

## RIP PBPP

By Warren Lovely/Taylor Schleich

Last year, facing the broad-based economic and financial market carnage wrought by COVID-19, the Bank of Canada dished up a veritable alphabet soup of asset purchase programs. In many cases, the Bank opted to trod on previously untouched ground, leaving footprints in any number of corners of financial markets.

The Bank's Provincial Bond Purchase Program (PBPP) was one such program. Since May 7, 2020, this program has involved secondary market purchases (via a tender process) of domestic provincial bonds. Of note, the PBPP is meant to expire May 6, 2021.

Some believe this extraordinary support should continue. A common line of reasoning involves keeping provincial spreads taught, be it in absolute terms (vs. GoC) or on a relative basis (credit to credit). Is the provi market so fragile that it needs continued kid-glove treatment from our monetary authority? We're not so sure. We see an argument for letting a program that was always meant to be temporary run its natural course. So rest in peace PBPP. And as funerals go, this one needn't be terribly upsetting (even if some will miss the program).



Source: NBF, Google images | Note: Artwork courtesy of Giuseppe Saltarelli

Below, we've fashioned a Q&A-styled dialogue related to the PBPP. We welcome a follow-up discussion with interested parties.

### Q: Can you tell me a bit more about the PBPP?

A: We could, but why not simply go to the BoC's [dedicated page](#) on the Provincial Bond Purchase Program. Here you'll find the stated goal of the program (i.e., "to support the liquidity and efficiency of provincial government funding markets"), operational details and results/holdings. The disclosure isn't quite as deep or timely as with the Bank's QE program, but for a more principal-based market with greater relative sensitivity to individual holdings, complete transparency was never in the cards (nor was it promised).

### Q: Is this program akin to QE?

A: Strictly speaking, no. The Bank is doing plenty in terms of quantitative easing (QE). Specifically, the Government of Canada Bond Purchase Program currently absorbs C\$4 billion/week. That's a heady clip, driving BoC holdings of domestic GoC bonds to C\$312 billion (and counting), offsetting much of the net bond supply Ottawa

auctioned to finance virus-related supports, and resulting in a considerably larger BoC ownership share (currently 38% and rising more than 1%-pt per month). The now-dormant Canada Mortgage Bond Purchase Program, which involved secondary market purchases of bonds already explicitly guaranteed by the federal government, might also have fallen under the heading of QE (since there was no incremental risk being taken on). But the PBPP, which involves buying non-federally guaranteed bonds, amounts to credit easing (CE). Semantics? Not necessarily.

While there's no clear/consistent sequencing when it comes to unconventional monetary policy measures, QE is truly of the more foundational variety. CE on the other hand (while helpful for select issuers/sectors at key moments in time), is generally peripheral in nature, which argues for more modest size, scope and duration.

At this point, we believe the PBPP should fade to black in May (as originally intended), whereas the Bank's GoC bond purchase program could well extend through all of 2022 (with much more careful consideration needed around the reinvestment of principal/coupons of the QE-related portfolio).

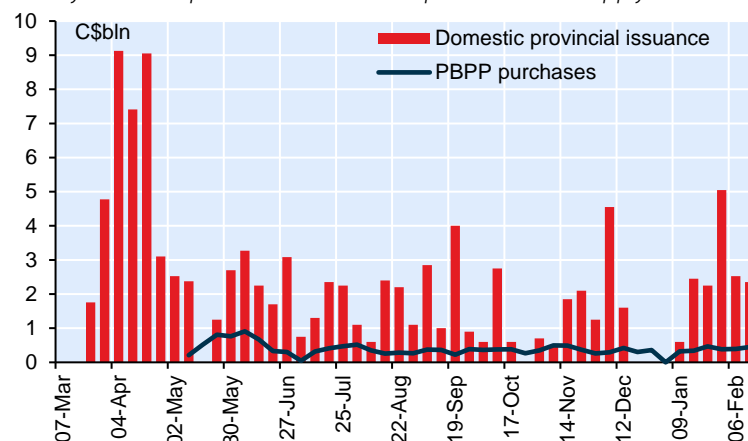
### Q: How many provincial bonds has the BoC bought via the PBPP?

A: The market value of provincial bonds on the BoC's balance sheet has gone from zero (pre-COVID) to C\$16.9 billion (as at 10-Feb). While not exactly apple-to-apples, the Bank owns nearly 20-times as many GoC bonds.

The weekly purchase pace has averaged ~C\$400 million since the start of the year (higher of late). That's obviously nowhere near the C\$4 billion per week the BoC sucks up via QE. Nonetheless, think of the PBPP as more or less obviating the need for one 'green banner' (i.e., domestic new issue) per week. In this way, you can consider the program a clear source of marginal demand (Chart 1).

### Chart 1: Putting PBPP purchases & supply in perspective

Weekly BoC PBPP purchases vs. domestic provincial bond supply



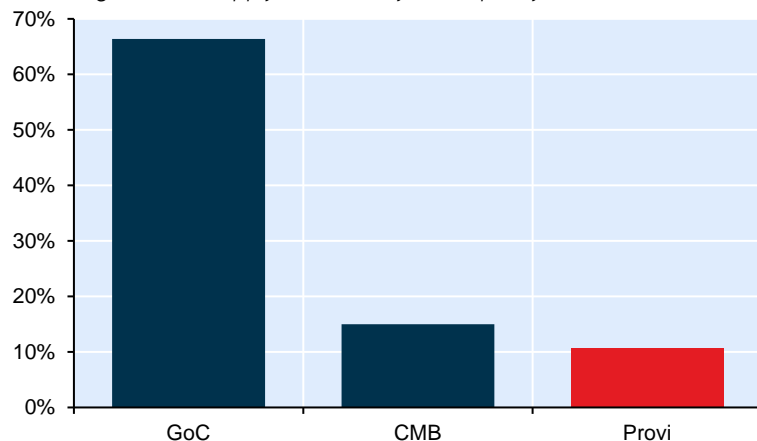
Source: NBF, Bank of Canada, Bloomberg | Note: Excludes international deals

Overall, the build-up of provi bonds via the PBPP appears "moderate" relative to the near-C\$100 billion aggregate provincial deficit run in 2020-21 or the ~C\$150 billion annual gross funding requirement for the provincial sector as a whole (roughly one third of which is currently being steered to international markets). Putting this program in

greater context, consider that since the virus really hit in March of last year, the BoC has taken down 70% of gross GoC supply, about 20% of CMB issuance (via a now-suspended program) and just 10% of provincial issuance (all markets) (Chart 2). The BoC absorption rate is right now closer to 15% of total provi supply—non-trivial, but not necessarily bedrock material either.

**Chart 2: BoC offset roughly 10% of provi issuance in past year**

Share of gross bond supply absorbed by BoC in past year (since 1-Mar-2020)



Source: NBF, Bank of Canada, Bloomberg | Note: Provi issuance includes international deals; GoC & CMB issuance is domestic only; PBPP took effect 7-May-2020; CMB purchases discontinued 29-Oct-2020; GoC QE ongoing at current C\$4bln/wk pace

### Q: How big is the BoC's footprint in terms of ownership share?

A: BoC ownership shares are a hot topic, particularly in the GoC market where outsized QE has us racing to a seemingly problematic (so the Governor says) 50% threshold, barring course correction of course. By comparison, the BoC's provi footprint is much fainter, little more than 2% of total domestic bonds in circulation.

Objectively, BoC buying hasn't displaced traditional end-investors the same way it has in the GoC market. Unlike GoC bonds, Canada's national balance sheet accounts show provincial bond holdings on the rise across much of the traditional (i.e., non-BoC) investor base.

It's worth noting that the BoC's provi holdings are nowhere near as large as they technically could have been. When the PBPP was set up last spring, the cap for program was C\$50 billion (par value). At the current run-rate, we estimate total BoC holdings will be just over C\$20 billion by early May (i.e., almost C\$30 billion short of the ceiling).

### Q: Was the PBPP ever really needed?

A: This is perhaps a debatable point. We've little interest in second-guessing the BoC's policy response to the virus. There was no policy playbook for a once-in-a-lifetime pandemic. Better to err on the side of overdoing it, or so the conventional wisdom went. (Aside: We may well have overdone it on federal income supports, judging from the mountain of federally financed savings sitting on the sidelines in the household sector. But that's another story.)

Interestingly, *after* the virus came ashore but *before* the PBPP was announced/established, Canada's provinces were securing some serious long-term money. Between March 1, 2020 and April 15, 2020 (when the PBPP was announced), in what would normally be a seasonally slow period for supply, nine different provinces plus Hydro-Quebec raised a combined C\$39 billion from debt capital markets in 75 individual bond transactions. (PEI, with its smaller requirement, was the only province not issuing during this window.) That was like

completing half a normal year's worth of borrowing in six weeks. True, many of those deals were marketed at wide spreads. That's where the "efficiency" argument comes in. The so-called large-order process (i.e., carve out) was relied upon by some, signaling chunky/narrower investor demand. Nevertheless, provinces enjoyed access to term funding even in the darkest of days.

As the BoC made clear from the outset, the PBPP was meant to complement/supplement the Provincial Money Market Purchase Program (PMMP). This latter program provided apparently vital liquidity, at least judging from high-placed appeals for help from some corners. The initially open-ended PMMP was wound down in mid-November, with markets given one week's notice.

The PBPP, where individual provincial holdings are aligned with existing shares of bonds outstanding, is seemingly less about liquidity provision for hard-hit names. As an example, barely 1.5% of the BoC's PBPP portfolio has been steered to Newfoundland and Labrador. Rather, the program acts as a more generalized safety valve, ensuring an important market continues to function.

No question, the program provides investors and dealers an opportunity to exit unwanted positions. It saw notable take-up in the early(ish) days. As noted, it's still being accessed in non-trivial fashion today, an issue we'll come to. Still, given what will likely be ~40% utilization (vs. the program cap), one might argue that it's been less vital than originally assumed. (While beyond our current scope, the same might be said of the Bank's Corporate Bond Purchase Program, which acquired the tiniest fraction of a C\$10 billion program cap.)

We're mindful of the argument that simply announcing the program boosted confidence and eased frayed nerves (where they existed). In other words, it may be less about the volume of bonds being purchased and more about the existence of the program itself. Psychologists are invited to offer their opinion here.

It's admittedly tricky to cleanly/accurately isolate the program's impact from what was a pretty steady stream of policy announcements as COVID took root. We took a shot via [detailed statistical analysis last June](#). Recall, the Bank unloaded with seriously heavy weaponry last spring, cutting the policy rate to the effective lower bound in three quick movements, establishing its jumbo QE program, conducting massive term repos, setting up any number of other liquidity-promoting programs (everything from BAs to CP to the PMMP), taking down a larger share of T-bill tenders, etc. Then there was Canada's fiscal stimulus program, the largest in the advanced world as a share of GDP. Meantime, outside our borders, policy makers jumped in with both feet, including most critically the Fed.

All that to say, the PBPP was part of an unprecedented multi-faceted international policy response to COVID. Collectively, these actions spurred a decisive recovery in financial markets (including credit), resulting in tighter provincial bond spreads than would otherwise have been possible. But to us, the PBPP was by no means solely responsible for keeping the lights on in the domestic bond market.

### Q: Will the PBPP be needed beyond May?

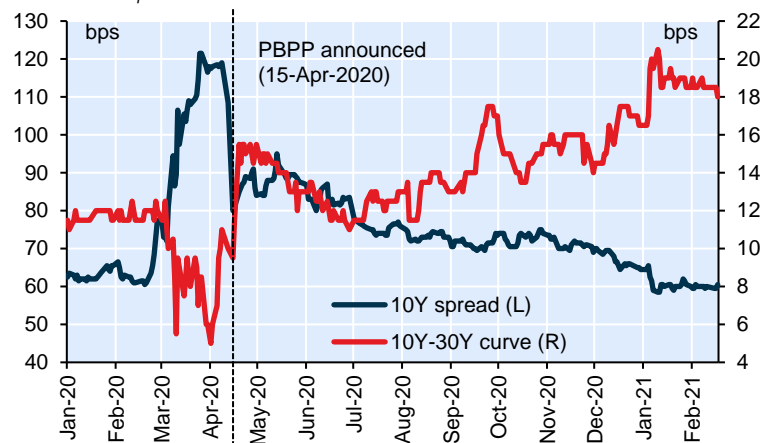
A: Regardless of whether the program was originally needed or not, we'd argue that it's even less vital today than last spring, certainly in terms of market functioning.

By most yardsticks, provincial funding markets have healed significantly if not fully. Sure, the balance of trade ebbs and flows from

bid- to offer-wanted, as its won't to do. But secondary trading volumes tell us that domestic and international investors remain actively engaged in provis. Spreads have recovered massive ground, flirting in some cases with pre-COVID tightness. Basis spreads, including for some weaker and/or less liquid names, have likewise compressed. New issue windows have been open consistently (domestically and internationally). Collectively, the provinces cleared C\$20 billion from all debt capital markets in January, all without creating much (if any) spread indigestion. That's right, the provinces secured more in primary markets from traditional investors in one month than what the BoC has bought in total since the PBPP got off the ground last May

### Chart 3: Provi spread performance before/after PBPP

Ontario 10Y spread vs. GoC & 10Y-30Y credit curve



Source: NBF | Note: Daily constant maturity spread indications

Now, if the overriding objective was/is to bring about the tightest possible provincial spreads, well then there's still some residual utility. But engineering marginally tighter spreads and/or acting as a buyer of not-quite last resort in an otherwise well-functioning market isn't really in the Bank's remit, nor should it be. As a general principle, the Bank should strive to minimize its market footprint wherever and whenever possible, avoiding the appearance of debt monetization. As a mantra, leave no trace isn't a bad one when markets heal.

### Q: If the program is to end in May, surely interest is winding down?

A: Not necessarily. While some of the BoC's liquidity-focused programs (including the PMMP) saw activity wane before they were ultimately terminated, PBPP utilization has hardly tailed off. If anything, the average weekly volume of bonds bought has edged higher since 2021 started. Last week, over two operations, the BoC purchased a combined C\$450 million. Just this Tuesday, the BoC scooped up C\$436 million out of a maximum C\$500 million.

Continued take up implies some see value in the program. But put yourself in the shoes of an investor or dealer. Why not take advantage of the program while it's still available, particularly if a 'reflation' trade got you spooked and/or axed to cut duration. We're watching tender results closely, but don't be surprised if the program attracts non-trivial interest right up to its scheduled termination point. The Bank could, of course, reduce the weekly operational maximum if they wished to wean participants off the program prior to May 6<sup>th</sup>.

To us, the question isn't whether counterparties see value in the PBPP, but whether the market is sound enough to operate without extraordinary support. In our view, the answer to this most critical question is 'yes'.

### Q: How much of an impact might the end of this program have?

A: In the same way that it's tough to truly isolate the benefit to provincial spreads from having introduced the PBPP, the market impact from letting it end is something of an open question.

There are a few dimensions to think about. The direction, if not the magnitude, is in most cases intuitive. All else being equal, removing demand is a negative for spreads, and would imply a degree of underperformance vis-à-vis competing credit products (e.g., provinces widen vs. corps). We believe the PBPP termination impact, on its own, would be relatively modest/manageable, measured in a handful of basis points (less than 5 bps) for 10-year benchmark spreads. Of note, current provi valuations aren't necessarily stretched vis-à-vis underlying yields and risk proxies. Fair value models with the best fit predict 10-year Ontario +59 bps vs. GoC.

There are credit curve dynamics also, particularly since the PBPP is only active out to 10-years. We had earlier identified [a PBPP-related regime shift in the 10s-30s provincial credit curve](#). Removing the program could serve to flatten credit curves, all else equal. Here again, the estimated impact on 10s-30s might be a couple bps. Credit risk considerations, issuance patterns, underlying GoC curve dynamics and term premia are but some of the other credit curve variables to control for.

One could expect a marginal increase in the benchmark premium when (if?) the PBPP ends. That's another way of saying that investors would likely prefer to hold the on-the-runs once the BoC outlet for less-liquid paper is removed. This benchmark premium argument would hold not only for a given issuer's bond curve but apply across issuers as well. All else equal, that suggests wider spreads as one moves from larger/more frequent issuers to the less-regular borrowers, controlling for intrinsic credit quality (e.g., credit ratings). That's another way of saying spread impacts could compound for some securities/issues. Remove a liquidity source, even if it's not the most vital, and liquidity premia should extend (at the margin).

So yes, some re-pricing can/should be expected, notably down the curve where spreads appear most compressed. If, like us, you believe the program could terminate as scheduled, you'd be looking for these relatively modest re-pricings anytime now (i.e., well in advance of May 6<sup>th</sup>, markets being efficient and all that).

While acknowledging the potential headwind from the removal of BoC demand, we remain fundamentally constructive on global and North American growth, seeing equities/risk sentiment well supported here. That could mitigate, if not trump, PBPP-related pressures or the phantom menace of a QE taper (more on that in a minute).

Finally, note that the CMB basis to Ontario behaved in orderly fashion in/around the termination of the CMB purchase program. We saw no more than a 2-bp relative weakening in 5s, which proved short-lived.

### Q: What about elevated funding needs and rising borrowing costs?

A: Ok, let's state the obvious: Most provincial governments will need years to repair the fiscal damage inflicted by the virus. Borrowing needs, which skyrocketed in 2020-21, will remain elevated in 2021-22 (and beyond). We've offered our own guidance on this front, seeing gross provincial requirements in/around C\$150 billion for the fiscal year set to commence April 1<sup>st</sup>. Borrowing costs have edged up as future inflation is discounted. Meanwhile, credit ratings for the sector remain tilted lower, which could leave some investors on edge.

No shortage of bonds to place, and thus few buyers to be turned away. If the BoC stayed in the market (beyond May), we've no doubt that investors and dealers would continue to tender bonds. But again, that's not necessarily justification for keeping this program alive. Borrowing rates, while increasingly higher out the curve, are still lower than pre-COVID levels up to 10-years and decisively so in shorter tenors. More fundamentally, there are other, less market-invasive ways for policy makers to support provinces. Perhaps best to pass the torch from the BoC to more appropriate circles.

**Q: If the BoC stands down on PBPP, who's to pick up the slack?**

A: That's the C\$450 million/weekly question isn't it. Presumably one of the strengths of the provincial bond market is the sheer breadth and depth of the investor base. Sure, there are concentrations in ownership/interest, but there are numerous potential avenues to offset PBPP buying. Depending on the tenor, banks, asset managers, insurance companies and pension funds represent the usual domestic suspects. Some may need to be enticed with a bit of marginal spread/yield, but the back-up needed to clear C\$400-500 million/week is likely just a few bps, given our economic base case.

And don't lose sight of the non-resident factor. Foreign investors just digested a record amount of provincial bonds in 2020, with their appetite extending into January 2021. Refer to a dedicated report [here](#). To be clear, unprecedented non-resident buying of provincial product includes bonds denominated in foreign currencies, not just domestic issues. That raises another relevant point: Canada's provinces aren't solely beholden to domestic markets/investors. Most are willing and able to divert supply to the deep pools of liquidity available internationally, be it in dollars, euros, sterling or other currencies. In this way, provinces have proven adept at managing marginal pressures (when borrowing needs step up, or when a particular source of domestic demand falters or in this case ends).

**Q: Are there other ways provinces could be supported?**

A: If one were inclined to view provinces as needing a hand up, instead of sopping up the odd unwanted bond at relatively tight spreads, why not address root-like issues.

Looking at virus-related fiscal supports, provinces can be thankful the feds picked up much of the tab. One-off fiscal supports like the Safe Restart Agreement are all well and good, but what would really help is a lasting transfer of fiscal room from the federal to provincial level. We've keyed on this issue previously, but let's just say that long-term fiscal sustainability has remained elusive for some provinces. One potential and seemingly sensible solution would be for the feds to enrich, materially and permanently, the support provided in the area of health care. This is a chief priority for premiers for good reason.

Rather than PBPP, the more important acronym for provincial bond markets could well be CHT (as in the Canada Health Transfer). The upcoming federal budget provides the next natural platform to move forward on the vital issue of federal health care funding. We'll see how accommodating PM Trudeau and Deputy PM/FinMin Freeland are willing to be, and how a CHT supplement stacks up against other Liberal priorities. Importantly, the federal budget will arrive well before the PBPP is due to expire, so marginal visibility on federal fiscal supports could influence the program's fate.

**Q: As the BoC moderates QE, won't that create a major headwind?**

A: The trajectory for QE is no small matter. It's why we've written so frequently on the subject, our latest missive coming [here](#). On its face,

a moderation in BoC QE removes accommodation, slowing the rate of absorption of GoC bonds and theoretically risking a crowding out effect in sectors where federal supply is most heavily concentrated.

To us, however, the current QE bite size is too large for the underlying GoC market. We believe the Bank could moderate its purchase pace without destabilizing rates and/or upsetting provincial funding markets. For the Bank of Canada, "taper" is a bit of a misnomer; the next step down, when it comes, will still see the central bank taking a proportionately larger share of bonds out of the market vs. the Fed.

Moreover, the average term of BoC QE purchases could be extended to buttress fallout on longer-term yields, underpinning sectors of the market provincials generally favour domestically.

**Q: Finally, should the BoC confirm its thinking on PBPP?**

A: If not an absolute requirement, it's certainly not a bad idea. A few well-placed words or a market notice could redress underlying uncertainty, managing expectations for investors and issuers alike. No market participant is going to turn away clear and timely guidance, but it's not yet clear what (if anything) the Bank is prepared to say (beyond what's already been communicated).

The Bank may feel it premature to comment. At the latest, however, the April 21<sup>st</sup> rate decision, complete with its Monetary Policy Report, extensive Q&A and market briefings, would provide a natural platform for the Bank to telegraph/confirm its intentions with respect to the PBPP. Which leads to something of a soapbox issue for us: Why not adopt a FOMC-styled "Implementation Note" to accompany the formal rate statement, spelling out intentions on QE and other asset purchase programs for as long as they're in place. Just a thought.

**In short:** Marginal demand sparked by the PBPP has clearly lent support to the provincial bond market. Judging from ongoing utilization, participants still find the program useful. Borrowing rates are edging up and there's no shortage of debt to finance, fiscal healing looking to be a slow process. But consistent with our underlying economic narrative, we're of the opinion the provincial bond market can survive without the PBPP, even if modest re-pricing results (e.g., down the curve, for off-the-runs and less-liquid names). If the BoC is interested in minimizing its footprint, particularly in markets that appear to be well-functioning, then it will likely be appropriate to step away come May. Make no mistake, we see a strong case for lending provinces serious and permanent *fiscal* support, but Justin Trudeau not Tiff Macklem holds the key. RIP PBPP: You had your uses, and still do in a sense, but we'll get by without you.

---

**P.S.** Should the PBPP indeed end on May 6<sup>th</sup> (as currently scheduled), the Bank of Canada would nonetheless reserve the right to reinstate this special support should market conditions seriously falter. It's the same with the other extraordinary Bank programs that have been wound down. The official line is: "Any discontinued facilities can be restarted if necessary."

**P.P.S.** If you were of the view the provi market might need a modicum of extraordinary support beyond May, how about this hybrid solution (offered up by one of our colleagues in Trading): the BoC moves to a two-way program in May, where they buy back bonds one day a week, while offering for sale bonds from their PBPP inventory on another. As our colleague argued, that would "reinforce the message that the Bank was there if needed, bolstering market liquidity". A potentially creative in-out solution and something to ponder.



## Economics and Strategy

### Montreal Office 514-879-2529

**Stéfane Marion**

*Chief Economist and Strategist*  
stefane.marion@nbc.ca

**Paul-André Pinsonnault**

*Senior Economist*  
paulandre.pinsonnault@nbc.ca

**Daren King**

*Economist*  
daren.king@nbc.ca

**Matthieu Arseneau**

*Deputy Chief Economist*  
matthieu.arseneau@nbc.ca

**Angelo Katsoras**

*Geopolitical Analyst*  
angelo.katsoras@nbc.ca

**Jocelyn Paquet**

*Economist*  
jocelyn.paquet@nbc.ca

**Kyle Dahms**

*Economist*  
kyle.dahms@nbc.ca

**Camille Baillargeon**

*Intern Economist*  
camille.baillargeon@nbc.ca

### Toronto Office 416-869-8598

**Warren Lovely**

*Chief Rates and Public Sector Strategist*  
warren.lovely@nbc.ca

**Taylor Schleich**

*Rates Strategist*  
taylor.schleich@nbc.ca

### General

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

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

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

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

### Canadian Residents

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

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

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

### UK Residents

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

This information is only for distribution to Eligible Counterparties and Professional Clients in the United Kingdom within the meaning of the rules of the Financial Conduct Authority. NBF is authorised and regulated by the Financial Conduct Authority and has its registered office at 71 Fenchurch Street, London, EC3M 4HD.

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

### U.S. Residents

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

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

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

### HK Residents

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

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

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

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

### Copyright

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