



Continued: A bond supply-valuation dance in 3 acts

By Warren Lovely & Ethan Currie

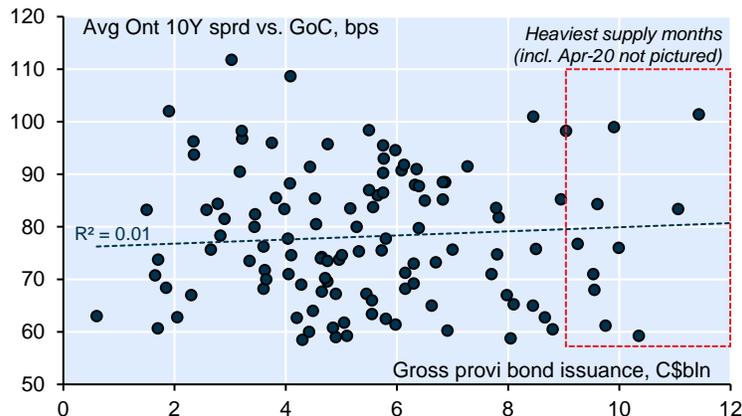
In a traditional supply-and-demand model, an increased quantity of something generally requires a cheaper price to clear the market, all else being equal. Over the years, we've tested the supply-price (or supply-spread) relationship in Canada's domestic bond market. We use this note—which serves as Act 2 of a three-part series—to update certain aspects of our work, keying on one of the most vital, frequently issued and actively traded sectors of our domestic credit market: provincial government bonds. Note: Act 1 is available [here](#).

Act 2 ~ Old school vs. new school supply-spread relationship in provincial bond market

- (i) On the face of it, **a consistent and/or statistically significant relationship between provincial bond supply and credit spreads appears hard to come by**. Witness the shotgun blast-style relationship between gross issuance and spreads over the past decade.
- (ii) A given month of **supersized gross provincial issuance is just as likely as not to correspond with tighter not wider provincial bond spreads**. A favourable market backdrop often encourages/emboldens issuers (i.e., strong market tone pulls in supply). Looked at another way, issuers know enough to back away from the market when sentiment is shaky, generally preferring not to validate wide(r) spreads.
 - Aside: There's some evidence that the skewing of provincial supply to the long end and/or the dumping oversized duration into the market contributes to a contemporaneous steepening of the provincial credit curve.

i) Scattershot! Link btw supply & spreads tough to isolate?

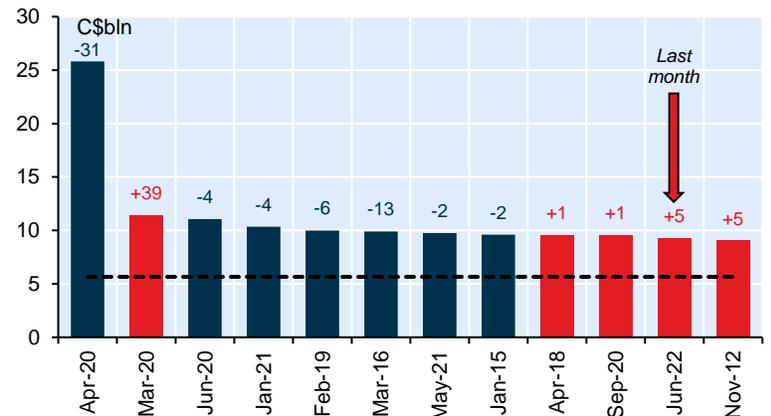
Monthly domestic provincial bond issuance & average spread: Last 10 yrs



Source: NBF, Bloomberg | Note: Domestic issuance only (i.e., CAD issues); spread is monthly average of constant maturity indications; 120M to Jun-22

ii) Heavy supply hasn't necessarily meant wider spreads

12 largest months of domestic provincial bond issuance (& spread change)

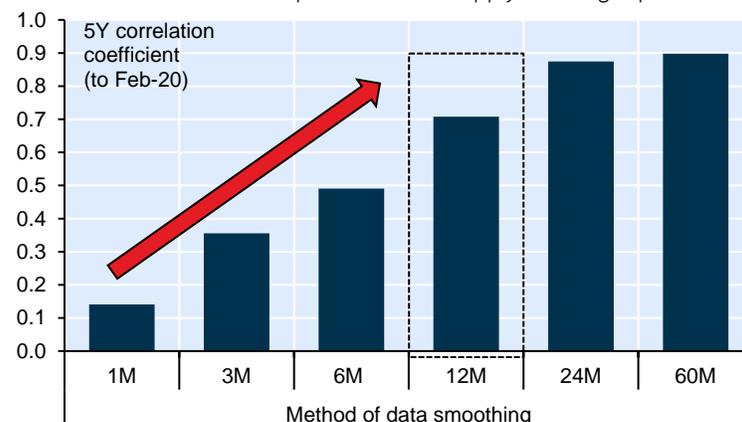


Source: NBF, Bloomberg | Note: Gross domestic issuance; figures above bars denote M/M chg in Ont 10Y spread; blue shading=tighter; red=wider; dotted line is 10Y avg supply

- (iii) Notwithstanding (i-ii), **by smoothing high(er) frequency tallies, supply's influence on valuations emerges**. For example, smoothing supply and spreads over 12 months produced a correlation coefficient of 0.7 in the half-decade leading up to the pandemic. The direction of the relationship is intuitive (i.e., more supply ⇌ wider spread), even if the correlation isn't entirely stable/consistent over time.
- (iv) As one might expect, **net bond supply—as opposed to gross issuance—has exerted the greater influence on spreads historically**.
 - Aside: The empirical record advances the argument that international issuance supports domestic spreads (at the margin), since the diversion of bonds to foreign markets/investors arithmetically leaves less paper for domestic investors to digest.

iii) Smoothing spawns (some) statistical satisfaction

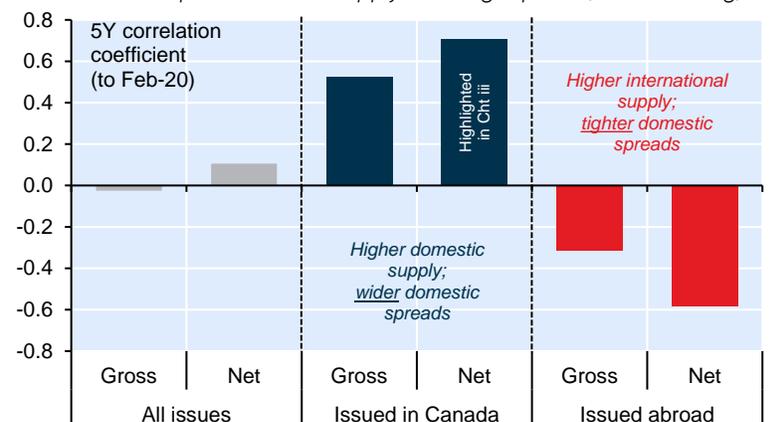
Correlation btw net domestic provincial bond supply & average spread



Source: NBF, StatCan | Note: Correlation with spread based on monthly avg of Ont 10Y constant maturity indications; correlation is up to onset of COVID-19 pandemic

iv) Best to key on 'net' vs. 'gross' (while supply diversion has paid off)

Correlations btw provincial bond supply & average spread (12M smoothing)



Source: NBF, StatCan | Note: Correlation with spread based on monthly avg of Ont 10Y constant maturity indications; correlation is up to onset of COVID-19 pandemic

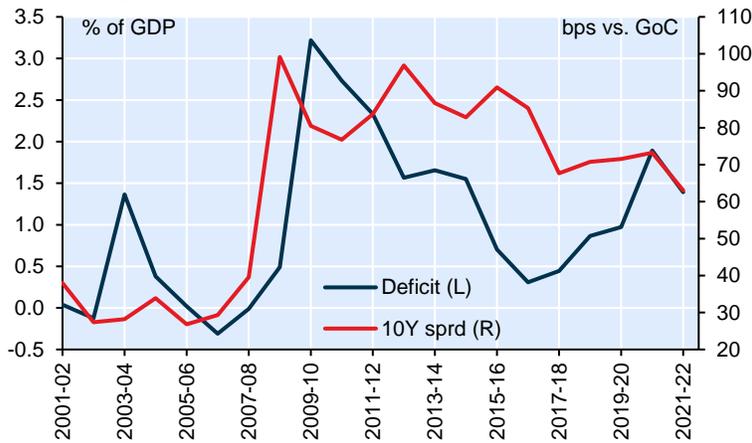
(v) By way of fundamental background, the historical net bond supply we've studied is partly the manifestation of provincial budgetary shortfalls. It's admittedly tough to day trade provincials on the basis of annual budgetary figures that are updated only infrequently and/or with a lag, but the simple point is that **fiscal results matter**. And while a perfect fit with spreads has generally proven elusive, swings in **provincial budget balances tend to do a respectable job informing spread direction/momentum** while...

(vi) ... **net debt burdens (i.e., scaled to GDP)—which obviously evolve more slowly—help dictate the trend level for spreads.**

➤ Aside: Since we're studying spreads to the GoC curve, you might argue that the *relative* fiscal performance/standing of provincial governments vs. the feds may be more informative. We'll concede that budgetary balance gaps and/or net debt differentials (provi vs. fed) have left a bit to be desired when it comes to forecasting provincial spreads. Nonetheless, we'd emphasize that provincial budget balances have been improving faster and provincial debt burdens receding quicker than at the federal level of late. While partly cyclical, it's been sufficient to arrest a 12-year-long deterioration in average provincial credit quality (from 2009 to 2021)

v) Fiscal results have influenced spread momentum...

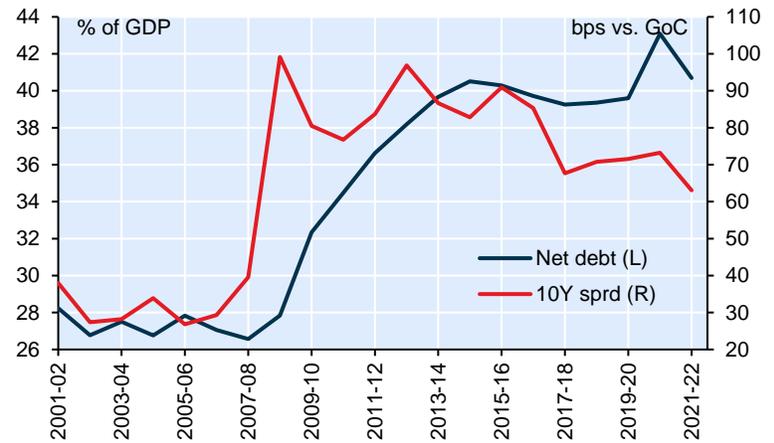
Ontario budget deficit & domestic spread: Fiscal year basis



Source: NBF, Ontario | Note: Fiscal results include interim estimate for 2021-22; bond spread represents fiscal year average of domestic constant maturity NI indications

vi) ... while leverage informs broader spread level

Ontario net debt burden & domestic spread: Fiscal year basis



Source: NBF, Ontario | Note: Fiscal results include interim estimate for 2021-22; bond spread represents fiscal year average of domestic constant maturity NI indications

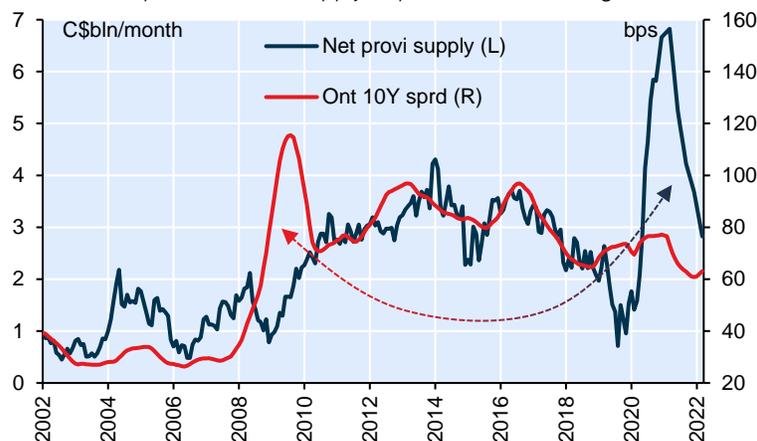
(vii) Critically, **COVID-19 (and the extraordinary suite of policies that the pandemic ultimately spawned) has represented something of a regime shift for financial markets, including credit.** Net bond supply trends have seemingly, and at least temporarily, lost some (much?) of their sway over valuations since early 2020. That's an observation that might apply equally well to the sovereign bond market as it does to provis.

➤ Aside: **This isn't the first time the supply-spread relationship has broken down.** Mind you, the last pronounced disconnect—in/around the Global Financial Crisis—was essentially the flip-side of what we've observed more recently. Back then, spreads blew out quicker and more significantly than net supply developments might have implied, reverting to more 'expected' levels by 2010.

(viii) **As the correlation between provincial bond supply and spreads has shrunk, so too has the estimated impact of a given supply shock** (i.e., the coefficient on net bond supply has been a fraction of the pre-pandemic trend). By way of example, the roughly C\$50 billion annualized increase in trend provincial bond supply (CAD, net) brought about by the pandemic might have required a ~40 bp increase in 10-year provi spreads, at least based on old-school/pre-COVID statistical linkages. Instead, our new school rules (taking into account earlier massive policy supports, including central bank balance sheet measures) meant a mountain of provincial paper ultimately required less than 10 bp of widening in trend spreads to clear the market.

viii) Regime shift! Supply-spread dynamic re-cast since 2020

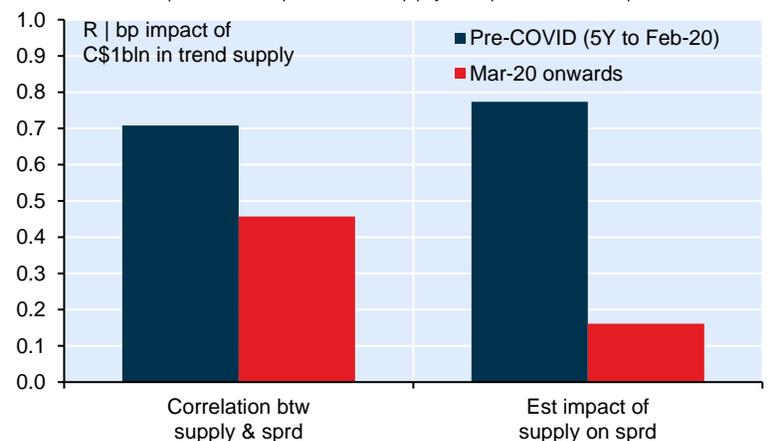
Net domestic provincial bond supply & spread (12M smoothing)



Source: NBF, StatCan

viii) Visualizing supply's waning impact on valuations

Correlation & impact of net provincial supply on spreads: Pre & post COVID



Source: NBF, StatCan | Note: Correlations & coefficients based on 12M smoothing

(ix) The corollary to point (viii) also holds. **Whereas provincial deficits have melted away *much* faster than expected—driving underlying cash requirements down—a still-distorted market has seemingly meant little relief in benchmark provincial spreads** (vs. the risk-free curve or on an asset swap basis). Again, this highlights the reduced sway net supply exerts when anxiety is particularly elevated and when extraordinary policies are either being adopted (e.g., extreme rate hikes) or unwound (e.g., balance sheet measures). If, as and when the current fixation on inflation recedes and net supply regains a more material/traditional impact on spreads, a lighter issuance path could be a significant technical tailwind for provis. That of course assumes that we arrive at a 'normalized' policy environment without sparking a recession, which would presumably kick off a fresh round of deficit financing. Risks linked to a more adverse scenario are non-trivial.

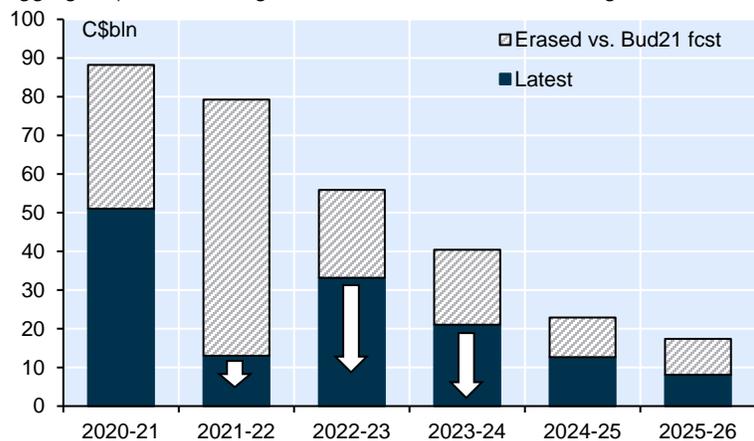
- Aside: The less-than-perfect relationship between supply and spreads currently in evidence raises the question: Are bond investors simply quicker to adjust to shifting economic/fiscal winds than provincial treasurers, driving spreads wider (tighter) in advance of an ultimate pick-up (slowdown) in net bond supply. There's *some* evidence to back this up, with a study of pre-COVID tendencies suggesting spreads might ultimately lead supply by as much as 9 months. Markets, as they say, tend to be efficient.
- Additional (fiscal) aside: The cumulative improvement to provincial finances so far communicated is truly without precedent. Indeed, the overall magnitude of the fiscal re-write is almost hard to comprehend. As it stands, C\$165 billion of provincial red ink has been erased since spring 2021 (which is a multi-year tally for all ten provinces). Last fiscal year alone (i.e., 2021-22), the combined provincial budget balance morphed from a C\$80 billion projected deficit to what will be a near-balanced tally once all provinces have presented their audited public accounts. Notwithstanding slowdown/recession risks, residual improvements to current and future fiscal year balances are still expected as updates arrive. The net result is a massive comedown in underlying borrowing needs, and yet provincial spreads are wider/steeper across the credit curve vs. the end of fiscal 2020-21, weakness having been more heavily concentrated this calendar year as inflation anxiety took deeper root.

(x) Even if today's reduced supply has failed to translate into tighter spreads (vs. Canadas or on an ASW basis), **provincial fiscal/financing developments are clearly influencing RV within the sector and vs. key comps**. Those provinces securing a more forceful/rapid fiscal recovery have seen their spreads firm in relative terms (in some cases dramatically), with certain of these marginal adjustments validated by credit rating developments. As a supplement to point (v) then, **relative fiscal results matter**. While we've come a long way on relative re-pricing, we still scope for adjustment in some key provincial relationships. Despite recent weakness, commodity prices remain sufficiently accretive from a resource royalty perspective. Meantime, rapid/jumbo rate hikes have thrown housing markets into correction, with some regions looking more vulnerable than others. Overall, we would continue to favour low-leverage and resource-levered names vs. those with outsized housing/interest-rate exposure, which is a view that could be expressed a variety of ways.

- Aside: As we highlighted in [Act 1](#), domestic provincial supply has receded faster than for corporates (inclusive of financials), which goes some way towards explaining today's provi-corp basis. As always, there are any number of idiosyncrasies to control for when lining provis up against corps/financials, including industry-, security- and term-specific considerations, select credit rating risks, relative financing requirements and other seasonals. We invite a nuanced conservation. More fundamentally, broader risk sentiment remains the most forceful driver of cross-credit levels. And while our baseline macro forecast foregoes a formal recession call, we appreciate that a mounting economic slowdown (likely to continue through 2023) has left some favouring defensive positioning. That may be an understandable bias, although broader sentiment could ultimately be cheered if we see evidence that central bankers are prepared to stand down *before* policy rates are pushed into excessively restrictive territory. That, in turn, will require some serious inflation relief, which we expect to materialize in the coming months. You could dub this a soft landing scenario, although quite simply, near-term inflation relief remains a most vital caveat to our broader macroeconomic and financial market outlook.

ix) Evaporating deficits buoy fundamental/technical picture

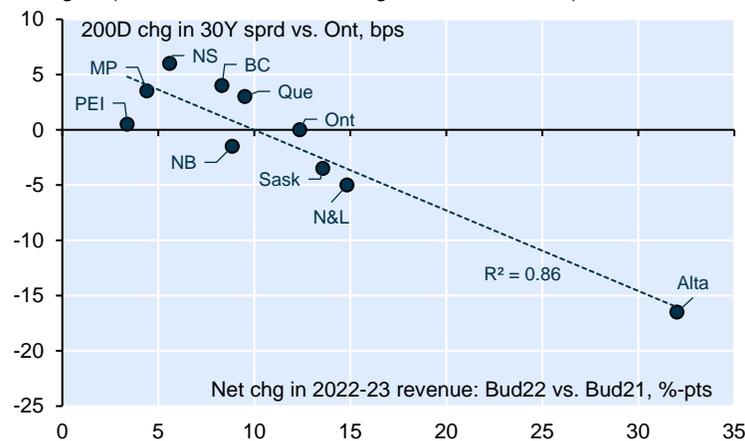
Aggregate provincial budget deficit: Latest estimates vs. Budget 2021



Source: NBF, prov gov'ts | Note: 2021-22 includes interim estimates; 2022-23 & beyond to be re-stated via upcoming fiscal updates; arrows denote expected revision

x) Relative fiscal performance re-pricing basis spreads

Change in provincial revenue vs. change in relative bond spread



Source: NBF, prov gov'ts | Note: Revenue chg refers to budget-to-budget adjustment; spread chg is relative to Ontario, based domestic constant maturity NI indications

Note: This collection of points, (i) through (x), is meant as a jumping off point for Act 3, which marries the supply picture with other key drivers of our credit outlook that have been hinted at here. Second intermission...



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