universe Bond Index roll outs/roll overs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuer</td>
<td>Cpn</td>
<td>Maturity</td>
<td>O/S</td>
</tr>
<tr>
<td>CANHOU</td>
<td>2.55</td>
<td>15-Dec-23</td>
<td>10,485</td>
</tr>
<tr>
<td>DTRGR</td>
<td>1.85</td>
<td>15-Dec-23</td>
<td>800</td>
</tr>
<tr>
<td>PRINCE</td>
<td>8.5</td>
<td>15-Dec-23</td>
<td>52</td>
</tr>
<tr>
<td>Total rolling out</td>
<td>11,337</td>
<td>0.63</td>
<td>Total rolling over</td>
</tr>
<tr>
<td>December 18th: FTSE Canada Universe Bond Index roll outs/roll overs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuer</td>
<td>Cpn</td>
<td>Maturity</td>
<td>O/S</td>
</tr>
<tr>
<td>BRCOL</td>
<td>3.30</td>
<td>18-Dec-23</td>
<td>2,150</td>
</tr>
<tr>
<td>Total rolling out</td>
<td>2,150</td>
<td>0.12</td>
<td>Total rolling over</td>
</tr>
</tbody>
</table>

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
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.
Economics and Strategy
Market View

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.

US 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 US Institutional Investors only.

This report is not subject to US 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.