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Concluding: A bond supply-valuation dance in 3 acts

By Warren Lovely & Ethan Currie, with valuable input provided by Piper Kerr & Westley Macdonald-Nixon

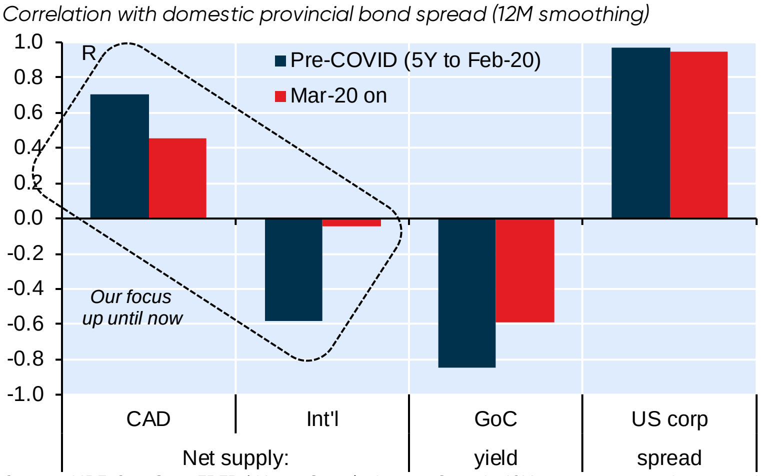
We used two earlier *Market View* notes to explore the interplay between supply and spreads in Canada's domestic bond market. The first note, what we dubbed Act 1 of 3, set the stage by dissecting Canada's bond **supply** developments. We outlined how a striking (and ongoing) federal-provincial fiscal recovery has slashed cash requirements for the Canadian government sector. In Ottawa and in most provincial capitals, bond supply has receded materially, both in absolute terms and relative to other issuing sectors (e.g., corporates). The reduced pace of issuance has (thankfully) coincided with the first-of-its-kind QT effort at the Bank of Canada. Our Act 1 report is available here.

Our analysis continued in Act 2 of 3, where we presented detailed statistical analysis of the **supply-spread** relationship. Our primary focus: the frequently issued and actively traded domestic provincial government bond market. We identified a non-trivial (and intuitive) historical linkage between trend issuance and spreads—one that has admittedly broken down in the distorted/exceptional policy environment that emerged in the wake of the pandemic. Even if supply developments currently hold less sway on absolute spreads (vs. the risk-free curve or swaps), the impact on relative/inter-credit valuations is hard to ignore. In this way, relative supply has remained an important RV tool. Act 2 is here.

This concluding report, Act 3 of 3, aims to move beyond supply by keying on other important drivers of a domestic credit **spread**. We focus on the outlook for the underlying risk-free yield and ID the best risk proxies for Canadian public sector credits. And for those fearing US recession, we break down the historical damage to US spreads, even if we remain hopeful that a seriously adverse economic outcome can be avoided.

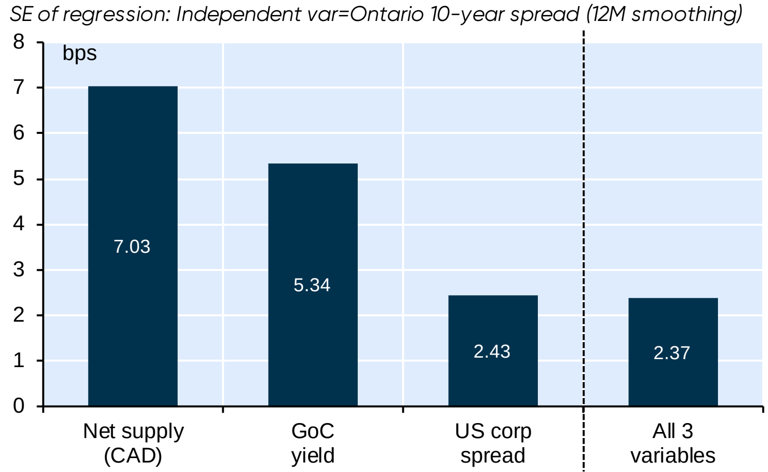
Act 3 ~ Beyond supply: What else might we want to control for? (Plenty, as it turns out)

Chart 1: Supply hardly the only (or best) provi spread predictor
Correlation with domestic provincial bond spread (12M smoothing)



Source: NBF, StatCan, FRED | Note: Correlation vs. Ontario 10Y constant maturity spread

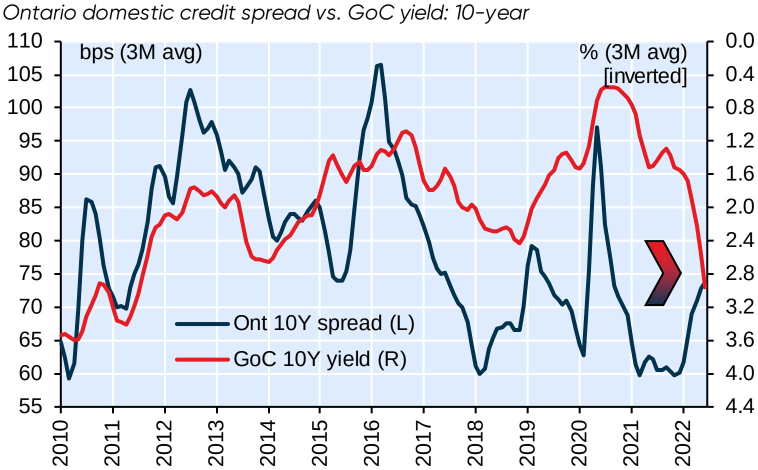
Chart 2: Smaller errors using GoC yields or broad risk proxy
SE of regression: Independent var=Ontario 10-year spread (12M smoothing)



Source: NBF, StatCan, FRED | Note: Based on OLS regressions of 60M ending Feb-20

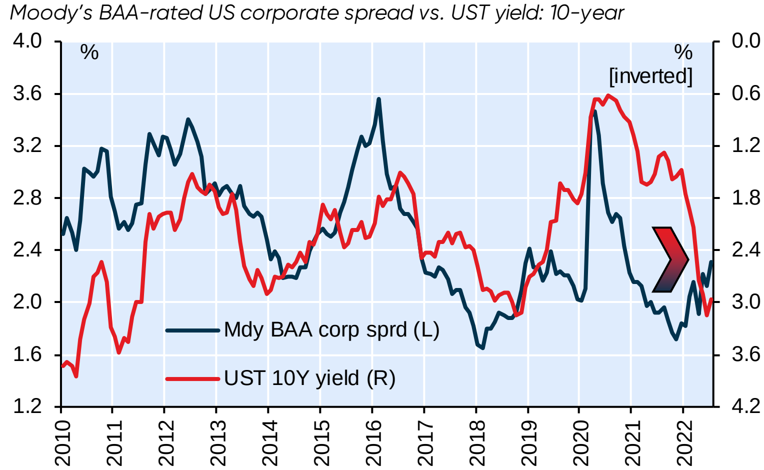
> Canadian credit spreads are correlated with net bond supply. At least that was the case pre-pandemic. Other key drivers? There are two obvious candidates: Risk-free yields and broader risk sentiment (proxied by US corporate spreads). Historically, you've been better off forecasting domestic provi spreads using GoC yields or US corp spreads than supply alone. That's still true today, with caveats.

Chart 3: Spread-yield relationship upended in Canada...
Ontario domestic credit spread vs. GoC yield: 10-year



Source: NBF | Note: Ont spread reflects constant maturity indications

Chart 4: ... with a similar story playing out in US credit markets
Moody's BAA-rated US corporate spread vs. UST yield: 10-year

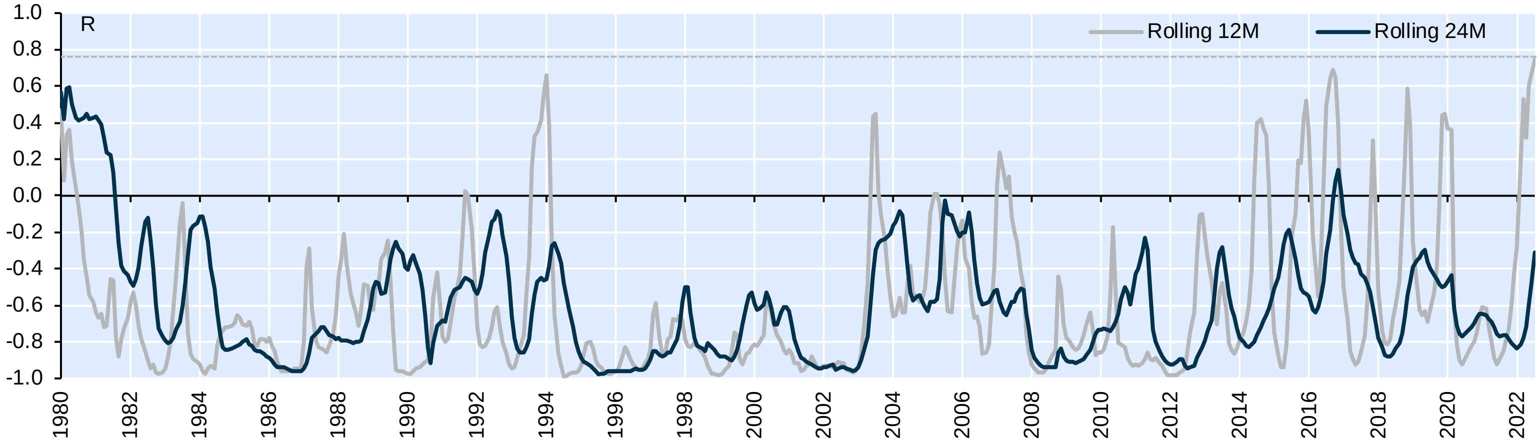


Source: NBF, FRED

> Intuition suggests that rising yields (when brought about by a strong(er) economy) are supportive of credit valuations. Long-term statistical analysis bears that out. But we're in a new world these days, as high(er) yields (driven by uncomfortably above-trend inflation) have resulted in wide(r) spreads in Canada and the US. We see inflation relief coming, which should restore a more 'normal' dynamic.

Chart 5: Higher yields and wider spreads for much of 2022, as traditionally inverted relationship turns more positive than ever

Rolling correlation between 10-year UST yield & Moody's 10-year seasoned BAA-rated US corporate spread

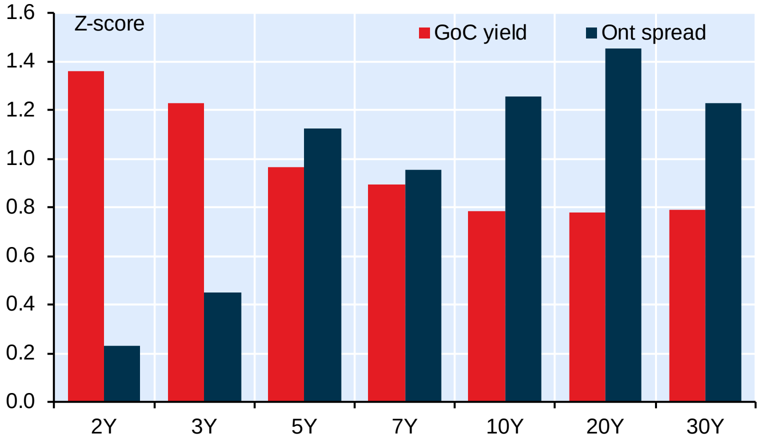


Source: NBF, FRED

Indeed, the breakdown in the traditionally inverse relationship between US credit spreads and risk-free yields is particularly noteworthy. Over the past year, yields and spreads have proven more positively correlated than ever (i.e., R of ~0.8 as per above). Truth be told, if you've traded US credit on the basis of underlying yields alone, you've likely been frustrated much of the past decade.

Chart 6: Spreads & yields partially break from tradition…

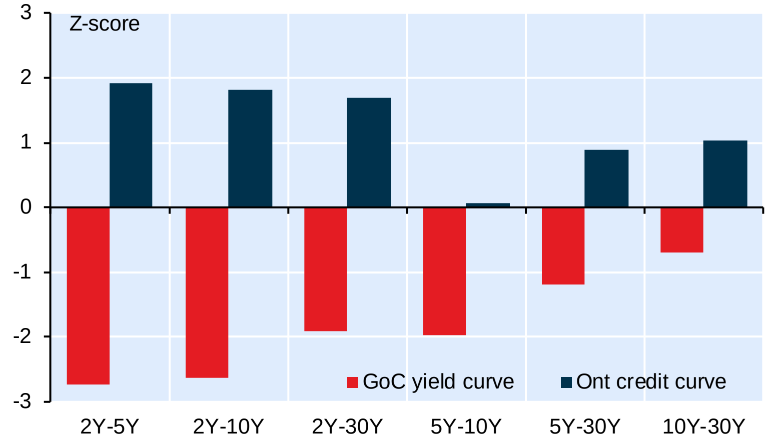
200D Z-scores for GoC yields & Ontario constant maturity spreads by tenor



Source: NBF | Note: Z-score is # of std dev from mean for given period

Chart 7: … although curve dynamics remain intuitive

200D Z-scores for GoC yield curves & Ontario credit curves

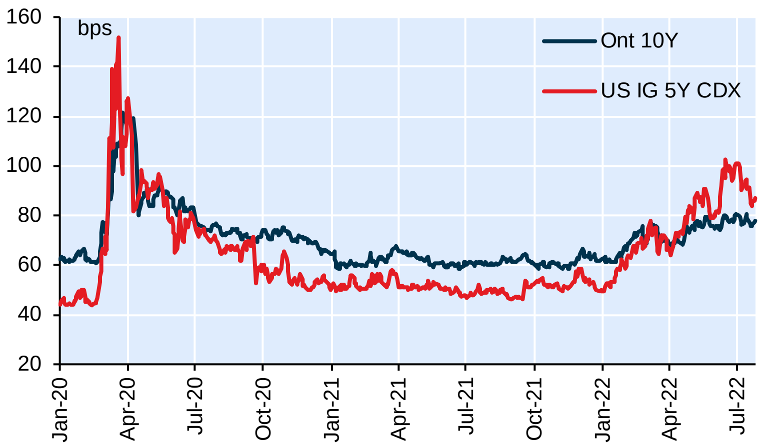


Source: NBF | Note: Z-score is # of std dev from mean for given period

While eschewing the traditional negative correlation, where the GoC selloff has been most pronounced (i.e., down the curve), credit has generally held up better. Meanwhile, a pronounced flattening of the GoC curve has led to steeper credit curves. That makes provis (and credit more generally) a useful extension tool, particularly if (as we believe) some of today's GoC inversion is reversed.

Chart 8: US IG CDX a common RV tool in Cdn credit markets

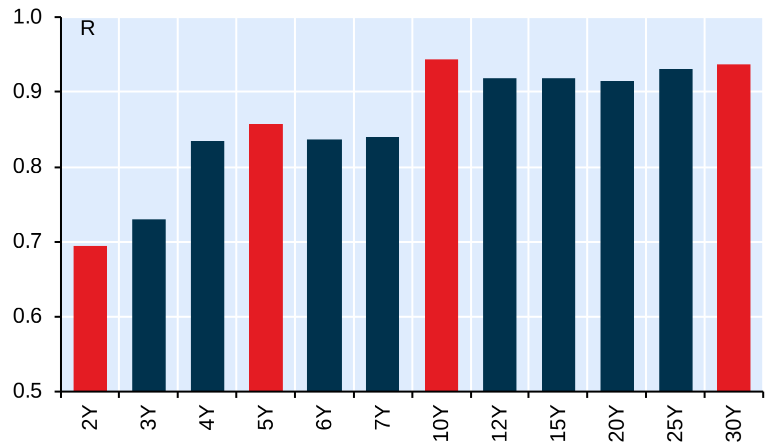
Ontario 10-year constant maturity spread & US 5-year IG CDX



Source: NBF, Bloomberg

Chart 9: Where on provi curve has US IG CDX worked best?

200D correlation btw Ontario constant maturity spreads & US 5-year IG CDX

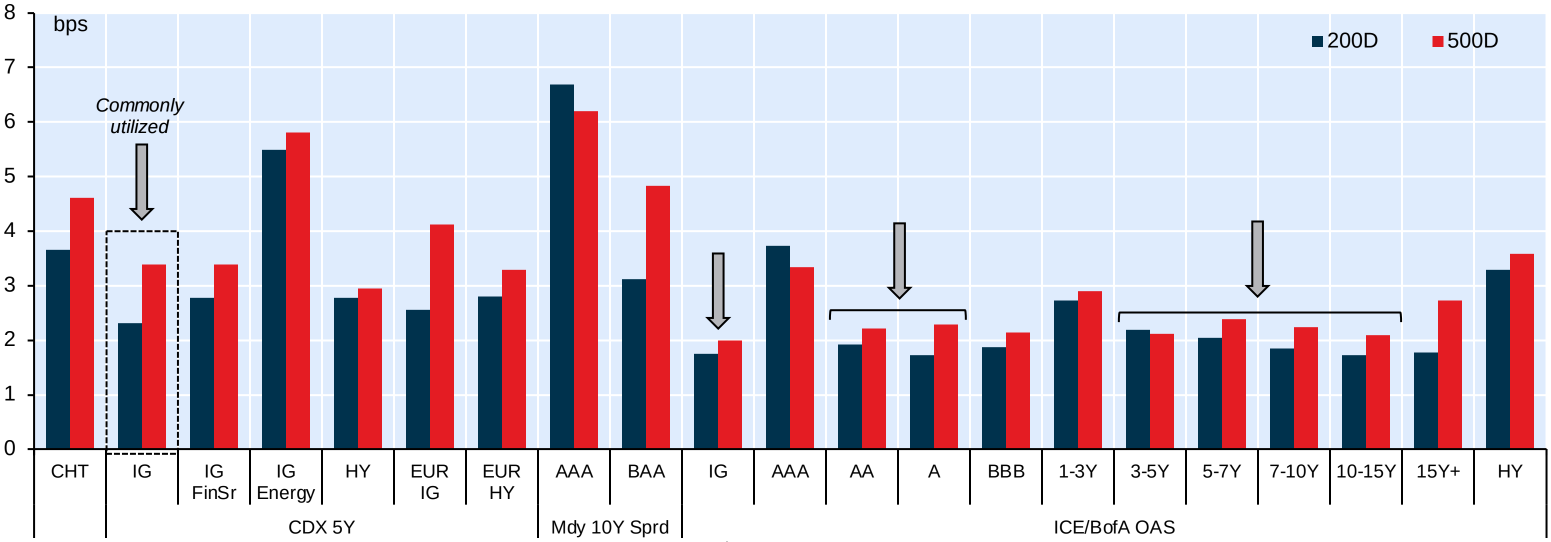


Source: NBF, Bloomberg | Note: Compares 5Y IG CDX to each Ontario tenor

When valuing Canadian credit spreads (provis or corps), the default yardstick has clearly become the headline US 5-year investment-grade credit default swap index. Still, tracking error isn't exactly trivial, with US IG CDX clearly a higher beta instrument than your standard, liquid Ontario benchmark. Nor does 5-year IG CDX work great down the provi curve, the best fit currently evident in 10s.

Chart 10: Assessing the efficacy of various RV tools that could be used to forecast Canadian provincial bond spreads

Standard error of OLS regressions of select credit indices/spreads on Ontario 10-year constant maturity spread (latest 200- and 500-day results)



Source: NBF, Bloomberg, FRED | Note: Regression fit does not account for regulatory/balance sheet considerations that may influence synthetic vs. cash bond valuations

We're not hating on US IG CDX as an RV tool for Canadian credit investors. It works reasonably well, is readily accessible (including live intra-day levels) and certainly is well followed. But it's hardly the only option out there. When it comes to forecasting provincial spreads, OLS regression finds relatively smaller standard errors when using a variety of option-adjusted corporate spread indices. To us, many of these OAS series (available by rating or term) can cut down on the statistical noise vis-à-vis US 5-year IG CDX. The messiest fits? Interestingly, CHT spreads and other top-rated corporate indices have been doing a poorer job predicting provis of late. The standard error on 10-year Ontario spreads using CHT as the explanatory variable is ~4 bps. Hardly the tiniest of margins.

Chart 11: A valuation snapshot… take your pick

200D rich/cheap analysis of current Ontario 10-year constant maturity spread, based on select credit indices/spreads | +ve values=cheap; -ve values=rich

Source: NBF, Bloomberg, FRED | Note: Rich/cheap analysis does not account for regulatory/balance sheet considerations that may influence synthetic vs. cash bond valuations

We wouldn't place blind faith in the ability of top-rated spreads/indices when forecasting provincial credit. But for what it's worth, provis currently look quite 'cheap' to gold-plated comps like CHT or the odd AAA-rated US corporate. Provis appear more 'fairly priced' when lined up vs. US IG CDX. But if you buy our argument that finer statistical fits are available elsewhere, provincials could be deemed at least one standard deviation 'rich' to mid-duration US corporates. Given economic anxieties, we certainly understand the preference of some for defensive positioning. That might lead one to favour low(er) beta credits, with provincial bonds a liquid option. Still, our broader view remains supportive of risk generally (i.e., equities/credit), as outlined in the Topic Box below.

Topic Box: Assuming a legit recession can be avoided, we remain relatively constructive of credit

Select elements of NBF's base case view (as per July/August Monthly Monitors)

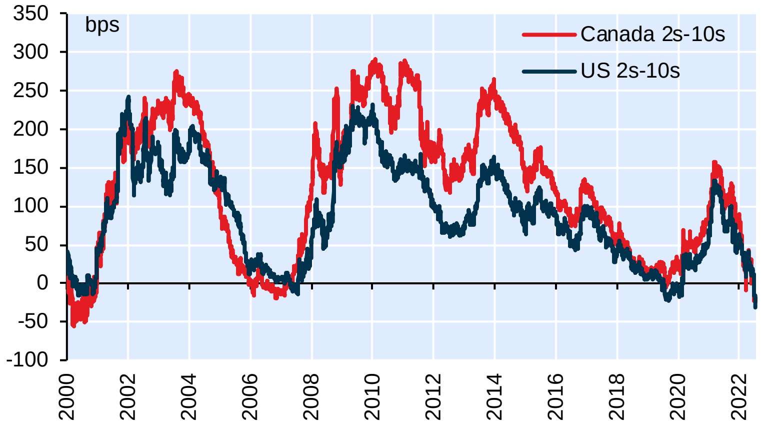
Macro view: Global growth decelerating, in some areas sharply; notwithstanding appearance of 'technical' recession, a more 'legitimate' US recession remains avoidable, contingent on near-term inflation relief; Canadian economic resilience supports fed-prov finances, leading to relatively less net supply; unfolding housing correction favours regions/credits with less household leverage;
Rate view: After aggressive/rapid tightening since March, Fed & BoC to halt tightening cycles sooner and at lower level than currently discounted (with market coming our way in recent sessions); fed funds trajectory to significantly undershoot 'dots'; termination at less-restrictive policy rates made possible by moderating inflation (alongside evidence of weaker demand, slower hiring); current yield curve inversion to be partly unwound assuming recession risks ease, which would be supportive of credit curve flattening (all else equal);
Asset allocation: Less hawkish Fed (vs. expectations) and lower inflation expectations easing pressure on bond yields, leaving our equity weighting near benchmark; we continue to favour Canadian equities, seeing housing-related risks as manageable; notwithstanding commodity price pressure, sector call remains overweight energy & materials; equity view mimicked in our credit call, where current valuations are attractive in our view; we favour corporates vs. provincials in the 10-year sector, while a steeper provi curve out to 30-years leaves long provis attractive empirically.

Source: NBF | Note: Refer to NBF's detailed Monthly Monitor publications for additional details/forecasts

Annex A ~ Assessing recession risks/tendencies in US corporate credit (for reference purposes)

Chart 12: Curve inversion flashing recession warning signs

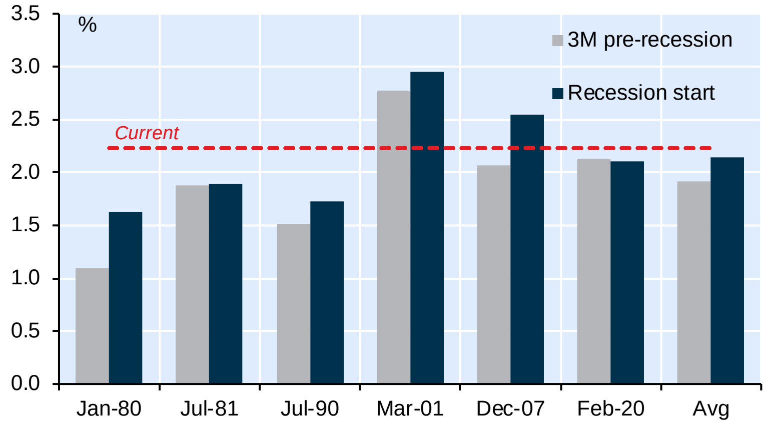
UST & GoC 2s-10s yield curve



Source: NBF, Bloomberg

Chart 13: Putting current US corp spreads in context

Moody's 10-year BAA-rated US corporate spread: Current vs. prior recessions

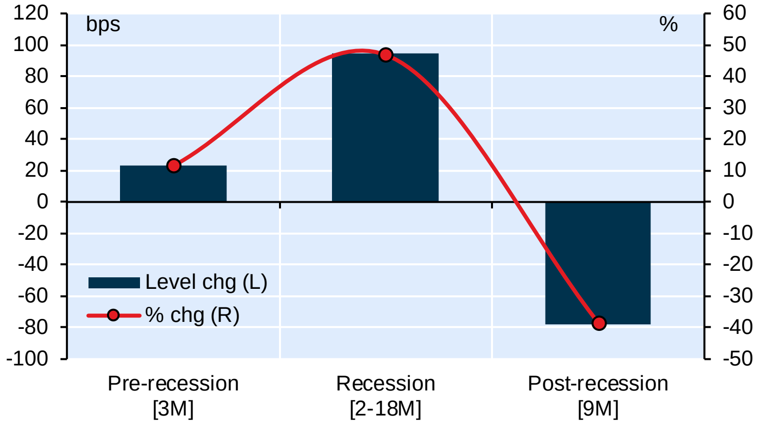


Source: NBF, FRED | Note: Date refers to economic peak/start of recession

Judging from yield curve inversions and other market indicators, US recession risks are real. That was true even before US Q2 GDP data pointed to a 'technical' recession in the first half. Without trivializing recession risks, a fair bit of bad news has already been priced into credit markets, with US corporate spreads currently at/near the average level posted prior to earlier US recessions.

Chart 14: Credit tendencies during prior recessions

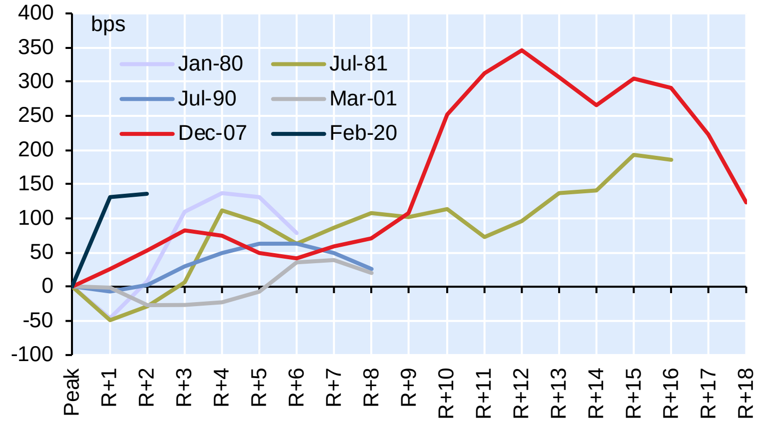
Average net change in US corporate spreads in/around prior US recessions



Source: NBF, FRED | Note: Based on Moody's 10Y BAA-rated US corporate spread

Chart 15: The path walked by credit in six prior recessions

Evolution of US corporate spreads during six prior US recessions

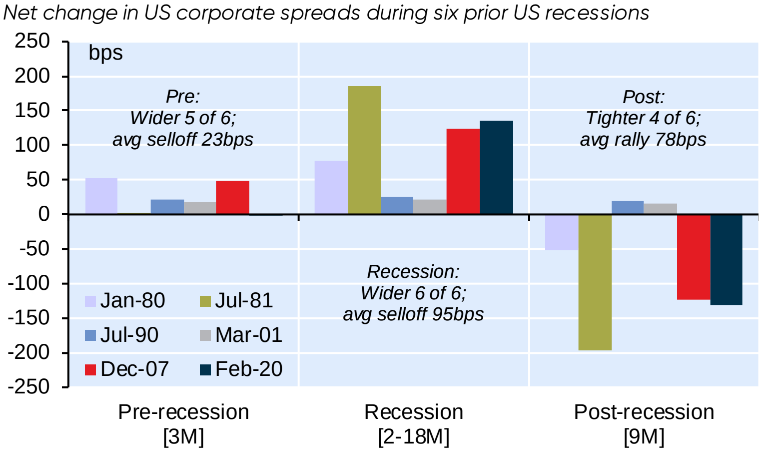


Source: NBF, FRED | Note: Based on Moody's 10Y BAA-rated US corporate spread

If things really do go south for the US economy—which is NOT our base case—one would expect (significant) further damage to credit valuations. Prior US recessions, lasting anywhere from 2 to 18 months, have typically brought about an average widening of ~100 bps in 10Y triple-B corporates, adding to a pre-recession widening tendency. In general, longer downturns=greater damage.

Chart 16: Pre- & post-recession performance breakdown

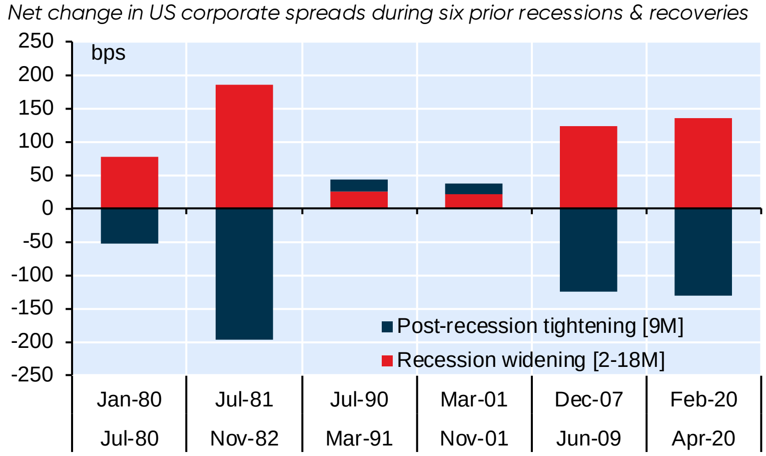
Net change in US corporate spreads during six prior US recessions



Source: NBF, FRED | Note: Based on Moody's 10Y BAA-rated US corporate spread

Chart 17: Mirror image of recession/recovery moves?

Net change in US corporate spreads during six prior recessions & recoveries



Source: NBF, FRED | Note: Based on Moody's 10Y BAA-rated US corporate spread

As far as stylized facts are concerned, corporate spreads tend to leak wider 3 months prior to the onset of recession, spending the bulk of the downturn on a widening trend. Mind you, a good deal of recovery (i.e., net tightening) tends to emerge in the first 9 months of the eventual recovery. And yes, the extent of recovery is very much a by-product of how ugly things got during the downturn.

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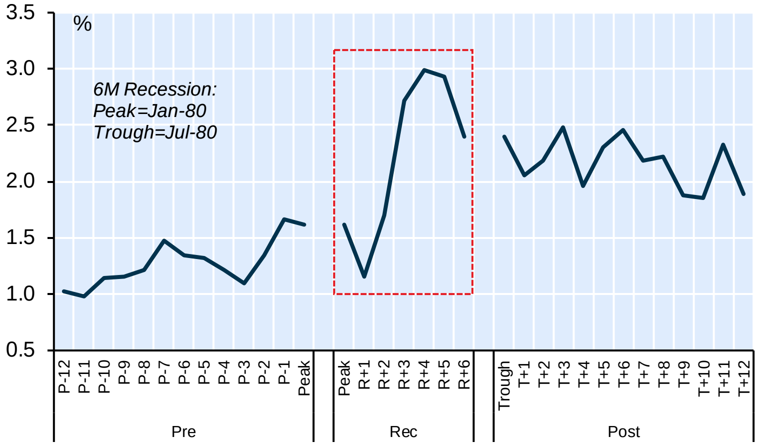
Annex B ~ An even closer look at US credit spreads during six prior recessions

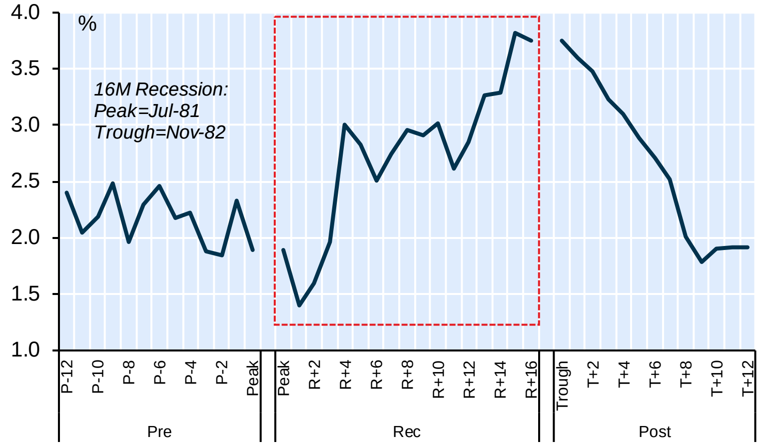
Charts 18a-f: The path traced out by US corporate spreads during each of the past six US recessions

1980 recession: *Abrupt move out, followed by economic double-dip*



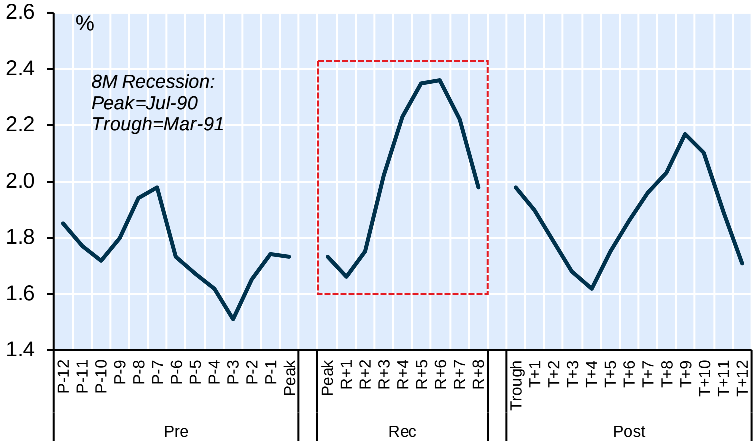
Source: NBF, FRED

1981-82 recession: *Ugly/significant selloff, until recovery eventually took root*



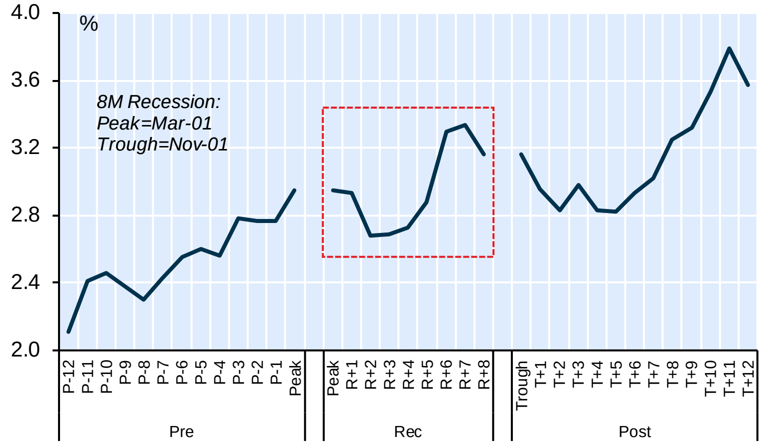
Source: NBF, FRED

1990-91 recession: *Intuitive pattern, although overall amplitude limited*



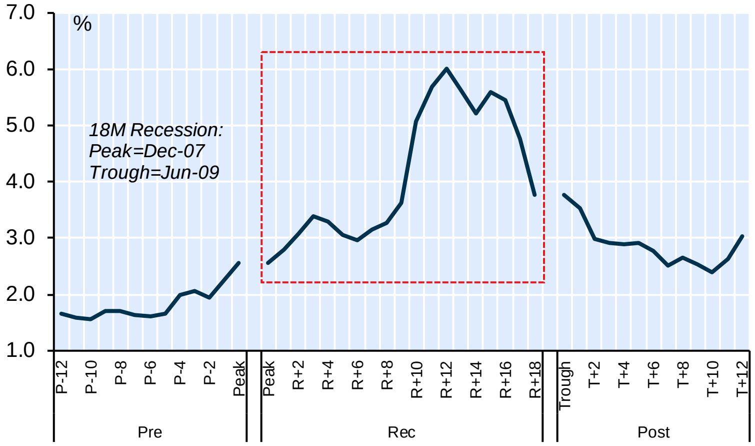
Source: NBF, FRED

2001 recession: *Limited recession damage along generally widening path*



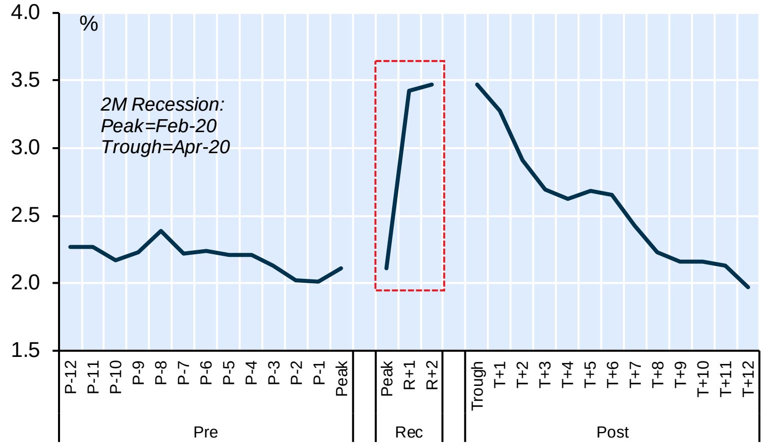
Source: NBF, FRED

2007-09 recession: *GFC & resulting deleveraging made for very ugly 12 months*



Source: NBF, FRED

2020 recession: *Short & violent pandemic hit, soothed by massive easing*



Source: NBF, FRED

Note: For the purposes of analyzing/illustrating US corporate spread movements during earlier US recessions, we have opted to utilize Moody's 10-year seasoned BAA-rated corporate bond spread vs. 10-year constant maturity Treasuries. Data are available on a daily and monthly basis from the St. Louis Fed as part of the excellent FRED database. This particular Moody's spread has the distinct benefit of covering numerous economic cycles, as monthly data are available all the way back to the 1950s. For serious, long-term empirical analysis then, this is a decidedly useful time series, even if plenty of alternatives are available for shorter-term analysis. It's no coincidence that this is the US corporate bond spread integrated into NBF's *Weekly United States Recession Dashboard.*

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Economics and Strategy

Montreal Office
514-879-2529

Stéfane Marion
Chief Economist and Strategist
stefane.marion@nbc.ca

Matthieu Arseneau
Deputy Chief Economist
matthieu.arseneau@nbc.ca

Kyle Dahms
Economist
kyle.dahms@nbc.ca

Daren King
Economist
daren.king@nbc.ca

Jocelyn Paquet
Economist
jocelyn.paquet@nbc.ca

Alexandra Ducharme
Economist
alexandra.ducharme@nbc.ca

Angelo Katsoras
Geopolitical Analyst
angelo.katsoras@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

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