

RBC Debt Capital Markets

Canadian Public Sector Debt Market Update

December 2020

STRICTLY PRIVATE AND CONFIDENTIAL



Capital
Markets

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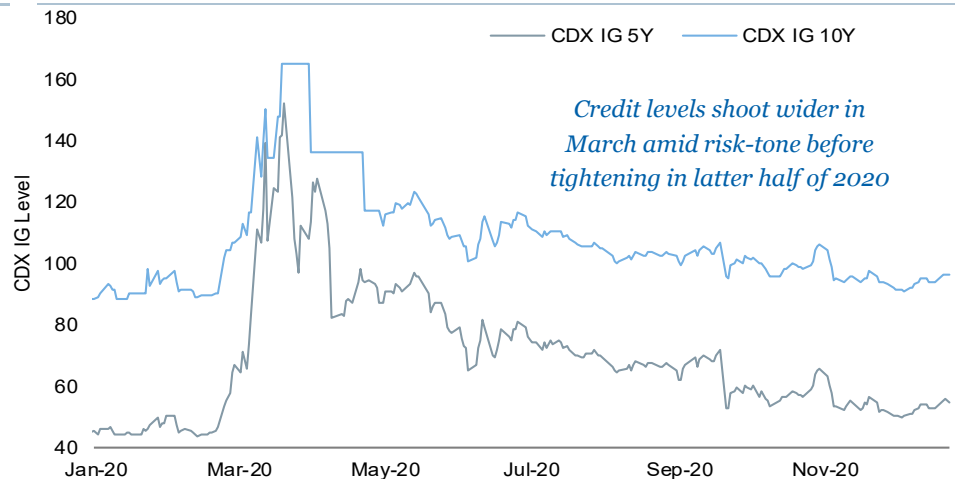
2020 Market Snapshot

- 2020 was a year unlike any other for global markets with the COVID-19 pandemic resulting in significant levels of volatility in rates, credit, equity, and energy markets during the front-end of the year
- In addition to the COVID-19 pandemic, 2020 also saw a Russia-Saudi oil price war which pushed oil to record lows, before storage constraints briefly sent WTI below \$0
- Alongside the market shocks were also historic levels of monetary and fiscal supports from central banks and governments around the world. The Bank of Canada conducted three 50bp rate cuts in March and announced a variety of programs support market functionality including the Provincial Money Market Purchase Program ("PMPP"), Provincial Bond Purchase Program ("PBPP"), CMB Purchase Program (CPP), and Insurance Mortgage Purchase Program ("IMPP")

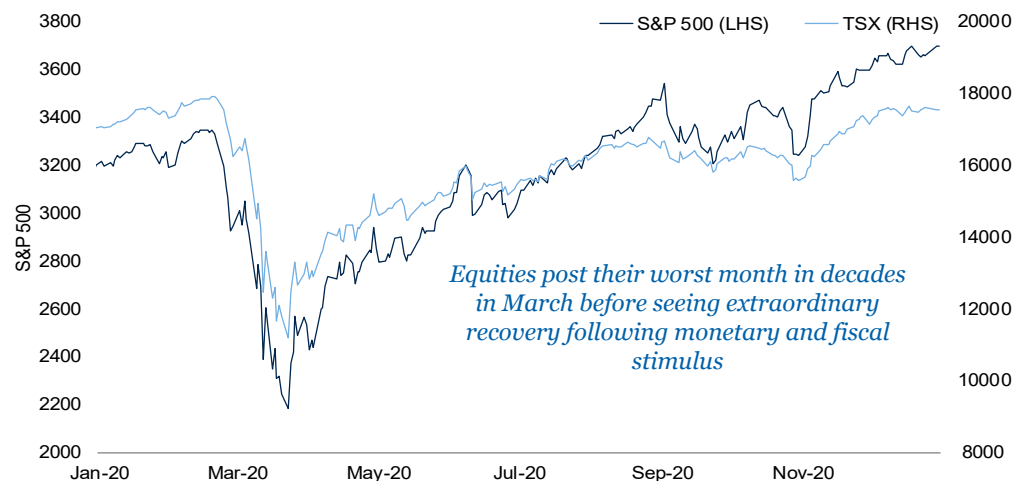
Rates



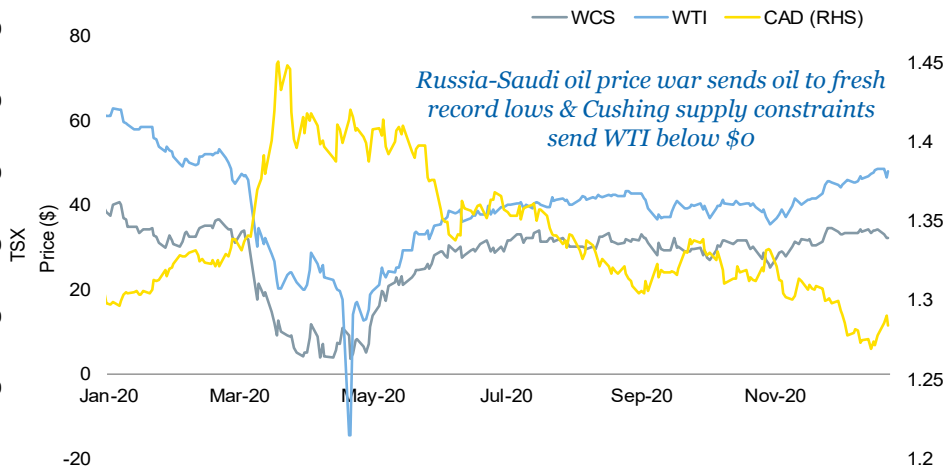
Credit Markets



Equity Markets



Commodities & Currency



Revisiting March & April 2020

- March and April marked the most volatile months of 2020. The Canadian Government and Bank of Canada enacted a number of liquidity initiatives, purchase programs, rate cuts, and fiscal policy actions to stem the impact of these market shocks as part of a massive effort to support both individuals and businesses
- The monetary and fiscal initiatives created in March & April are laid out in the timeline below

Timeline of Purchase Programs, Liquidity Initiatives, Bank Actions, and Fiscal Programs (March & April 2020)



Summary of Programs and Initiatives

Purchase Programs

- Bankers Acceptance Purchase Facility (no aggregate limit)
- CMB Purchase Program (C\$500m per week)
- Insured Mortgage Purchase Program (up to C\$150 billion)
- Provincial Money Market Purchase Facility (up to 10% of each offering)
- Commercial Paper Purchase Program (issuer limit of 1.25x greatest amount of paper 12 months prior to the program)
- Provincial Bond Purchase Program (max C\$50 billion)
- Corporate Bond Purchase Program (max C\$10 billion)

Liquidity Initiatives

- Expansion of Government Bond Buyback and Term Repos
- Changes to BoC SLF Collateral Policy and Term Limits
- GoC Secondary Market Purchase Program
- Activation of Contingent Term Repo Facility

Monetary Actions

- BoC Rate Cuts (50bps x 3)

Fiscal Actions

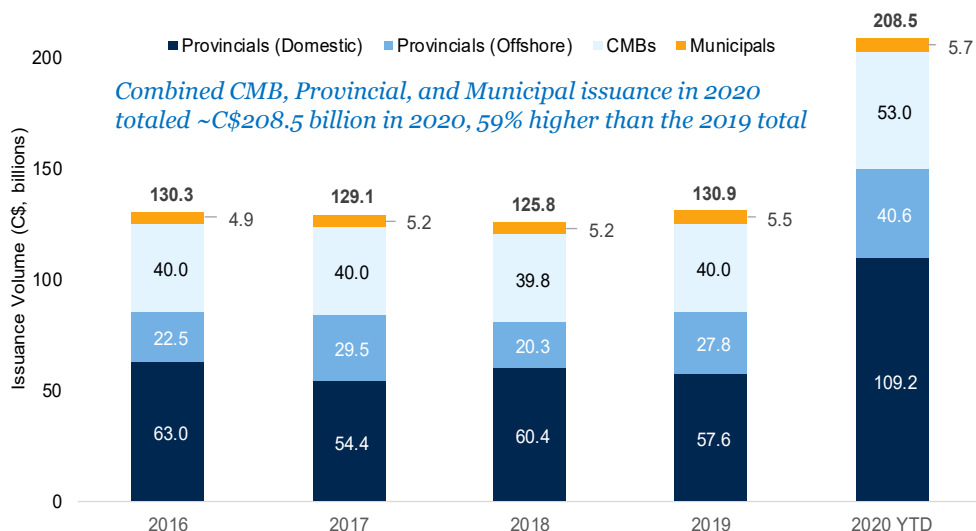
- C\$108 billion Fiscal Stimulus Plan (March 18)
 - C\$55 billion in tax deferrals
 - C\$27 billion direct spending
 - C\$25 billion income replacement
 - C\$1 billion support for healthcare at provincial and federal level
- C\$40 billion credit availability program through BDC and EDC
- C\$25 billion Canada emergency business account
- C\$71 billion Emergency Wage Subsidy
- C\$9 billion Emergency Student Benefit

Combined Issuance Volumes

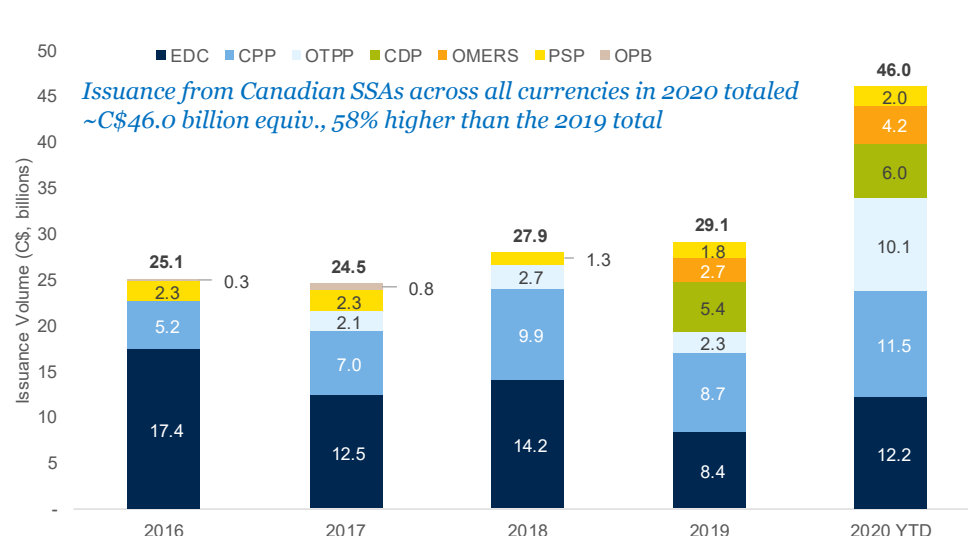
Issuance Reaches Record Highs Across Multiple Sectors

- 2020 saw record new issue volumes across virtually all sectors as the COVID-19 pandemic resulted in significant upticks in government spending
- Aggregate volumes across all sectors in 2020 reached C\$261.5 billion, an increase of 56% vs. the C\$167.2 billion seen in 2019**
- This marked a record year for domestic provincial issuance, offshore provincial issuance, CHT issuance, municipal issuance, and Canadian SSA issuance
- Public sector issuance volumes are expected to remain very strong in 2021 with pandemic related supports likely to continue

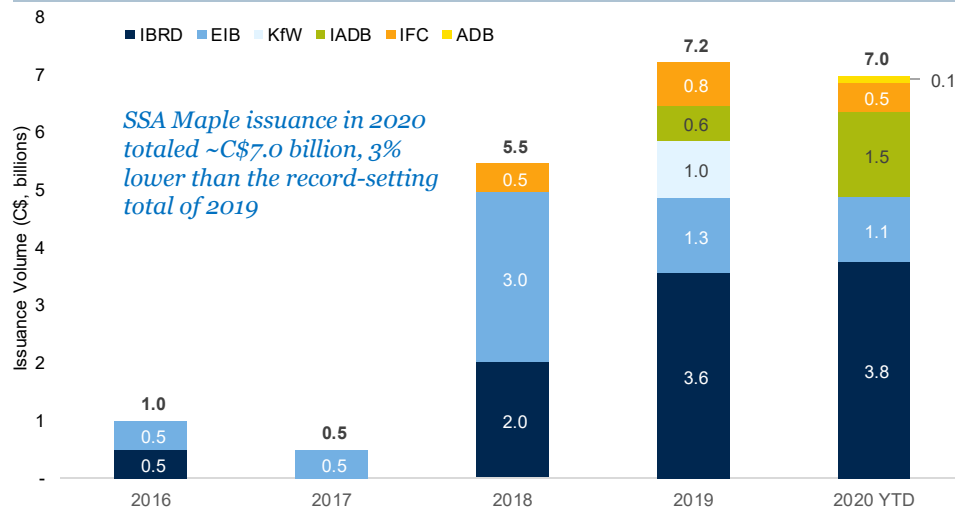
CMB, Municipal, and Provincial Total Issuance



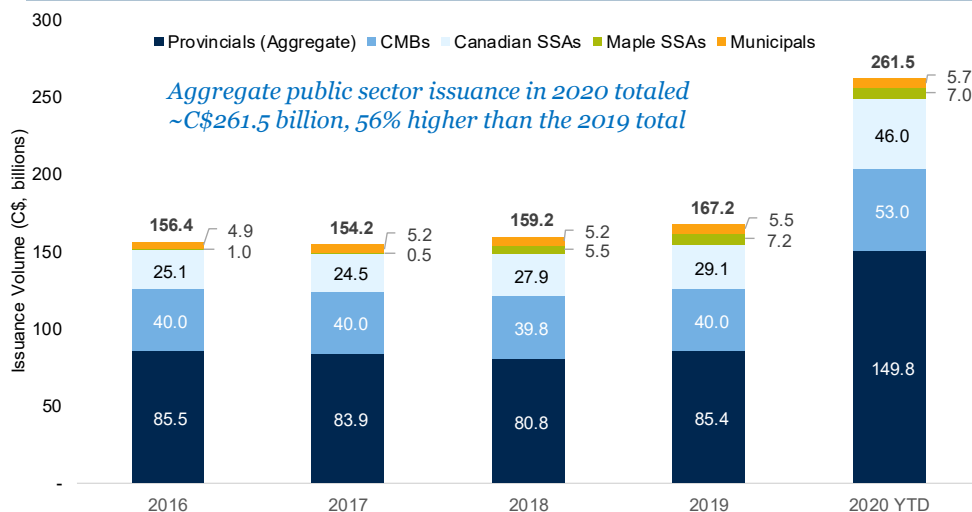
Canadian SSA Total Issuance



Maple SSA Total Issuance



Aggregate Public Sector Total Issuance

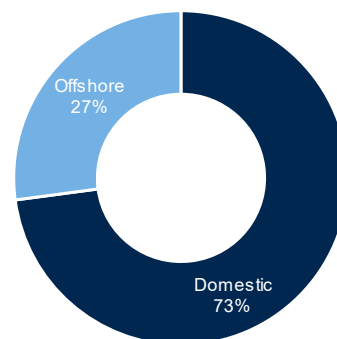


2020 Provincial Borrowing Overview

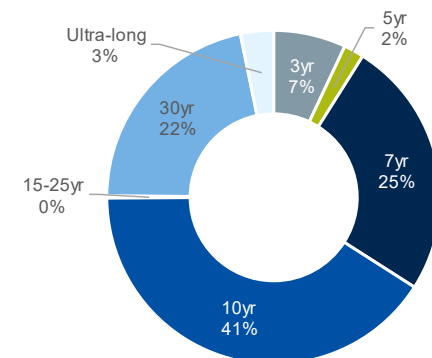
Provincial Borrowing Highlights of 2020

- **Issuance for the calendar year:** ~C\$149.8bn in total across offerings in CAD, EUR, USD, CHF, AUD, GBP, and NOK
- **Domestic vs Offshore:** 73% of issuance was domestic, amounting to C\$109.2bn. C\$40.6bn equiv. completed in offshore markets
- **Offshore Currencies issued:** US\$17.5bn across 8 transactions, €9.1bn across 12 transactions, a GBP 1.0bn transaction, CHF460 mm across 4 transactions, a NOK 2.0bn transaction, and 2 AUD deals amounting to AU\$170mm
- **Provincial Spreads vs. GoC** widened the most in April when issuances reached its peak, then tightened back in May and assumed a tightening bias through much of the year
- [Please find a further breakdown of provincial borrowing in the Appendix](#)

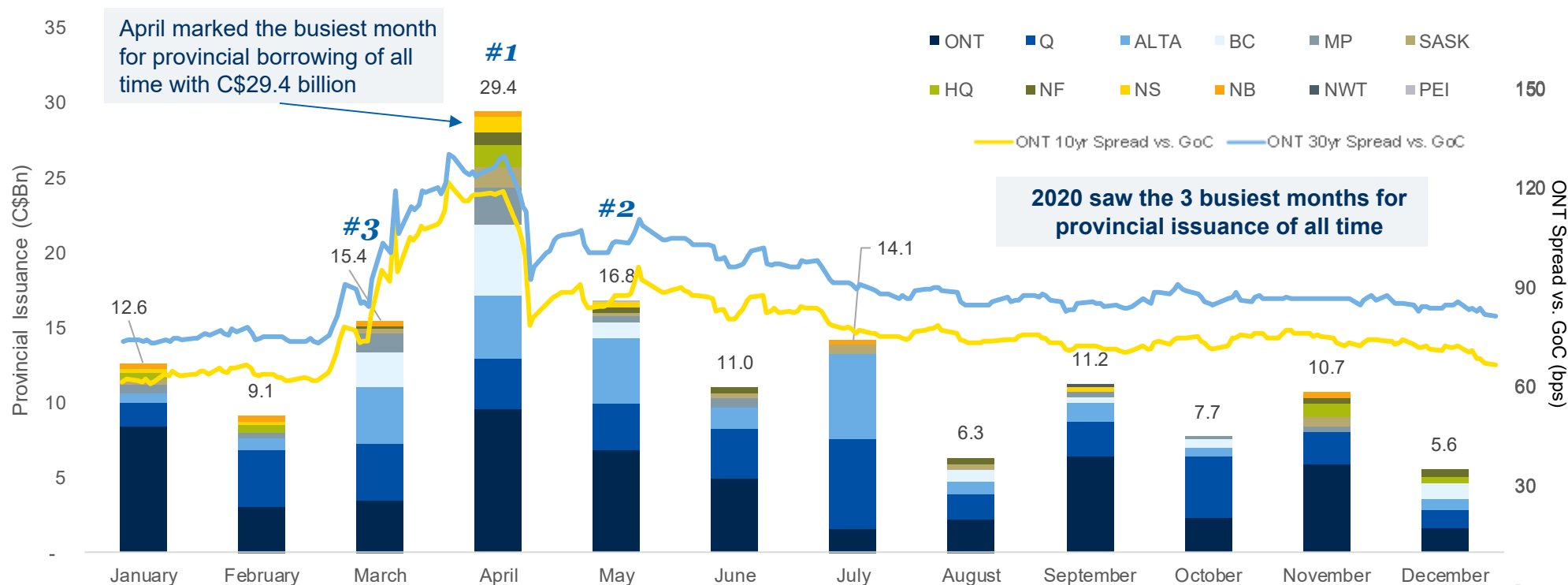
Domestic vs. Offshore



Issuance by Term (All Currencies)



Issuance Volume (All Currencies) by Month vs Spread moves to GoC



Canadian Public Sector Market Update

Market Update

Issuance Update

Offshore Borrowing

SSA & Maple Supply

Municipal Supply

Spreads & Ratings

Rates & Timing

Appendix

Domestic Public Sector Issuance (December 2020)

Ontario spreads 3-5bps tighter

Spreads tightened into the end of the month

Domestic issuance of C\$11.2 billion

37% higher vs. December 2019

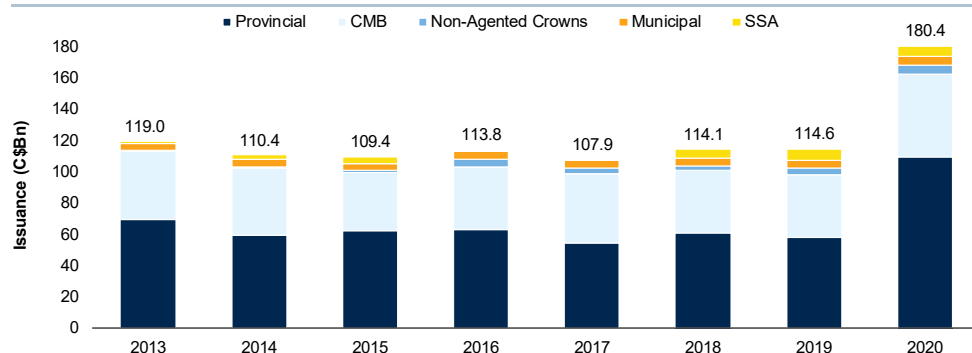
10-year was term of preference

10-years accounted for ~40% of provincial supply

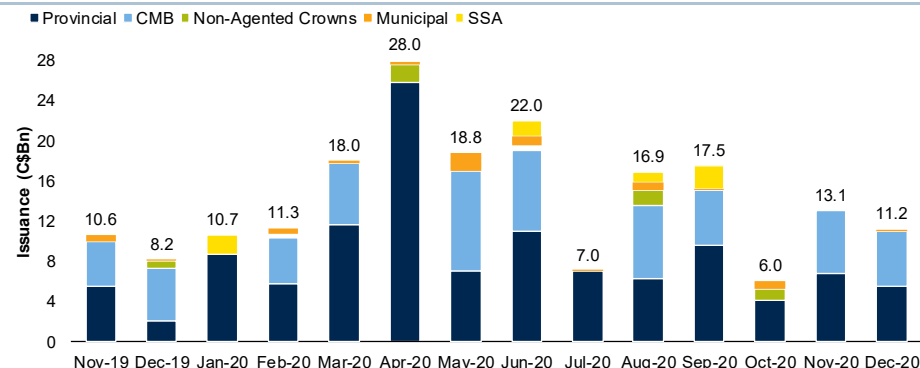
December caps 2020 on strong note with C\$11.2 billion of supply

- Domestic public sector borrowing reached C\$11.2 billion in December, 37% higher than the supply seen in December 2019
- Total new issue supply for 2020 reached C\$180.4 billion, an increase of 57% over the C\$114.6 billion seen in 2019 and marking the most active year for domestic issuance on record
- Canada Housing Trust ended the year with a C\$5.5 billion re-opening of its December 2025 maturity, bringing borrowing for the program to a record high C\$53.0 billion
- Provincial domestic issuance totaled C\$5.6 billion in December across 9 offerings
 - Alberta:** C\$750 million 10-year offering
 - British Columbia:** C\$1.0 billion across a C\$500 million 7-year and C\$500 million 30-year
 - Hydro-Quebec:** C\$500 million 40-year offering
 - Newfoundland & Labrador:** C\$500 million 7-year
 - Ontario:** C\$1.6 billion across a C\$1.0 billion 10-year and C\$600 million 30-year
 - Quebec:** C\$1.2 billion across two C\$600 million 10-year offerings
- The municipal market saw one new issue as City of Toronto completed a C\$130 million re-opening of its September 2039 Green Bond. This represented the 6th Green Bond offering in the public sector market in 2020 and brought total Green funding to C\$3.4 billion
- RBC expects that January will be an active month with issuers looking to remain in strong funding positions

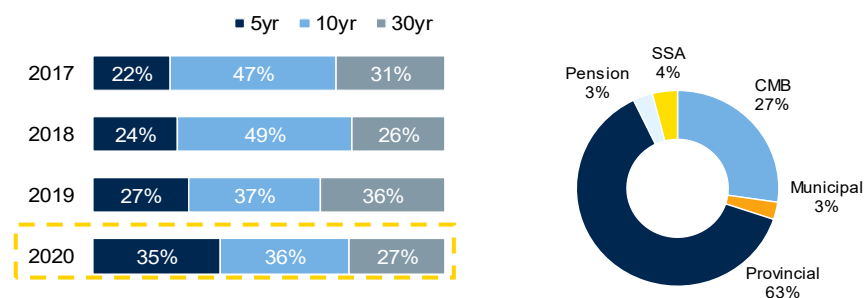
Public Sector New Issue Supply (Domestic Issuance)



Domestic Public Sector Issuance



Domestic Term Structure and Sector Supply (2020 YTD)

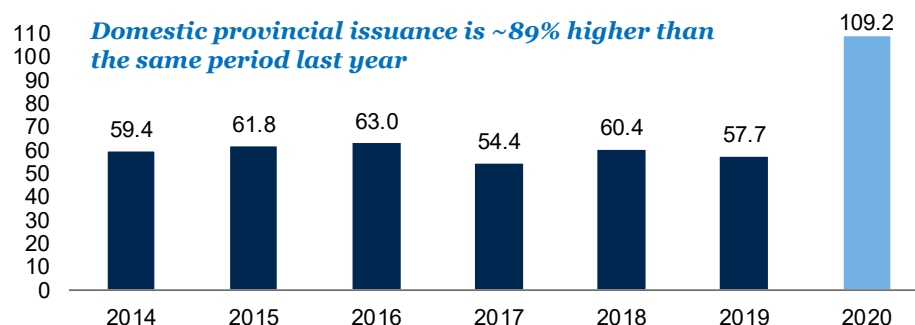


Domestic Public Sector Issuance List (Dec 2020)

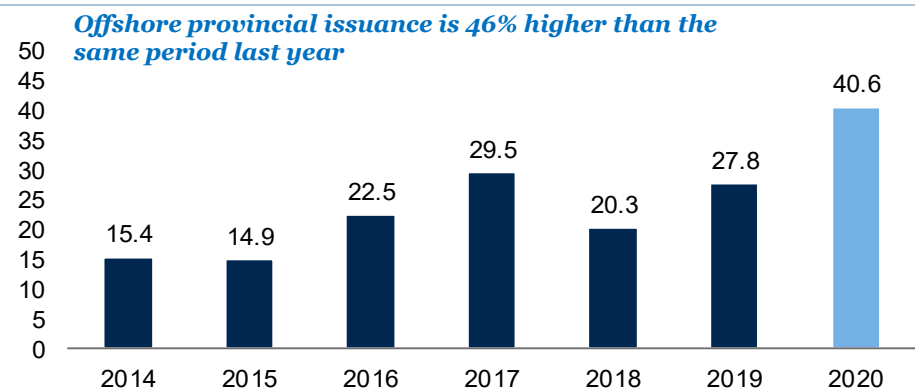
#	Trade Date	Issuer	Ratings (D/M/S)	Size (C\$m)	Term Bucket	Maturity	Spread	Coupon
1	1-Dec-20	Province of Ontario	AA(low)/Aa3/A+	600.0	30	2-Dec-51	+80.5	1.900%
2	1-Dec-20	City of Toronto	AA/Aa1/AA	130.0	20	24-Sep-39	+118.0	2.600%
3	2-Dec-20	Province of Alberta	AA(low)/Aa3/A+	750.0	10	1-Jun-30	+83.0	2.050%
4	2-Dec-20	Province of Quebec	AA(low)/Aa2/AA-	600.0	10	1-Sep-30	+64.5	1.900%
5	3-Dec-20	Province of British Columbia	AA(high)/Aaa/AAA	500.0	30	18-Jun-50	+80.5	2.950%
6	3-Dec-20	Province of Newfoundland & Labrador	A(low)/A1/A	500.0	7	2-Jun-27	+73.0	1.250%
7	4-Dec-20	Province of Ontario	AA(low)/Aa3/A+	1,000.0	10	2-Dec-30	+70.5	1.350%
8	10-Dec-20	Province of British Columbia	AA(high)/Aaa/AAA	500.0	7	18-Jun-27	+46.0	2.550%
9	10-Dec-20	Province of Quebec	AA(low)/Aa2/AA-	600.0	10	1-Sep-30	+64.0	1.900%
10	10-Dec-20	Hydro-Quebec	AA(low)/Aa2/AA-	500.0	40	15-Feb-60	+88.5	2.100%
11	11-Dec-20	Canada Housing Trust	AAA/Aaa/AAA	5,500.0	5	15-Dec-25	+22.5	1.950%
Total:				11,180.0				

Provincial Borrowing Update

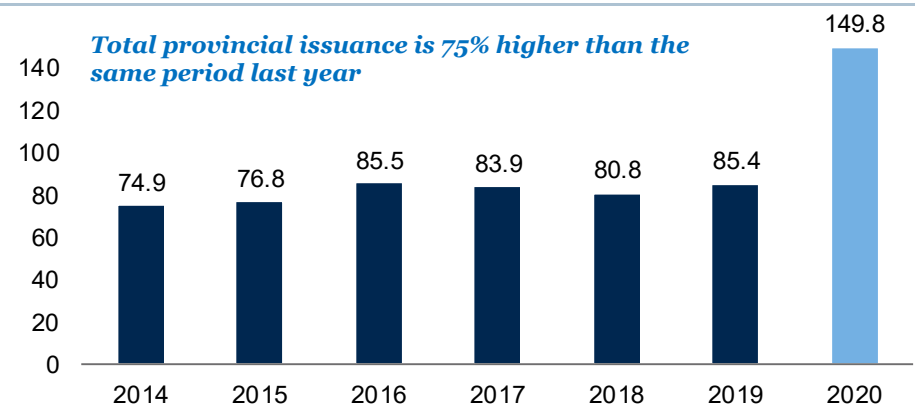
Provincial Domestic Issuance (Jan-Dec)



Provincial Offshore Issuance (Jan-Dec)



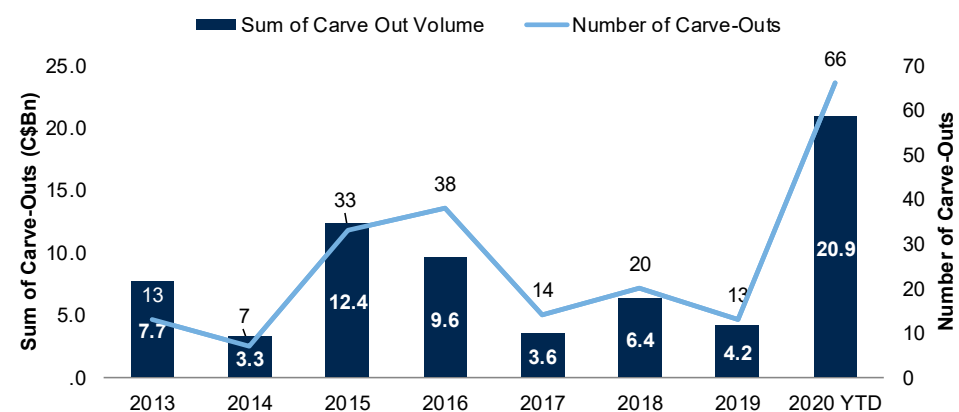
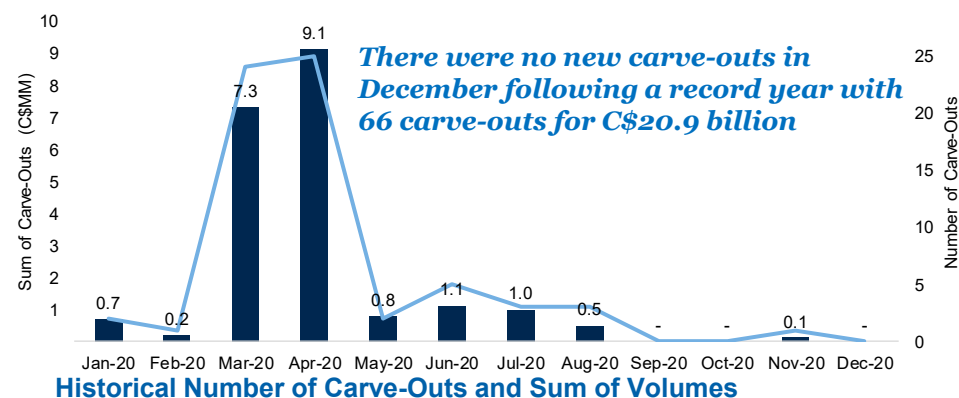
Total Provincial Issuance (Jan-Dec)



Provincial Curve-Out Update

	2017		2018		2019		2020	
	(C\$MM)	# Carve Outs	(C\$MM)	# Carve Outs	(C\$MM)	# Carve Outs	(C\$MM)	# Carve Outs
Ontario	1,200	3	4,300	8	2,300	5	6,750	16
Quebec	500	1	-	-	-	-	650	2
Alberta	1,600	7	1,350	6	1,300	4	4,860	17
British Columbia	-	-	-	-	-	-	5,260	12
Manitoba	-	-	450	4	550	3	1,350	7
Newfoundland & Lab	-	-	150	1	-	-	700	4
New Brunswick	100	1	100	1	-	-	700	3
Saskatchewan	200	2	-	-	-	-	600	5
Hydro Quebec	-	-	-	-	-	-	-	-
MFABC	-	-	-	-	-	-	-	-
Grand Total	3,600	14	6,350	20	4,150	12	20,870	66

Carve-Outs and Carve-Out Volumes in 2020

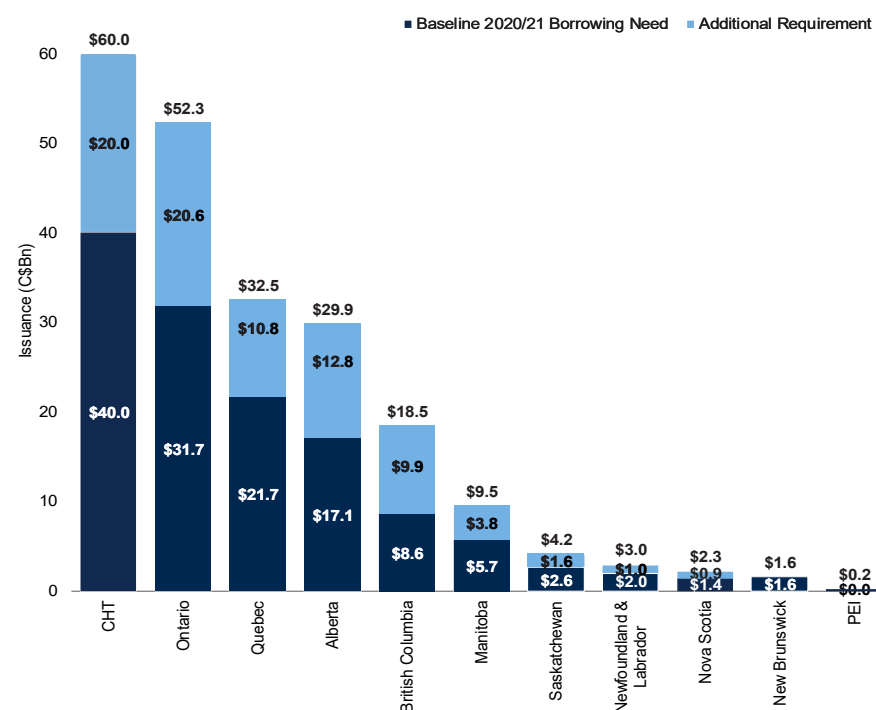


Domestic Public Sector Issuance (New Borrowing Needs)

Borrowing Needs Trend Higher Amid COVID-19 Outbreak

- Provincial borrowing needs are significantly higher for GFY 2020/21 as provinces grapple with the economic challenges posed by the COVID-19 shutdown(s) as well as shocks in oil prices
- RBC has created the table below which includes updated figures from provinces with revised borrowing requirements
- Based on current projections, we see ~C\$155 billion of issuance from provincial issuers in 2020/21, up from the C\$86 billion seen in 2019/20, with ~C\$22 billion remaining as of December 31st
- The majority of provinces have completed between 70-90% of their borrowing programs with 1/4 of the government fiscal year remaining, providing most issuers with significant flexibility throughout the remainder of the year
- Quebec is currently the furthest ahead of pace with ~100% of its borrowing program completed
- In terms of absolute volumes Alberta (C\$8.7bn), Ontario (C\$7.9bn), and British Columbia (C\$3.0bn) have the largest remaining borrowing volumes
- We expect that, subject to market conditions, many provincial issuers will engage in pre-funding for GFY 2021/22 in the early months of 2021

Public Sector Borrowing Increases



RBC Borrowing Assumptions

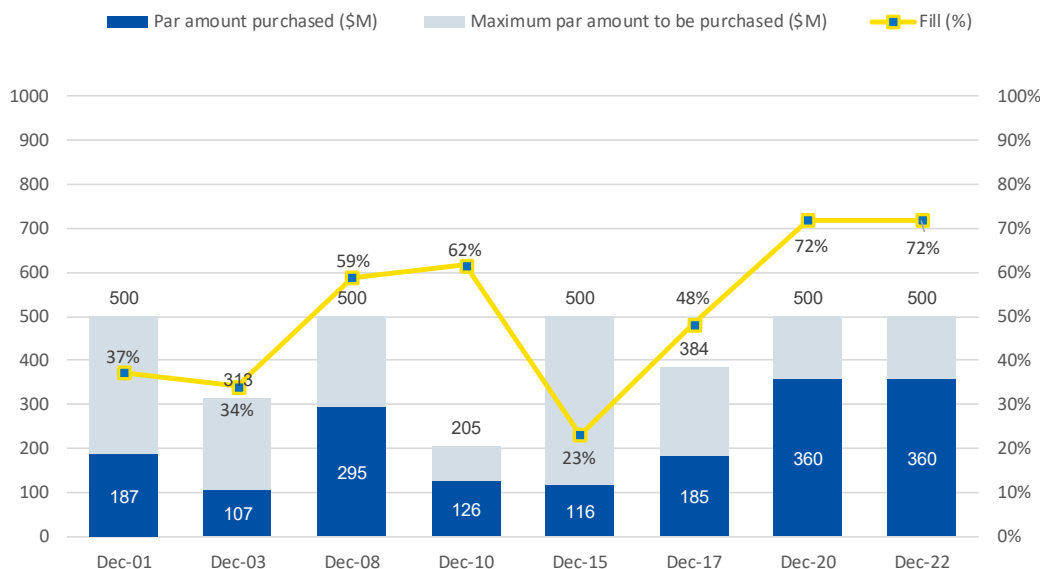
Issuer	GY19/20 (C\$B) Completed	Expected Program (Pre-Crisis)	% of Total Borrowing (Pre-Crisis)	New Stated Program (C\$Bn)	Program Δ vs. Pre-Crisis (C\$Bn)	% Change	Projected Borrowing (All Adjustments)	Completed Borrowing (C\$Bn)	Completed Borrowing (%)	Remaining Borrowing (C\$Bn)
Ontario	36.0	31.7	34.2%	52.3	+20.6	+65.0%	52.3	44.4	84.8%	7.9
Québec	18.6	21.7	23.4%	32.5	+10.8	+49.8%	32.5	33.0	101.5%	-
Alberta	11.6	17.1	18.5%	29.9	+12.8	+74.9%	29.9	21.2	70.8%	8.7
British Columbia	8.9	8.6	9.3%	19.4	+10.8	+125.6%	19.4	16.4	84.7%	3.0
Manitoba	4.3	5.7	6.2%	7.9	+2.2	+38.6%	7.9	6.5	82.3%	1.4
Saskatchewan	2.1	2.6	2.8%	4.2	+1.6	+61.5%	4.2	4.0	94.0%	0.3
Newfoundland	1.2	2.0	2.2%	3.0	+1.0	+50.0%	3.0	2.8	93.3%	0.2
Nova Scotia	1.5	1.4	1.5%	2.3	+0.9	+64.9%	2.3	1.7	71.5%	0.7
Prince Edward Island	0.1	0.2	0.2%	0.225	+0.0	+12.5%	0.2	0.1	55.6%	0.1
New Brunswick	1.9	1.6	1.7%	1.6	+0.0	-	1.6	1.4	90.3%	0.2
Total:	86.2	92.6			60.7	W.A. 69.6%	153.3	131.4	85.7%	22.4

Provincial Purchase Program Update

Bank of Canada Provincial Purchase Program Update

- At the April 15th meeting the Bank of Canada announced a new Provincial Secondary Market Bond Purchase Program ("PBPP")
- The initial announcement detailed a C\$50 billion program to be held across 12-months, with the potential to be expanded if warranted. Term was originally to be capped at 10-years or less, but was revised upwards to 11-years or less
- As of December 31st, 2020 the Bank has purchased ~C\$13.9 billion of a total eligible C\$31.1 billion provincial bonds from May to December
- In order to reach C\$50 billion of purchases by the end of April 2021, the Bank would need to average ~C\$9.0 billion of purchases each month, 5.2x what it completed in December
- The total par value of bonds purchased in December was ~C\$1.7 billion, ~C\$119 million higher than November, and the largest monthly amount since June

BoC Purchase Program (Bonds Purchased vs. Maximum Allowance)*



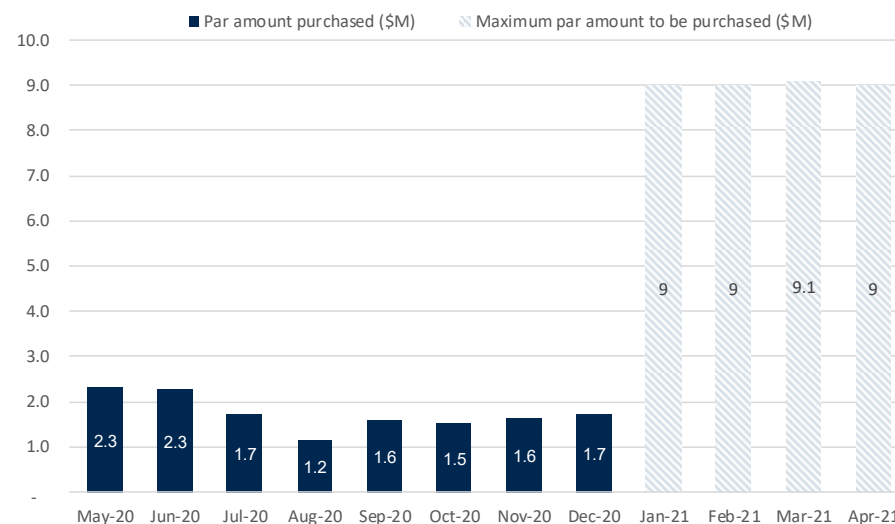
Bank of Canada Provincial Purchase Program



Reverse auction date	Settlement date	Eligible maturity range (years)	Number of securities purchased	Number of securities eligible	Par amount purchased (\$M)	Maximum par amount to be purchased (\$M)
Dec-01	Dec-03	0-11	10	25	186.511	500
Dec-03	Dec-07	0-11	5	17	106.79	313
Dec-08	Dec-10	0-11	17	25	294.798	500
Dec-10	Dec-14	0-11	9	14	126.29	205
Dec-15	Dec-17	0-11	5	24	116	500
Dec-17	Dec-21	0-11	7	17	185	384
Dec-20	Dec-24	0-11	14	21	359.98	500
Dec-22	Dec-24	0-11	14	21	359.98	500
Total:					1,735.3	3,402

At the current pace it is unlikely the Bank of Canada will purchase the C\$50 billion program maximum amount by the end of April 2021

Significant Purchases Required to Reach C\$50Bn



Canada Mortgage Bonds Update

- CMB spreads widened modestly in December ending 1bp wider in 5-years and unchanged in 10-years
 - CHT spreads are set to end the year ~5-10bps tighter with the 5-year part of the curve outperforming 10s
- On Friday December 11, 2020 CHT completed a C\$5.5 billion re-opening of its 5-year benchmark offering due December 15, 2025
 - The offering marked CHT's 8th and final transaction of 2020
 - The trade brought borrowing for the program to a record C\$53.0 billion for 2020
 - The December offering saw total demand reach C\$5.9 billion and achieve oversubscription of 1.08x
 - The offering was distributed to 119 investors, the highest number of investors to participate in a CHT 5-year fixed rate issue
- Canada Housing Trust is expected to complete a dual-tranche offering in mid-February following its record year of issuance

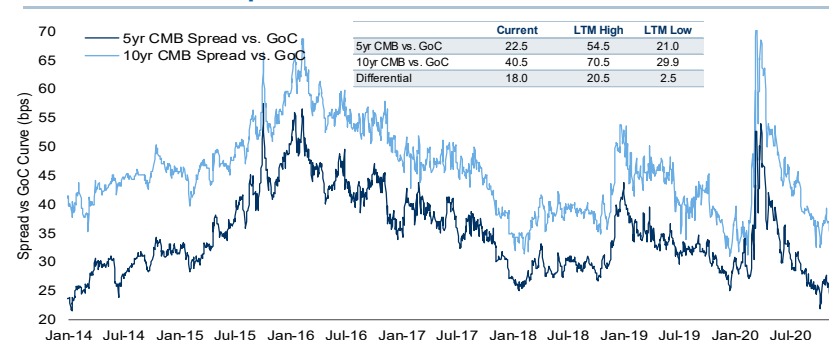
Recent CMB Offerings

Trade Date	Bond Description	Term	Size	Benchmark Spread
11-Dec-20	CANHOU 1.95% 15Dec25	5-Yr	C\$5.5 billion	CAN 0.5% 1Sep25 +22.5bps
18-Nov-20	CANHOU FRN 15Mar26	5-Yr	C\$2.0 billion	3mCDOR -15.5bps
18-Nov-20	CANHOU 1.10% 15Mar31	10-Yr	C\$4.25 billion	CAN 1.25% 1Jun30 +42bps
15-Sep-20	CANHOU 1.95% 15Dec25	5-Yr	C\$5.5 billion	CAN 0.5% 1Sep25 +27bps
19-Aug-20	CANHOU 1.75% 15Jun30	10-Yr	C\$4.25 billion	CAN 1.25% 1Jun30 +39bps
19-Aug-20	CANHOU 2.35% 15Sep23	3-Yr	C\$3.0 billion	CAN 0.25% 1Aug22 +14bps
18-Jun-20	CANHOU FRN 15Sep25	5-Yr	C\$2.0 billion	3mCDOR -3.5bps
18-Jun-20	CANHOU 0.95% 15Jun25	5-Yr	C\$6.0 billion	CAN 0.5% 1Sep25 +33bps
14-May-20	CANHOU 1.75% 15Jun30	10-Yr	C\$4.0 billion	CAN 1.25% 1Jun30 +54.5bps
14-May-20	CANHOU 2.35% 15Sep23	3-Yr	C\$6.0 billion	CAN 1.5% 1May22 +32.5bps
11-Mar-20	CANHOU 0.95% 15Jun25	5-Yr	C\$6.0 billion	CAN 1.25% 1Mar25 +48bps
13-Feb-20	CANHOU 1.75% 15Jun30	10-Yr	C\$2.5 billion	CAN 1.25% 1Jun30 +36.5bps
13-Feb-20	CANHOU FRN 15Mar25	5-Yr	C\$2.0 billion	3mCDOR -7.8bps

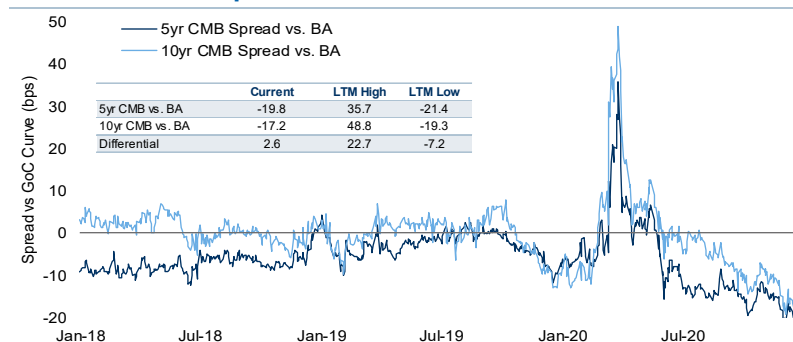
CMB Issuance Calendar

Term	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3yr Fxd					C\$6.0bn			C\$3.0bn				
5yr Fxd			C\$6.0bn			C\$6.0bn			C\$5.5bn			C\$5.5bn
5yr FRN		C\$2.0bn				C\$2.0bn					C\$2.0bn	
10yr Fxd		C\$2.5bn			C\$4.0bn			C\$4.25bn			C\$4.25bn	

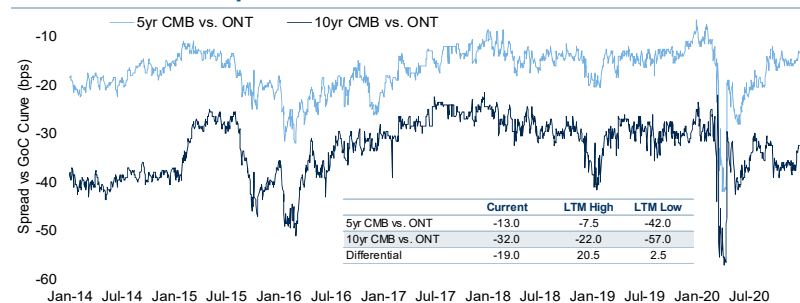
Historical CMB Spread vs. GoC



Historical CMB Spread vs. BA



Historical CMB Spread vs. ONT

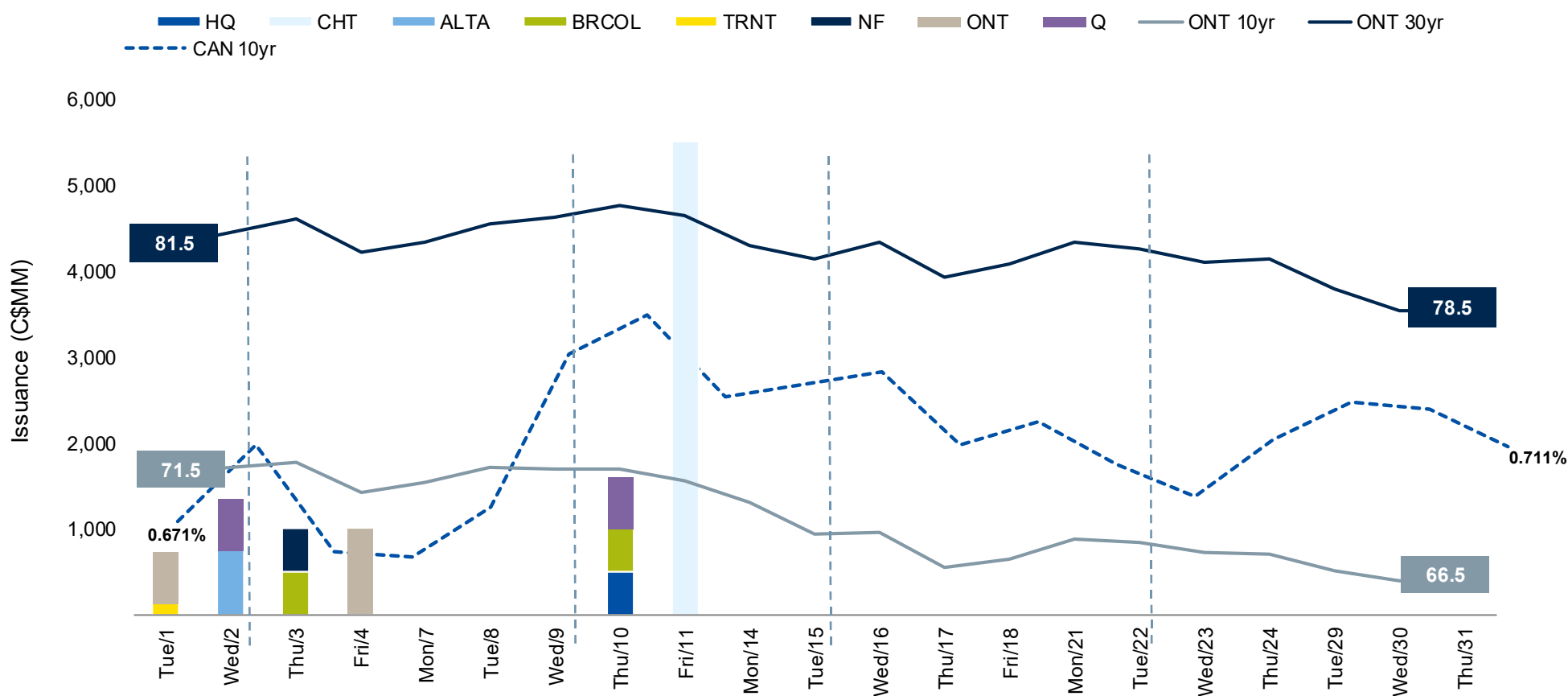


Domestic Issuance Trends

Provincial Spreads End 3-5bps Tighter in December

- Provincial credit spreads ended the month 3-5bps tighter, with a relatively constant tightening bias into month-end
- Offerings were clustered at the front-end of the month due to the holiday slowdown in the latter half
- Quebec, BC, and Ontario were the most active issuers during the month with two transactions each
- The largest trade completed during the month was CHT's C\$5.5 billion 5-year followed by Ontario's C\$1.0 billion 10-year offering

Issuance Volumes and Spread Performance



Provincial Offshore Issuance Update

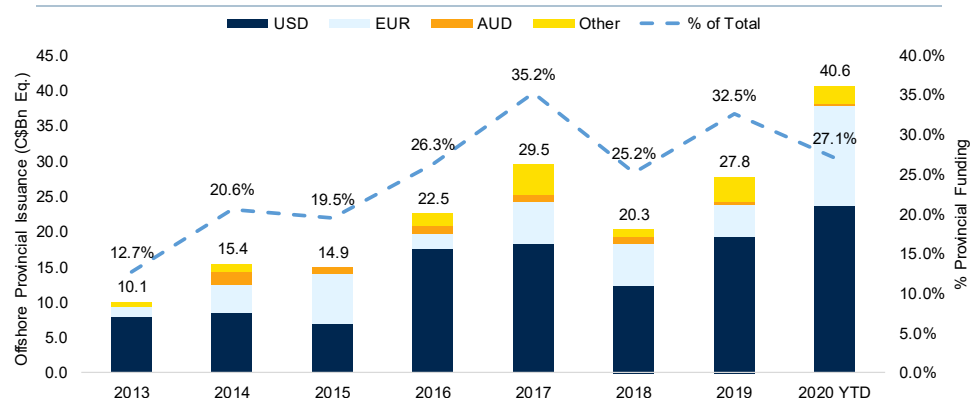
Provincial Offshore Market Muted in December

- There were no new offerings in the provincial offshore market in December
- A number of factors including cost of issuance, provincial fiscal releases, and the holiday season resulted in limited windows for issuers to complete offshore offerings
- There was a total of C\$40.6 billion of offshore provincial issuance completed in 2020, the highest amount on record
 - The percentage of total provincial funding reached 27.1%, in the middle of the historical range of 25-30%
- USD remained the currency of choice for provincial issuers, accounting for 58%, followed by EUR (35%) and GBP (4%)
- The provincial market saw a number of key offerings during the year including Quebec's US\$3.25 billion 5-year USD benchmark which marked the largest 5-year dollar benchmark in a decade, and Ontario's EUR2.5 billion 10-year benchmark which represented the largest provincial EUR offering on record
- RBC anticipates that offshore issuance will remain strong in 2021 as international currencies have become a key portion of the provincial funding mix

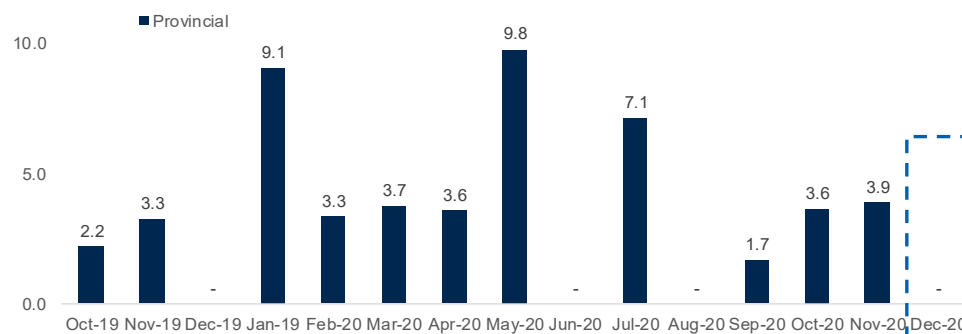
Recent Provincial Offshore Transactions

Trade Date	Issuer	Ratings (D/M/S)	Deal Size	Size (C\$MM)	Currency	Term	Maturity	Issue Spread (bps)
17-Nov-20	Province of Ontario	AA(low)/Aa3/A+	2,500	3,875.0	EUR	10.0	25-Nov-30	MS +24
23-Oct-20	Province of Manitoba	A(high)/Aa2/A+	100	155.7	EUR	30.0	2-Nov-49	MS +46.9
22-Oct-20	Province of Quebec	AA(low)/Aa2/AA-	2,250	3,493.0	EUR	10.0	29-Oct-30	MS +24
29-Sep-20	Province of Ontario	AA(low)/Aa3/A+	1,250	1,664.7	USD	10.0	7-Oct-30	MS +45
17-Jul-20	Province of Quebec	AA(low)/Aa2/AA-	3,250	4,410.9	USD	5.0	23-Jul-25	MS +30
15-Jul-20	Province of Alberta	AA(low)/Aa2/A+	2,000	2,706.6	USD	10.0	22-Jul-30	UST +70
28-May-20	Province of Alberta	AA(low)/Aa2/A+	2,000	281.8	NOK	2.5	8-Dec-22	NIBOR +200
27-May-20	Province of Ontario	AA(low)/Aa3/A+	1,000	1,690.7	GBP	3.5	15-Dec-23	UKT +60
20-May-20	Province of Alberta	AA(low)/Aa2/A+	85	77.8	AUD	10.5	2-Oct-30	ACGB +92.5
19-May-20	Province of Quebec	AA(low)/Aa2/AA-	1,500	2,088.8	USD	10.0	28-May-30	MS +67
14-May-20	Province of Ontario	AA(low)/Aa3/A+	1,750	2,457.9	USD	7.0	21-May-27	MS +65
12-May-20	Province of Alberta	AA(low)/Aa2/A+	2,250	3,165.1	USD	5.0	20-May-25	MS +65
28-Apr-20	Province of Ontario	AA(low)/Aa3/A+	50	75.7	EUR	20.5	2-Oct-40	-
7-Apr-20	Province of Alberta	AA(low)/Aa2/A+	1,100	1,676.3	EUR	5.0	16-Apr-25	MS +70
2-Apr-20	Province of British Columbia	AA(high)/Aaa/AAA	170	262.3	EUR	28.0	9-Apr-48	-
1-Apr-20	Province of Ontario	AA(low)/Aa3/A+	1,000	1,552.7	EUR	7.0	8-Apr-27	MS +58
31-Mar-20	Province of Quebec	AA(low)/Aa2/AA-	1,600	2,484.3	EUR	5.0	7-Apr-25	MS +45
27-Mar-20	Province of Alberta	AA(low)/Aa2/A+	85	72.5	AUD	11	2-Oct-30	-
26-Mar-20	Province of Manitoba	A(high)/Aa2/A+	100	146.3	CHF	20	20-Apr-40	MS +60
25-Mar-20	Province of Alberta	AA(low)/Aa2/A+	90	139.7	EUR	30	7-Apr-50	-

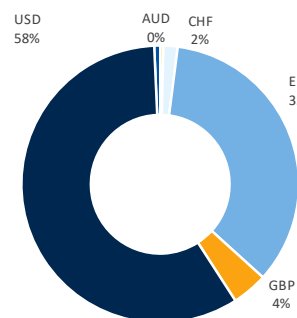
Provincial Offshore Funding Activity⁽¹⁾



Offshore Provincial Issuance Activity



Offshore Provincial Currency and Term Breakdown (2020)



Currency	3yr	5yr	7yr	10yr	15-25yr	30yr
AUD	-	-	-	0.2	-	-
CHF	-	-	0.1	0.4	0.1	-
EUR	-	4.2	1.6	7.4	0.2	0.8
GBP	1.7	-	-	-	-	-
USD	3.9	10.9	2.5	6.5	-	-
Other	0.3	-	-	-	-	-
Total:	5.9	15.1	4.2	14.4	0.3	0.8

There were no new offshore provincial issues in December

Canadian SSA Issuers

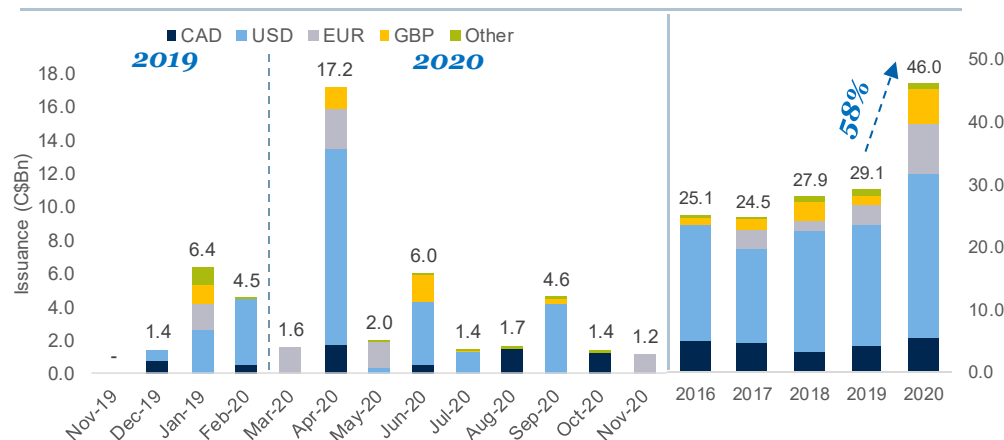
Canadian SSA Market See no New Issues in December

- There were no new issues in the Canadian SSA sector during the month of December
- Total Canadian SSA Sector Issuance reached C\$46.0 billion in 2020, representing the largest annual issuance volumes on record
- EDC was the most active issuer during the year, completing C\$12.2 billion, followed by CPPIB (C\$11.5 billion) and Ontario Teachers Finance Trust (C\$10.1 billion)
- The Canadian SSA sector saw a number of notable deals during the year including:
 - ONTFT's inaugural C\$1.25 billion 7-year offering
 - PSP's C\$1.5 billion 6-year offering
 - CDP's US\$2.5 billion 5-year offering
 - CPPIB's GBP 1.0 billion 3-year and USD1.25 billion 7-year offerings
- Activity in the Canadian SSA new issue market is expected to return in early January

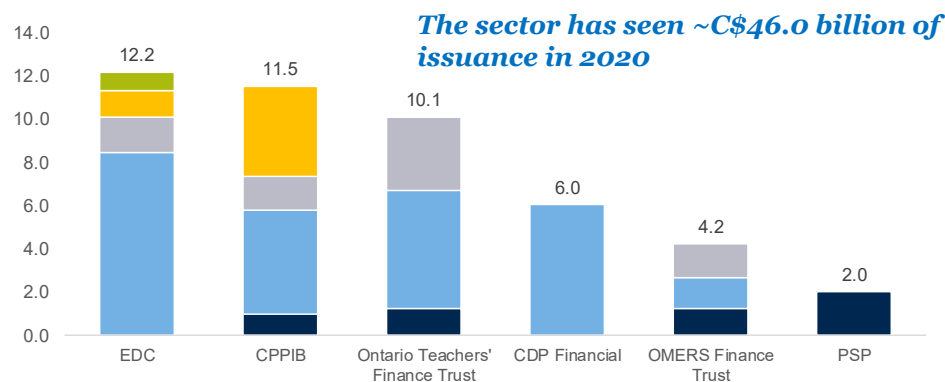
Select Recent Activity¹

Issue Date	Issuer	Currency	Size (Local Currency MM)	Size (CAD MM)	Maturity Date	Term (yrs)	Issue Spread to Benchmark (bps)
Bullets							
19-Nov-20	Ontario Teachers Finance Trust	EUR	750	1,163	25-Nov-30	10	MS +34
28-Oct-20	Export Development Canada	CNH	200	40	CNH	1	-
19-Oct-20	Export Development Canada	CNH	500	99	CNH	1	-
14-Oct-20	Ontario Teachers Finance Trust	CAD	1,250	1,250	19-Oct-27	7	GoC +75
01-Oct-20	Export Development Canada	COP	67	23	COP	1	-
24-Sep-20	Ontario Teachers Finance Trust	USD	1,500	2,009	27-Sep-23	3	MS +24
24-Sep-20	Ontario Teachers Finance Trust	USD	1,500	2,009	27-Sep-30	10	MS +62
22-Sep-20	CPPIB Capital Inc	GBP	200	344	29-Sep-21	1	SONIA +3
16-Sep-20	Export Development Canada	TRY	130	22	15-Sep-21	1	-
10-Sep-20	Export Development Canada	HKD	100	17	17-Sep-21	1	-
09-Sep-20	Export Development Canada	HKD	115	20	16-Sep-21	1	-
02-Sep-20	Export Development Canada	USD	100	133	10-Mar-23	3	-
01-Sep-20	Export Development Canada	HKD	210	36	16-Sep-22	2	-
27-Aug-20	Export Development Canada	HKD	300	51	10-Sep-21	1	-
12-Aug-20	PSP Capital Inc	CAD	1,500	1,500	15-Jun-26	6	GoC +51
05-Aug-20	Export Development Canada	CNH	500	97	12-Aug-21	1	-
05-Aug-20	Export Development Canada	CLP	13,500	2,279	4-Aug-21	1	-
22-Jul-20	CPPIB Capital Inc	USD	1,000	1,342	29-Jul-25	5	MS +19
15-Jul-20	Export Development Canada	GBP	50	86	23-Jul-23	3	-

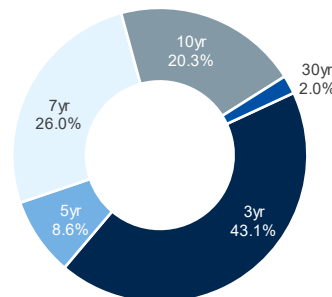
Historical Issuance Volumes (Monthly) (C\$ Equiv.)



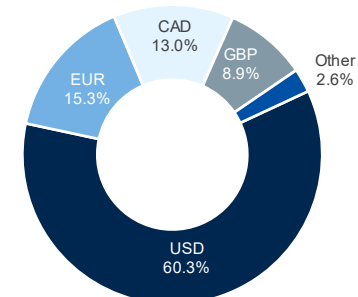
Top Canadian SSA Issuers (2020YTD) (C\$ Equiv.)



Issuance Term (2019-20YTD)



Issuance by Currency (2019-20YTD)



Maple Issuance

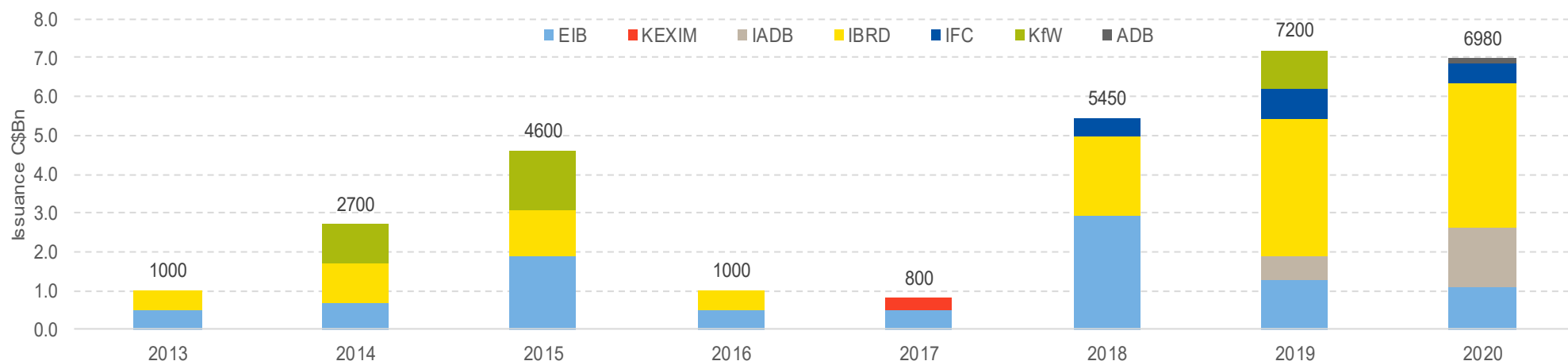
SSA Maple Market Sees No Trades in December

- The SSA Maple market remained muted for a 3rd straight month in December with no new offerings
- Maple SSA issuance ended 2020 at ~C\$7.0 billion, slightly below the record C\$7.2 billion seen in 2019
- Demand in recent months for SSA supply had waned provided the especially busy period from August to September
- ESG remained an important part of SSA Maple issuance with 6 of 10 trades having a Sustainable or Green label, representing C\$5.0 billion (72%) of supply in 2020
- SSA Maple issuance has been elevated in recent years given the success of recent offerings and attractive pricing dynamics
- Drivers of Maple issuance include the USDCAD XCCY basis as well as swap spread related dislocations in the Dollar market that make CAD pricing more attractive

Maple Offerings (2019-2020)

Year	#	Trade Date	Issuer Name	Ratings	Size (C\$MM)	Coupon	Maturity	Spread
2020	1	30-Sep-20	IADB	-/Aaa/AAA	400	0.750%	15-Oct-25	MS -6bps
2020	2	17-Sep-20	IBRD	-/Aaa/AAA	750	0.875%	28-Sep-27	MS +3.0 bps
2020	3	16-Sep-20	EIB	-/Aaa/AAA	600	1.750%	30-Jul-24	MS -9.0 bps
2020	4	01-Sep-20	IFC	-/Aaa/AAA	500	0.625%	16-Sep-25	MS -4.0 bps
2020	5	27-Aug-20	IADB	-/Aaa/AAA	600	0.750%	15-Oct-25	MS -4.0 bps
2020	6	13-Aug-20	IADB	-/Aaa/AAA	500	0.875%	27-Aug-27	MS +5.0 bps
2020	7	10-Jun-20	IBRD	-/Aaa/AAA	1,500	0.750%	02-Jul-25	MS +3.0 bps
2020	8	17-Apr-20	ADB	-/Aaa/AAA	130	1.330%	30-Apr-35	-
2020	9	08-Jan-20	EIB	-/Aaa/AAA	500	1.900%	22-Jan-25	MS +1.0 bps
2020	10	07-Jan-20	IBRD	-/Aaa/AAA	1,500	1.900%	16-Jan-25	GoC +35.8 bps
Grand Total:					6,980			
2019	1	26-Sep-19	IADB	-/Aaa/AAA	600	1.70%	10-Oct-24	GoC +35.5 bps
2019	2	12-Sep-19	IBRD	-/Aaa/AAA	300	1.80%	26-Jul-24	GoC +34.0 bps
2019	3	12-Sep-19	IBRD	-/Aaa/AAA	250	1.95%	20-Sep-29	GoC +52.3 bps
2019	4	11-Sep-19	EIB	-/Aaa/AAA	500	1.70%	23-Sep-22	GoC +22.5 bps
2019	5	04-Sep-19	IFC	-/Aaa/AAA	750	1.37%	13-Sep-24	GoC +36.8 bps
2019	6	18-Jul-19	EIB	-/Aaa/AAA	800	1.75%	30-Jul-24	MS +3.0 bps
2019	7	17-Jul-19	IBRD	-/Aaa/AAA	1,500	1.80%	26-Jul-24	MS +2.0 bps
2019	8	14-Feb-19	KfW	-/Aaa/AAA	1,000	2.00%	07-Feb-22	MS -9.0 bps
2019	9	08-Jan-19	IBRD	-/Aaa/AAA	1,500	2.20%	18-Jan-22	MS -5.0 bps
Grand Total:					7,200			

Annual Maple Issuance



Municipal Market Update

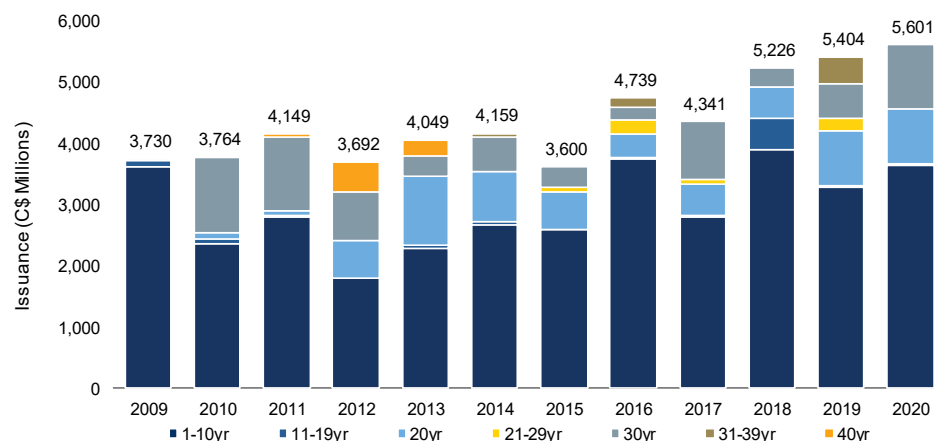
Municipal Market Sees One New Offering In December

- The municipal market saw one new offering in December as City of Toronto completed a C\$130 million re-opening of its 2039 Green Bond offering
- The City of Toronto offering represented the City's 3rd Green Bond offering since the inception of its Green Bond program in 2018. The City has completed C\$630 million of Green Bond funding since its inaugural Green Bond transaction
 - The transaction experienced very strong investor reception with a final orderbook in excess of C\$540 million, making the trade over 4x oversubscribed
 - The offering priced slightly through the conventional City of Toronto bond curve
- Municipal spread continued their tightening bias into December, with spreads ending the month ~1-1.5bps tighter versus Ontario
- Municipal activity is expected to remain strong in 2020 with activity likely to pick up around the traditional spring issuance window beginning in mid-February

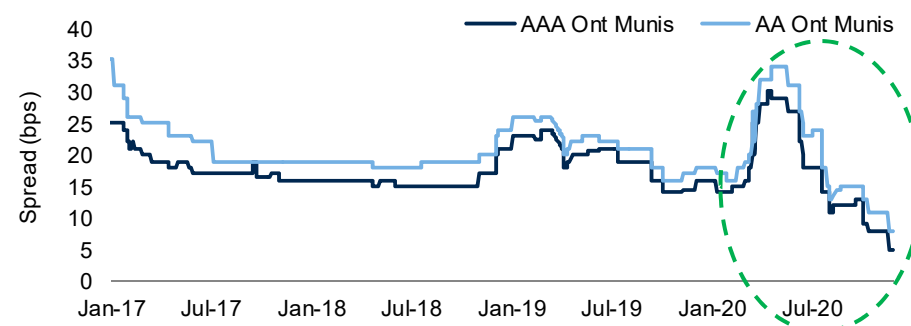
Select Recent Activity¹

Price Date	Issue Description	Size (C\$MM)	Term (yrs)	Spread vs. Bench (bps)	Spread vs. ONT	Re-Offer Yield (%)	Coupon
Bullets							
21-Dec-20	City of Toronto	130	20	118.0	+22.5	2.140%	2.60%
27-Oct-20	City of Vancouver 6Nov30	100	10	83.5	+13	1.447%	1.40%
26-Oct-20	City of Toronto 22Nov49	250	30	118.5	+29.5	2.404%	2.80%
07-Oct-20	City of Montreal 1Sep30	330	10	87.5	+17.5	1.489%	1.75%
22-Sep-20	MFABC 2Oct25	125	5	40.0	+4.0	0.759%	2.65%
27-Aug-20	City of St. John's 3Sep40	138	20	197.0	+94.0	2.916%	2.916%
21-Aug-20	Region of York 27May30	250	10	87.0	+13.0	1.425%	1.70%
12-Aug-20	City of Toronto 25Aug40	300	20	132.0	+31.0	2.174%	2.15%
25-Jun-20	TransLink 3Jul30	400	10	107.5	+24.5	1.600%	1.60%
16-Jun-20	City of Toronto 2Dec30	100	10	104.0	+22.0	1.602%	1.60%
09-Jun-20	FNFA 16Jun30	240	10	107.0	+25.0	1.710%	1.71%
02-Jun-20	Region of Peel 16Jun51	200	30	137.5	+39.0	2.539%	2.50%
20-May-20	MFABC 1Jun25	615	5	72.5	+10.0	1.132%	1.10%
Serials							
28-Oct-20	City of Barrie	10.275	1-10	33-97.5	18-20	1.207%	
20-Oct-20	City of Hamilton	51.705	1-15	34-127	18-30	1.548%	
25-Sep-20	Regional Municipality of Durham	19.61	1-20	27-132.5	15-35	1.691%	
24-Sep-20	Norfolk County	11.98	1-10	29-99	19-28	1.190%	
17-Sep-20	Regional Municipality of Waterloo	42	1-20	22-125.5	15-35	1.507%	
07-Jul-20	Regional Municipality of Niagara	34.2	1-10	29-108.5	24-30	1.328%	
26-May-20	Regional Municipality of Halton	13.9	1-10	40-125	30-35	1.532%	

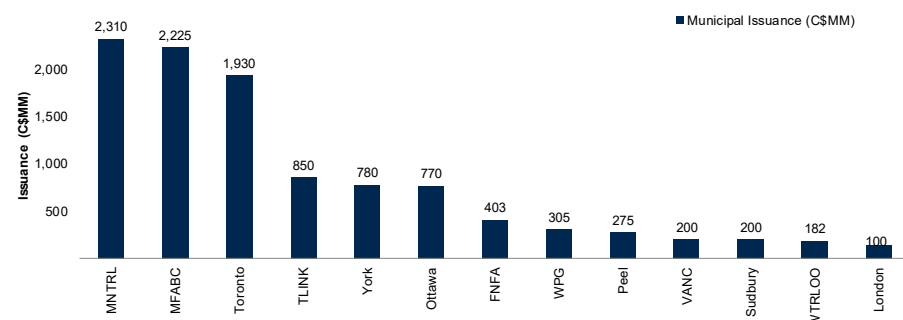
Annual C\$ Municipal Issuance



Municipal 10-year Spreads (vs. ONT)



Top Municipal Issuers (2019 & 2020YTD)



Ratings, Fiscal Updates, and Spread Relativities

- On December 17th, Province of British Columbia projected a \$13.6 billion deficit by the end of the government fiscal year, due in part to an increase in spending related to the COVID-9 pandemic. The deficit projection is roughly C\$850 million higher than the province forecast in September
- On December 17th, the Federal government provided an update to their original announcement from February that they will be providing temporary relief to the Province of Newfoundland and Labrador for its Muskrat Falls project. Measures include delaying sinking fund payments on the Muskrat debt and allowing Nalcor to access cost overrun reserves for some debt related payment obligations. In a new development, the Federal government announced it will look at options to revise the financial structure associated with the project as part of a possible “Atlantic Loop” electricity grid strategy. Serge Dupont was tasked as the Senior Executive Advisor to administer and provide recommendations on the restructuring on the Federal side
- On the same day, Province of Manitoba released a fiscal update projecting a deficit of C\$2 billion for the government fiscal year ending March 31. This is a C\$900 million smaller deficit compared to its latest forecast in September, primarily due to C\$648 million in federal pandemic relief
- On December 17th, the Province of Nova Scotia provided a fiscal update is forecasting a deficit position of \$778.8 million for FY2020/21, slightly better than the previous deficit projection of \$853 million provided in July. Employment has regained 97% of the employment losses from March and April. As of November, employment in Nova Scotia was 0.5% below levels in February 2020

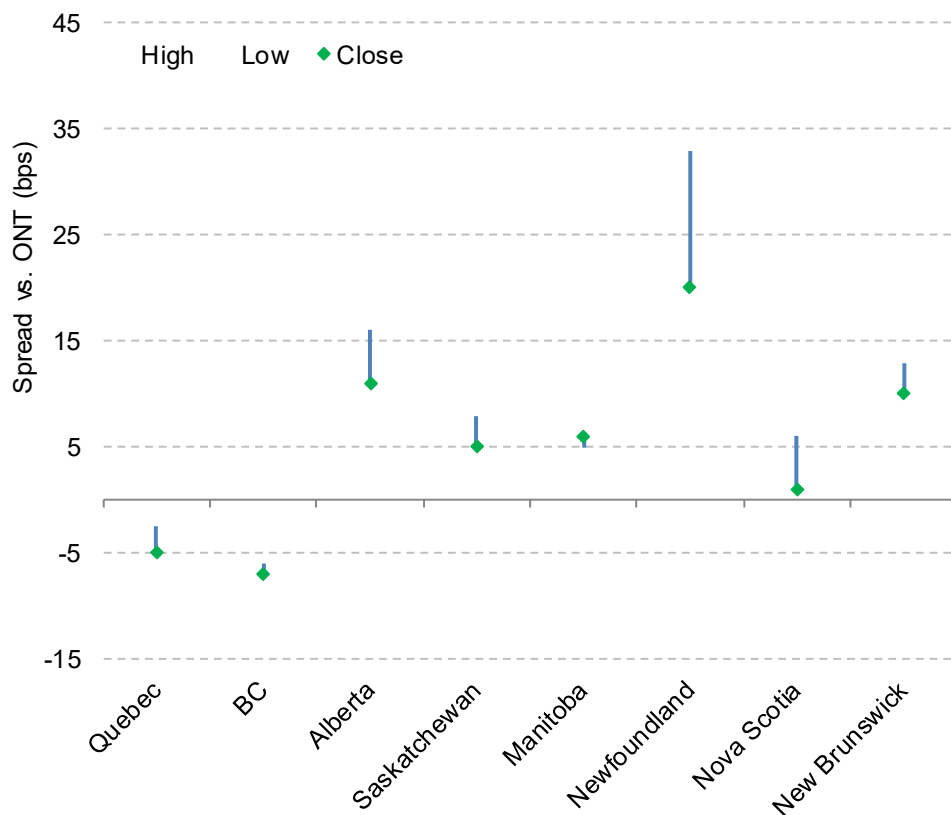
Crowns	Ratings			Spread vs. GoC Curve		
	DBRS	Moody's	S&P	5-Year	10-Year	
Canada Housing Trust	AAA (stb)	Aaa	AAA (stb)	+22.5 bps CDOR -19.0 / \$L+4.0	+40.5 bps CDOR -15.0 / \$L+2.0	
Provincials	Ratings			New Issue Spreads (Straight Maturities) / Relativities vs. Ontario		
	DBRS	Moody's	S&P	5-Year	10-Year	30-Year
Ontario	AA(L) (stb)	Aa3 (stb)	A+ (stb)	+36.0 bps CDOR-6.0 / \$L+16.5	+66.5 bps CDOR+13.5 / \$L+30.0	+78.5 bps CDOR+34.5 / \$L+55.5
Québec	AA(L) (stb)	Aa2 (stb)	AA- (stb)	(4.5) bps	(5.0) bps	(1.0) bps
British Columbia	AA(H) (stb)	Aaa (stb)	AAA (neg)	(5.0) bps	(7.0) bps	(5.0) bps
Alberta	AA(L) (neg)	Aa3 (stb)	A+ (neg)	+1.0 bps	+10.5 bps	+23.0 bps
Manitoba	A(H) (stb)	Aa2 (stb)	A+ (stb)	+1.0 bps	+6.0 bps	+17.0 bps
Saskatchewan	AA(L) (stb)	Aaa (neg)	AA (stb)	+1.0 bps	+5.0 bps	+16.0 bps
New Brunswick	A(H) (stb)	Aa2 (stb)	A+ (stb)	+2.0 bps	+10.0 bps	+20.0 bps
Nova Scotia	A(H) (stb)	Aa2 (stb)	AA- (stb)	+0.0 bps	+1.0 bps	+12.0 bps
Newfoundland and Labrador	A(L) (stb)	A1 (neg)	A (neg)	+9.0 bps	+20.0 bps	+43.0 bps
Prince Edward Island	A (stb)	Aa2 (stb)	A (stb)	+2.0 bps	+10.0 bps	+20.0 bps

Spread Performance

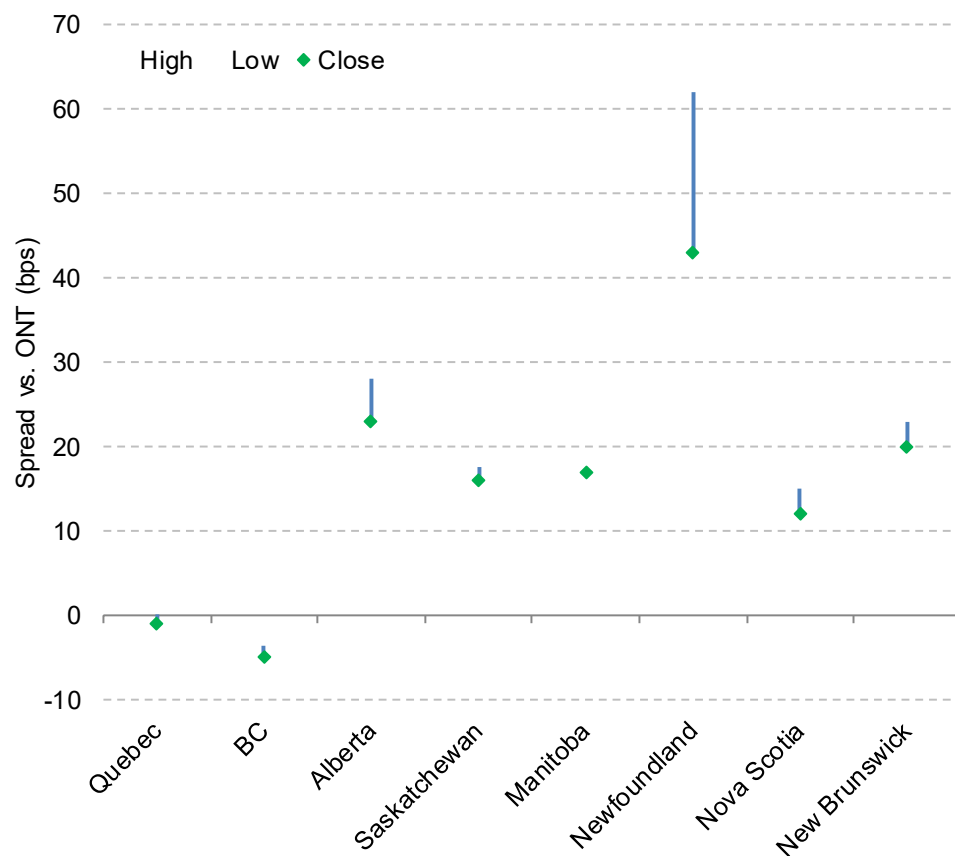
Inter-Provincial Relativities Tighten in December

- Inter-provincial relativities experienced a tightening bias in December with the majority of provinces seeing tighter levels in both 10 and 30-years
- Resource producing provinces experienced performance alongside the uptick in oil prices
- Other drivers of performance included the release of fiscal updates which showed little change from projections earlier in the year, as well as anticipation of limited new issue supply heading into the end of December
- Newfoundland saw outsized performance relative to other provinces in both 10s and 30s. A majority of the tightening occurred ahead of the announcement by the Federal government that they would be revising some of the funding terms of the Muskrat Falls project and followed on the province's 7-year offering in early December

Provincial 10yr Relativity Performance (December 2020)



Provincial 30yr Relativity Performance (December 2020)



Rates Outlook

Canadian Rates

December continues to see the Bank maintain its dovish tone

- On December 9th, 2020, Bank of Canada Governor Tiff Macklem pledged to keep interest rates low most likely until 2023, as well as continue to purchase GoC bonds until economic recovery is “well underway” and keeping the current purchase level at C\$4 million per week
- The following day, deputy governor Paul Beaudry indicated that the BoC could lower interest rates even further without going negative if Canada’s second wave of COVID-19 continues to worsen, as well as turn to other tools such as expanding QE programs and implementing yield-curve controls, while also mentioning the flipside of easing current stimulus if the upcoming vaccine rollouts improve its fiscal outlook
- The next BoC meeting date is set for January 20th, 2020, although unanimous consensus across the street is for the BoC to maintain the status quo

US Rates

Fed leaves both rates and asset purchase program unchanged

- The Fed continued to hold its overnight rate in the current 0-0.25% range at its last meeting on December 16th, 2020 and announced that they will continue to support the U.S. economy as needed until there is “substantial further progress” made in its inflation and employment targets
- Participants looking to see the Fed update their guidance on asset purchases were left disappointed as the Fed’s composition of their bond purchase program were left unchanged while maintaining its monthly \$120 billion bond buying program. Monetary policy was also kept on hold, as forecasts expect near-zero benchmark interest rate levels through 2023
- Looking ahead to 2021, the Fed updated its median real GDP forecast to 4.2%, up from 4.0% in September; while it sees unemployment rate range to be 4.0% - 6.8% with a median of 5.0%, down from the 5.5% projection in September
- RBC forecasts the US GDP declining ~4% this year and unemployment rate at <6% by the end of 2021, keeping Treasury yields low from asset purchases
- The FOMC will hold its next meeting on January 26-27th, 2021

RBC Economics Interest Rate Forecasts

RBC Interest Rate Forecasts

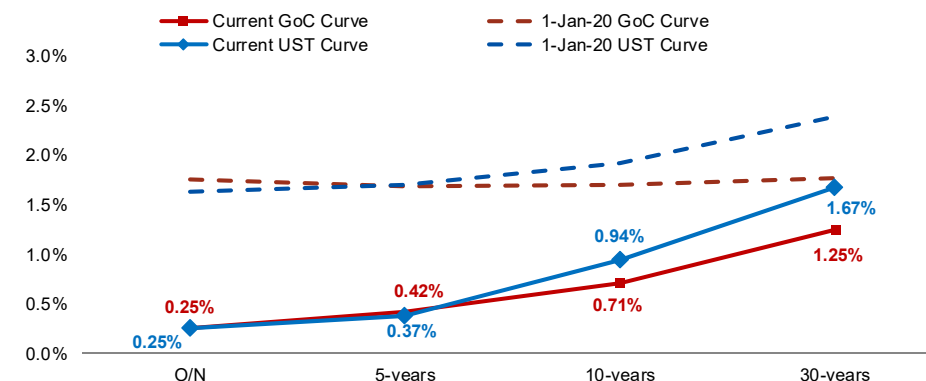
Government of Canada Rates Forecast

Term	Current	Q1/21	Q2/21	Q3/21	Q4/21	Q1/22
O/N	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
5-Year GoC	0.42%	0.50%	0.60%	0.70%	0.80%	0.95%
10-Year GoC	0.71%	0.75%	0.90%	1.00%	1.05%	1.15%
30-Year GoC	1.25%	1.30%	1.40%	1.45%	1.50%	1.60%

US Treasury Rates Forecast

Term	Current	Q1/21	Q2/21	Q3/21	Q4/21	Q1/22
O/N	0.25%	0.25%	0.25%	0.25%	0.25%	0.50%
10-Year UST	0.94%	1.05%	1.15%	1.20%	1.25%	1.30%
30-Year UST	1.67%	1.70%	1.75%	1.75%	1.80%	1.85%

North American Yield Curves



Bank of Canada Rate Decision Recap

BoC Meeting Date	Rate Action
March 13, 2020*	0.75%
March 27, 2020*	0.25%
April 15, 2020	0.25%
June 3, 2020	0.25%
July 15, 2020	0.25%
September 9, 2020	0.25%
October 28, 2020	0.25%
December 9, 2020	0.25%

*Not a scheduled meeting date

January Calendar

January 2021 Calendar & Key Dates

- Global events around the January issuance timeframe include
 - CAN & US Manf. PMI (Jan 4)
 - FOMC Meeting Minutes (Jan 6)
 - US Jobless Claims, CAN Intl Merchandise Trade, US Trade Balance (Jan 7)
 - CAN Jobs Report, US Nonfarm Payrolls, US Wholesale Trade (Jan 8)
 - US CPI (Jan 13)
 - US Jobless Claims (Jan 14)
 - US PPI & US Retail Sales (Jan 15)
 - CAN Manf. Sales & CAN Wholesale Trade (Jan 19)
 - CAN CPI, BoC, BoJ (Jan 20)
 - ECB, US Jobless Claims, US Housing Starts (Jan 21)
 - CAN Retail Sales, US Manf. PMI, US Exist Home Sales (Jan 22)
 - FOMC (Jan 27)
 - CAN Building Permits, US Jobless Claims, US GDP (Jan 28)
 - CAN GDP (Jan 29)
- Market Closures in January include market closure in Canada and the US on January 1, and a US Market Closure on January 18

January 2021						
SUN	MON	TUES	WED	THUR	FRI 1	SAT 2
					New Year's Day	
3	4	5	6	7	8	9
	CAN Manf. PMI US Manf. PMI		FOMC Meeting Minutes US PMI	US Jobless Claims CAN Intl Merch Trade US Trade Balance	CAN Jobs Report US Nonfarm Payrolls US Wholesale Trade	
10	11	12	13	14	15	16
			US CPI	US Jobless Claims	US PPI US Retail Sales	
17	18	19	20	21	22	23
	MLK Jr Day	CAN Manf. Sales CAN Wholesale Trade	CAN CPI BoC BoJ	ECB US Jobless Claims US Housing Starts	CAN Retail Sales US Manf. PMI US Exist. Home Sales	
24	25	26	27	28	29	30
			FOMC	CAN Building Permits US Jobless Claims US GDP	CAN GDP	
Legend: Canadian Data US Data AUS/EU/UK Data						

Appendix I

Provincial Funding Highlights



RBC Capital Markets

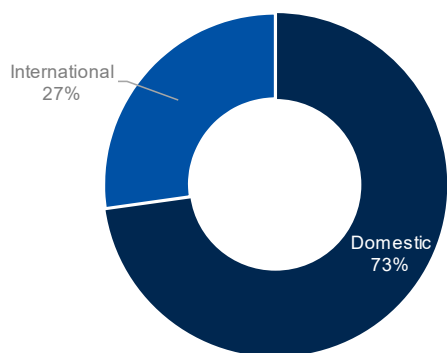
Province of Ontario (January – December 2020)

Key takeaways for 2020

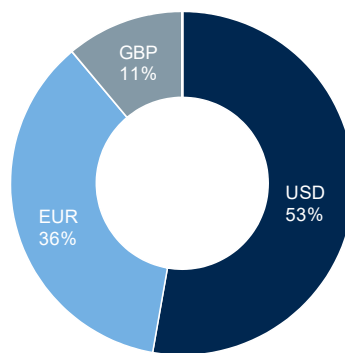


- **Issuance for the calendar year:** ~C\$56bn in total from 49 offerings, with 42 CAD, 3 USD, 3 EUR, and 1 GBP trade
- **Domestic vs Offshore:** 73% of issuance was domestic, amounting to C\$40.7bn. C\$15bn were offshore transactions
- **Offshore Currencies issued:** US\$8bn across 3 transactions, €3.6bn across 3 transactions, and a GBP£1bn transaction
- **Key Transactions:** C\$3.6bn 2.05% 2Jun30 issued on Apr 14, 2020; US\$3bn 1.75% 24Jan23 issued on Jan 16, 2020; €2.5bn 0.01% 25Nov30 issued on Nov 17, 2020; C\$1.5bn 1.85% 1Feb27 Green Bond reopening on Oct 6, 2020

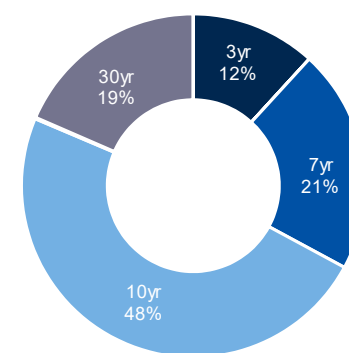
Domestic vs. Offshore



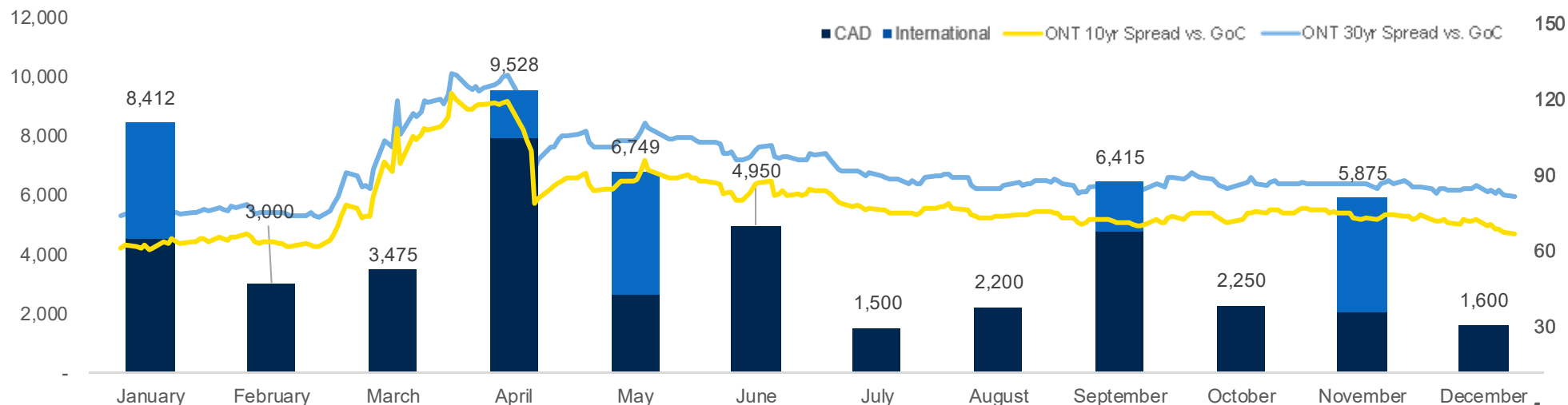
Offshore Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



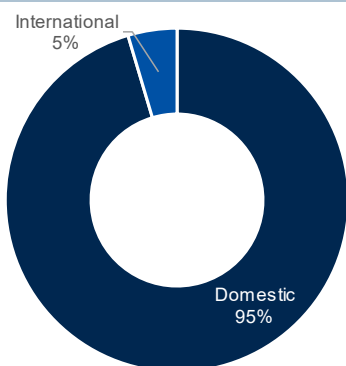
Province of British Columbia (January – December 2020)

Key takeaways for 2020

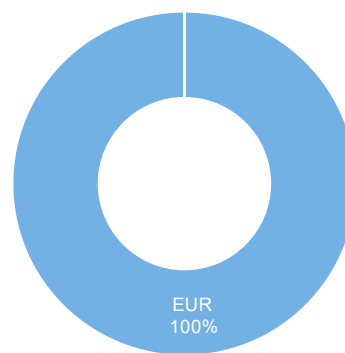


- **Issuances for the calendar year:** ~C\$10.7bn in total from 21 offerings, with 19 CAD and 2 EUR trades
- **Domestic vs Offshore:** 95% of issuances were domestic, amounting to C\$10.3bn. ~C\$495mm were offshore transactions
- **Offshore Currencies issued:** €495mm across 2 transactions
- **Key Transactions:** C\$1.0bn 2.95% 18Jun50 issued on Apr 14, 2020; C\$800mm 2.55% 18Jun27 issued on Aug 11, 2020; C\$800mm 2.85% 18Jun25 issued on Apr 23, 2020; €170mm 1.00% 9Apr48 issued on Apr 2, 2020

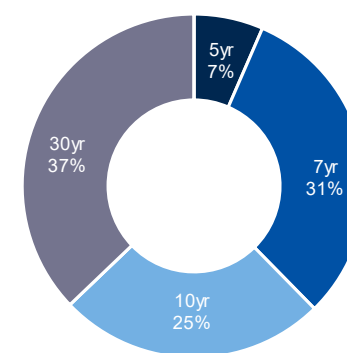
Domestic vs. Offshore



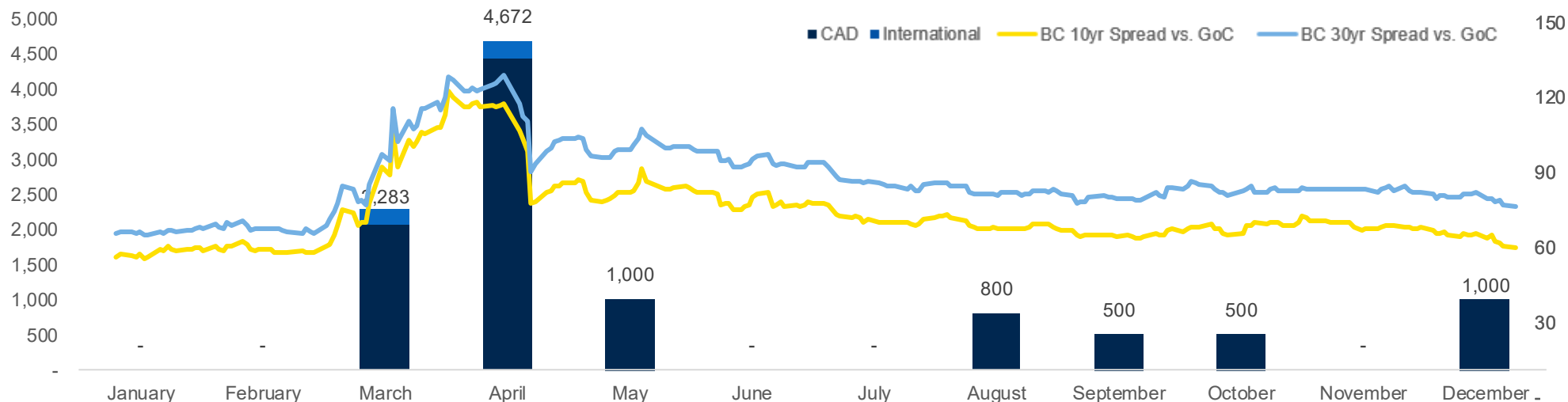
Offshore Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



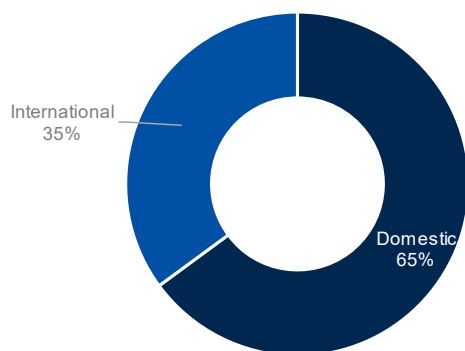
Province of Alberta (January – December 2020)

Key takeaways for 2020

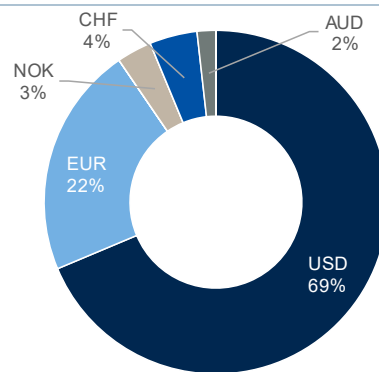
- **Issuances for the calendar year:** ~C\$24.4bn in total from 41 offerings, with 31 CAD, 3 EUR, 2 USD, 2 CHF, 2 AUD, 1 NOK
- **Domestic vs Offshore:** 65% of issuances were domestic, amounting to C\$15.8bn. ~C\$8.6bn were offshore transactions
- **Offshore Currencies issued:** US\$4.3bn across 2 transactions, €1.2bn across 3 transactions, 1 NOK 2bn transaction, 2 issues for CHF 260mm, and 2 issues amounting to A\$170mm
- **Key Transactions:** C\$1.15bn 2.05% 1Jun30 issued on Jul 23, 2020; US\$2.25bn 1.00% 20May25 issued on May 12, 2020; €1.1bn 0.50% 16Apr25 issued on Apr 7, 2020; NOK2bn 0.00% 8Dec22 issued on May 28, 2020

Alberta

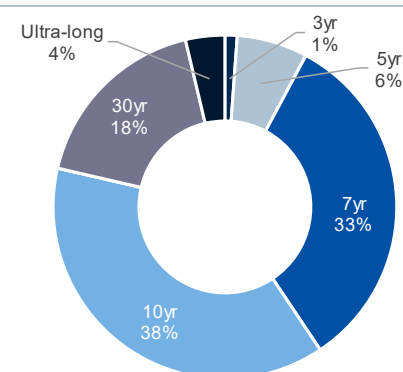
Domestic vs. Offshore



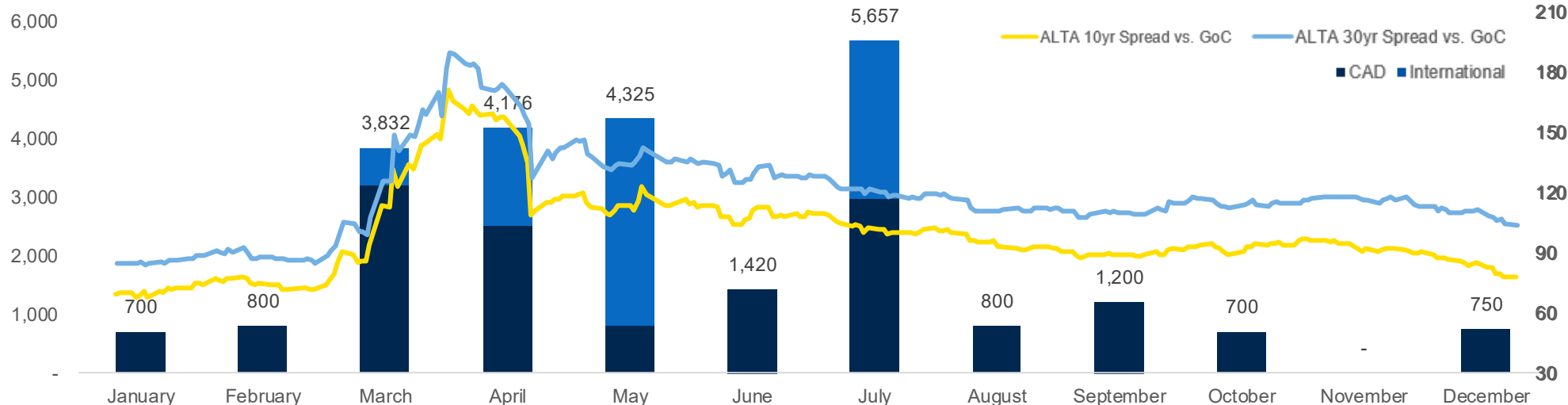
Offshore Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



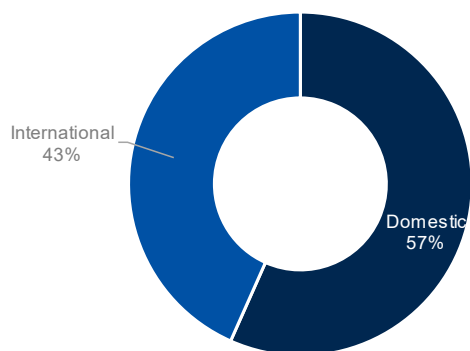
Province of Quebec (January – December 2020)

Key takeaways for 2020

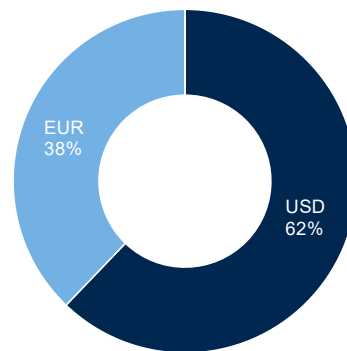


- **Issuances for the calendar year:** ~C\$36.5bn in total from 43 issuances, with 38 CAD, 3 USD, and 2 EUR trades
- **Domestic vs Offshore:** 57% of issuances were domestic, amounting to C\$20.65bn. C\$15.8bn were offshore transactions
- **Offshore Currencies issued:** US\$7.25bn across 3 transactions, €3.85bn across 2 transactions
- **Key Transactions:** US\$3.25bn 0.60% 23Jul25 issued on Jul 17, 2020; €2.25bn 0.00% 29Oct30 issued on Oct 22, 2020

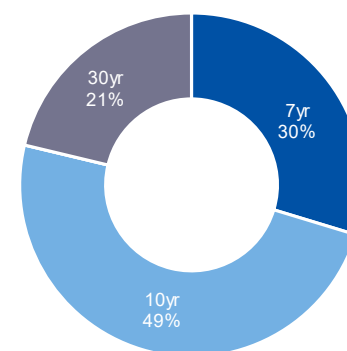
Domestic vs. Offshore



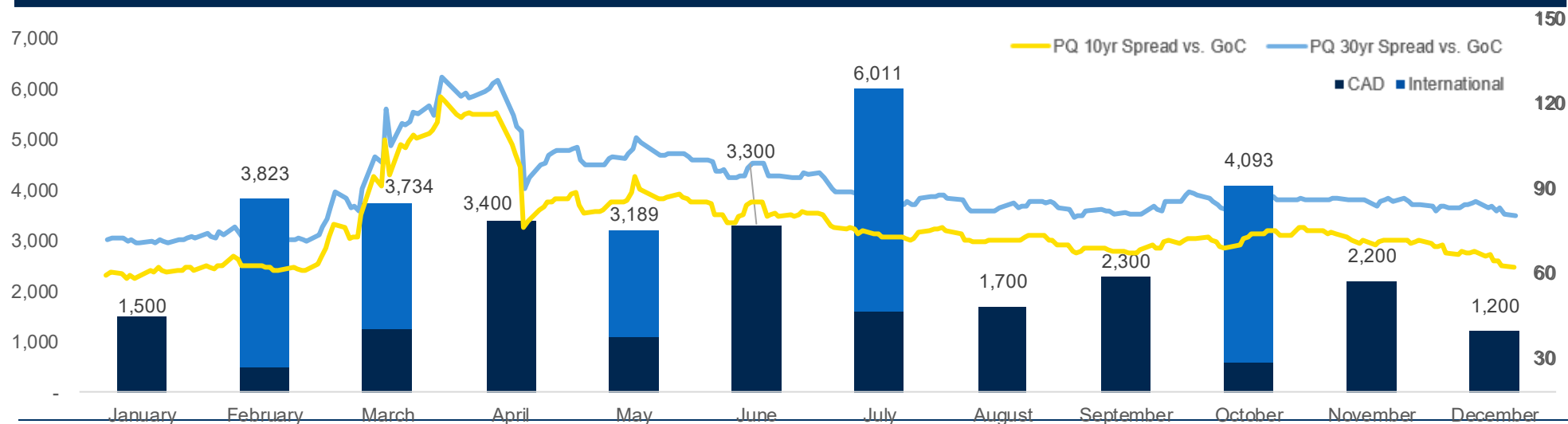
Offshore Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



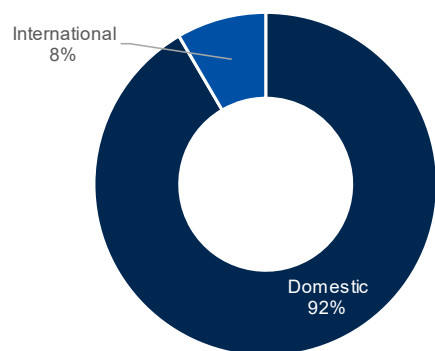
Province of Manitoba (January – December 2020)

Key takeaways for 2020

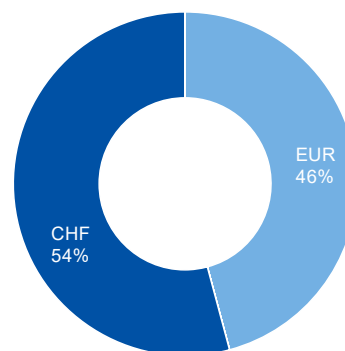


- **Issuances for the calendar year:** ~C\$6.4bn in total from 25 issuances, with 21 CAD, 2 EUR, and 2 CHF trades
- **Domestic vs Offshore:** 92% of issuances were domestic, amounting to ~C\$5.9bn. ~C\$0.5bn were offshore transactions
- **Offshore Currencies issued:** €160mm and CHF200mm with 2 transactions each
- **Key Transactions:** C\$800mm 2.45% 2Jun25 issued on Apr 14, 2020; €100mm 0.47% 2Nov49 issued on Oct 23, 2020; CHF100mm 0.20% 20Apr26 issued on Mar 23, 2020

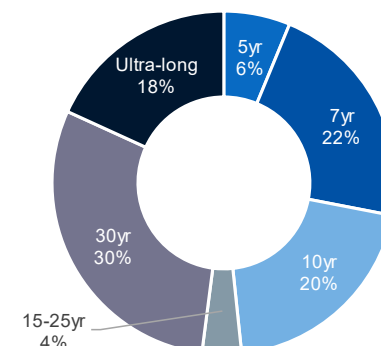
Domestic vs. Offshore



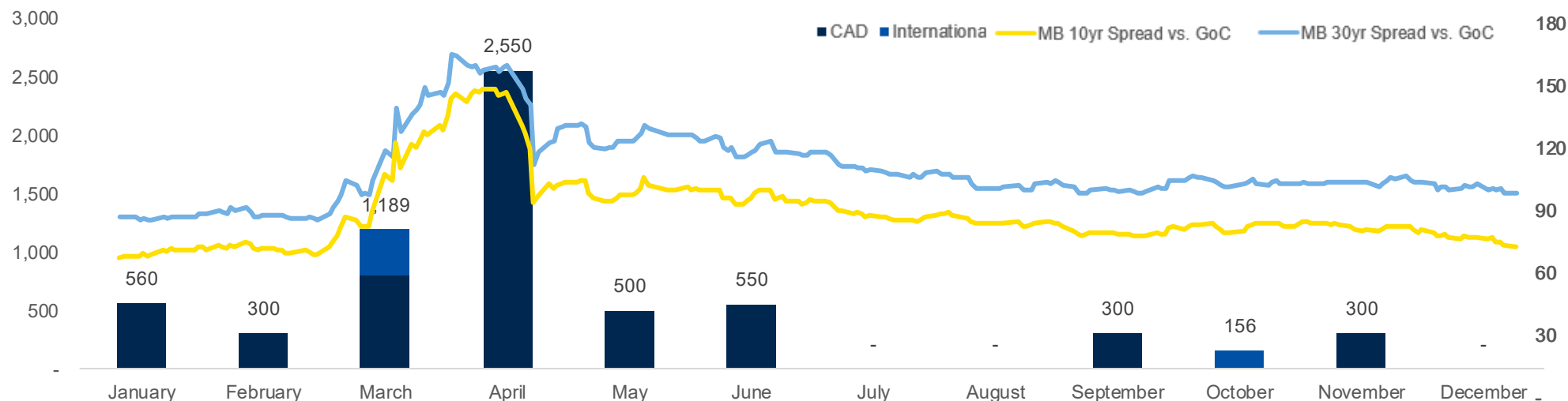
Offshore Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



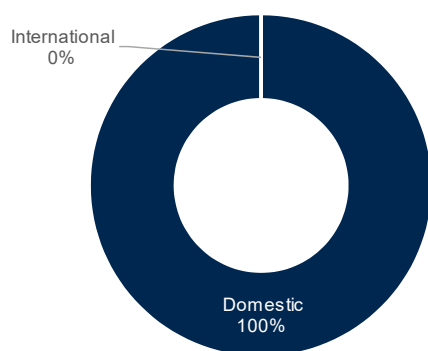
Province of New Brunswick (January – December 2020)

Key takeaways for 2020

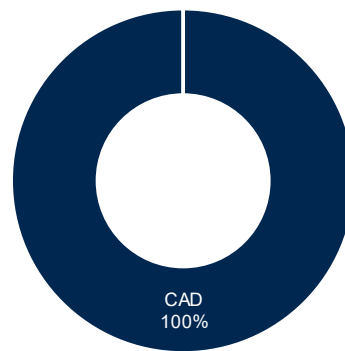
- **Issuances for the calendar year:** C\$2.1bn in total from 7 issuances
- **Domestic vs Offshore:** 100% of issuances were domestic
- **Currencies issued:** The Province solely focused in the CAD market
- **Key Transactions:** C\$400mm 1.80% 14Aug25 issued on Feb 20, 2020; C\$300mm 3.05% 14Aug50 issued on Jul 28, 2020



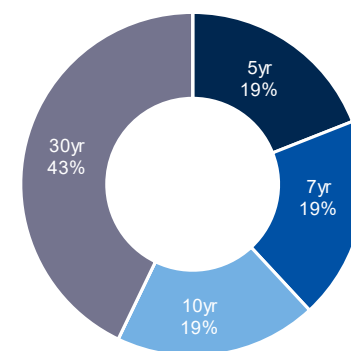
Domestic vs. Offshore



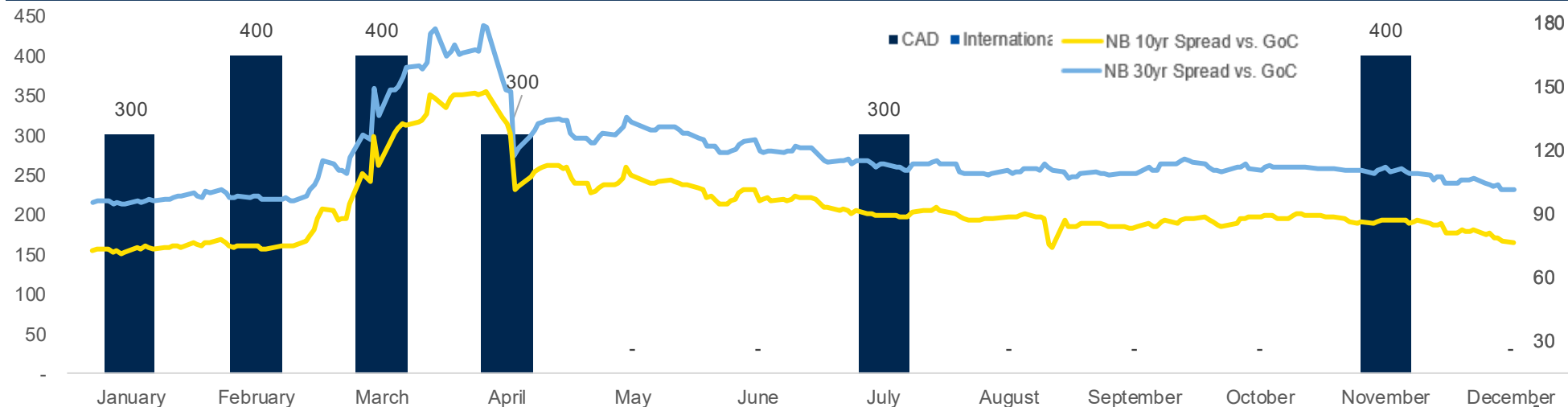
Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



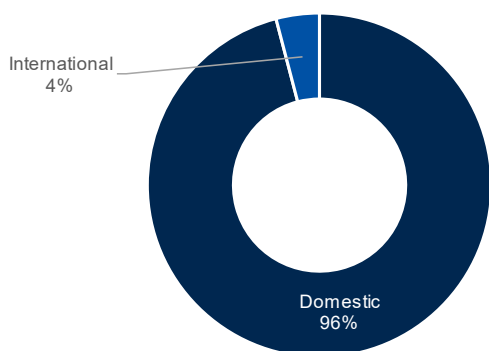
Province of Saskatchewan (January – December 2020)

Key takeaways for 2020

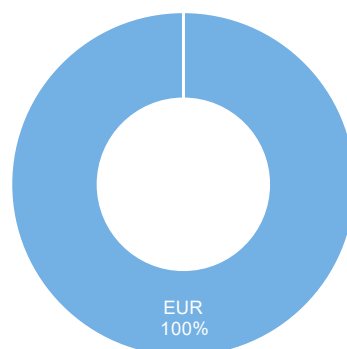


- **Issuances for the calendar year:** C\$4.25bn in total from 12 issuances
- **Domestic vs Offshore:** 100% of issuances were domestic
- **Currencies issued:** The Province solely focused in the CAD market
- **Key Transactions:** C\$600mm 0.80% 2Sep25 issued on Nov 30, 2020; C\$475mm 1Apr23 FRN issued on Apr 2, 2020; €115mm private placement in Q2 2020, representing Saskatchewan's first international issuance in nearly 16 years

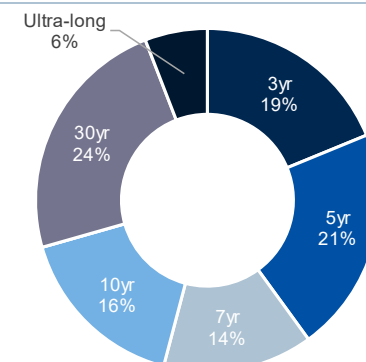
Domestic vs. Offshore



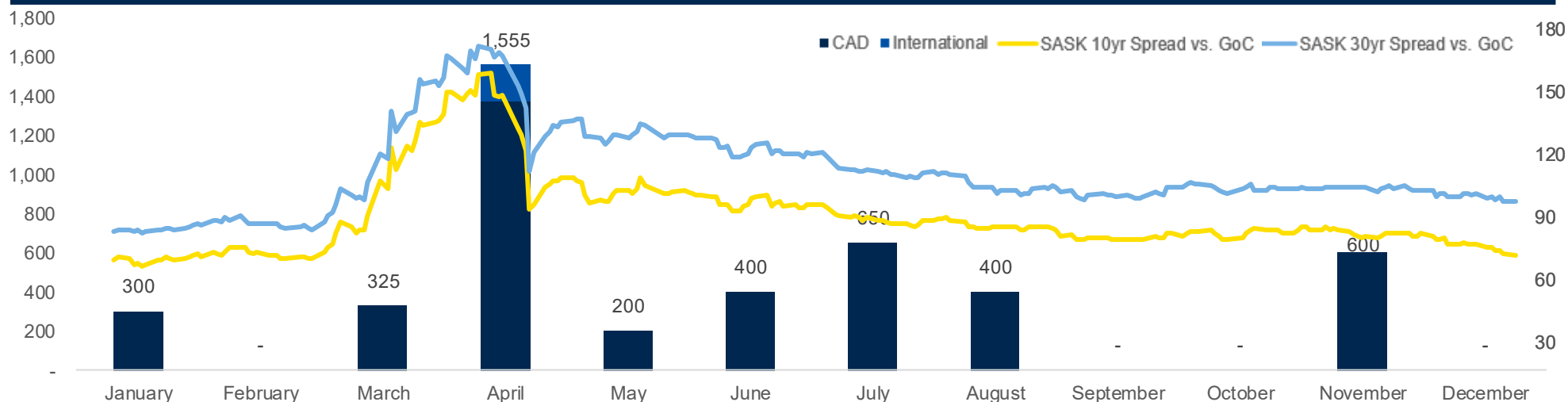
Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



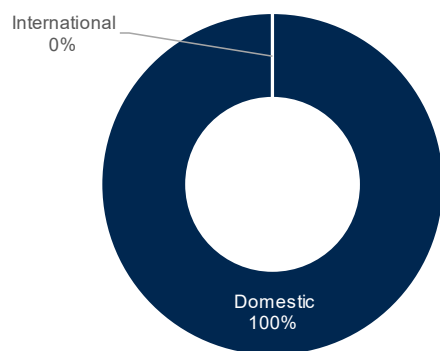
Province of Nova Scotia (January – December 2020)

Key takeaways for 2020

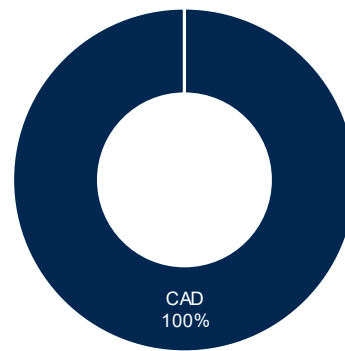
- **Issuances for the calendar year:** C\$2.25bn in total from 6 issuances
- **Domestic vs Offshore:** 100% of issuances were domestic
- **Currencies issued:** The Province solely focused in the CAD market
- **Key Transactions:** C\$535mm 1.35% 21Apr25 and C\$515mm 1.00% 17Apr23 issued on Apr 14, 2020



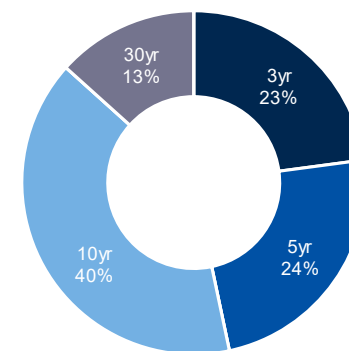
Domestic vs. Offshore



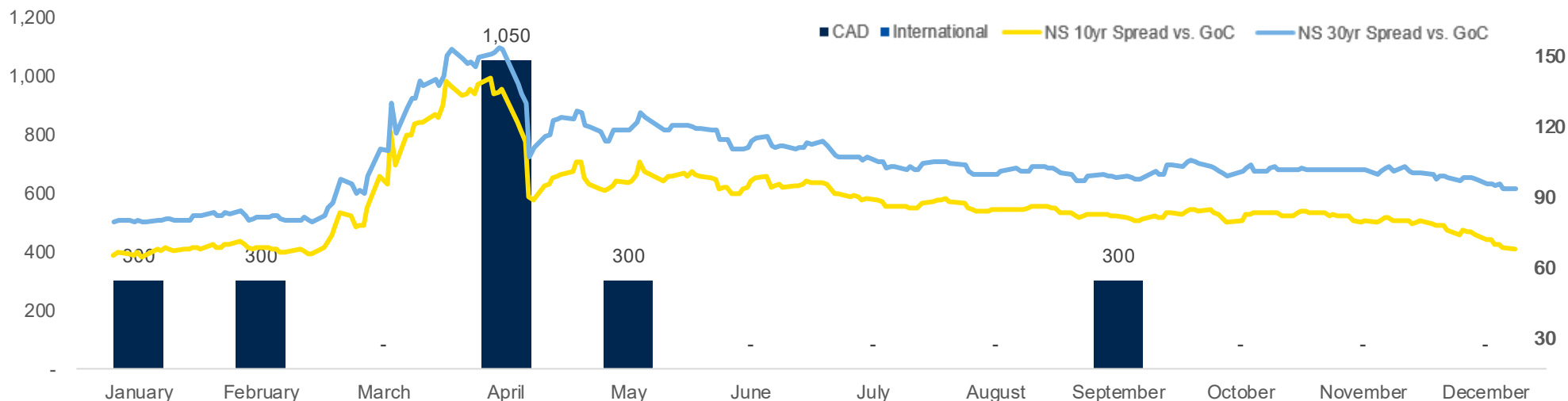
Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



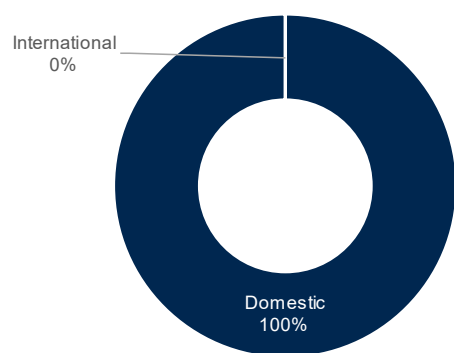


Province of Newfoundland and Labrador (January – December 2020)

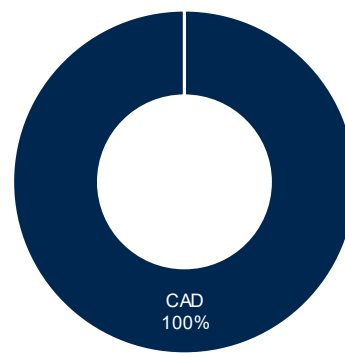
Key takeaways for 2020

- **Issuances for the calendar year:** C\$3bn in total from 9 issuances
- **Domestic vs Offshore:** 100% of issuances were domestic
- **Currencies issued:** The Province solely focused in the CAD market
- **Key Transactions:** C\$500mm 1.25% 2Jun27 issued on Dec 3, 2020; C\$400mm 2.65% 17Oct50 issued on May 6, 2020

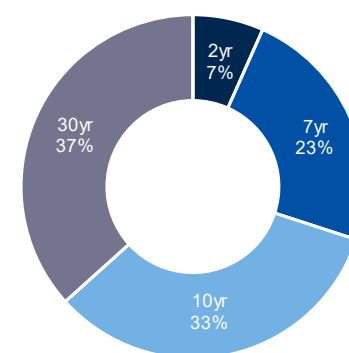
Domestic vs. Offshore



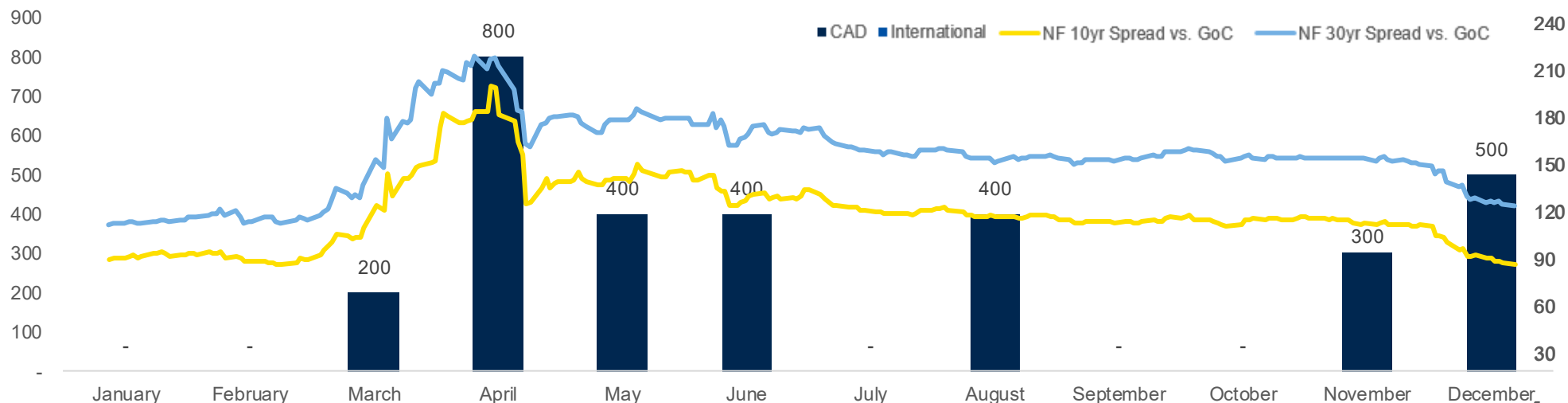
Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



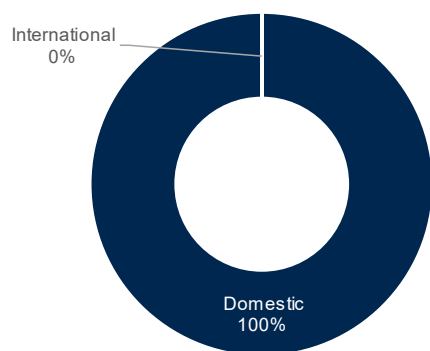


Province of Prince Edward Island (January – December 2020)

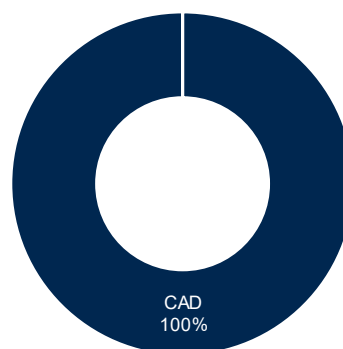
Key takeaways for 2020

- **Issuances for the calendar year:** C\$125mm in total from 1 issuance
- **Domestic vs Offshore:** 100% of issuance was domestic
- **Currencies issued:** The Province solely focused in the CAD market
- **Key Transactions:** C\$125mm 2.65% 1Dec51 issued on May 6, 2020

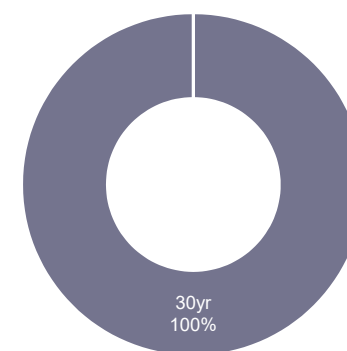
Domestic vs. Offshore



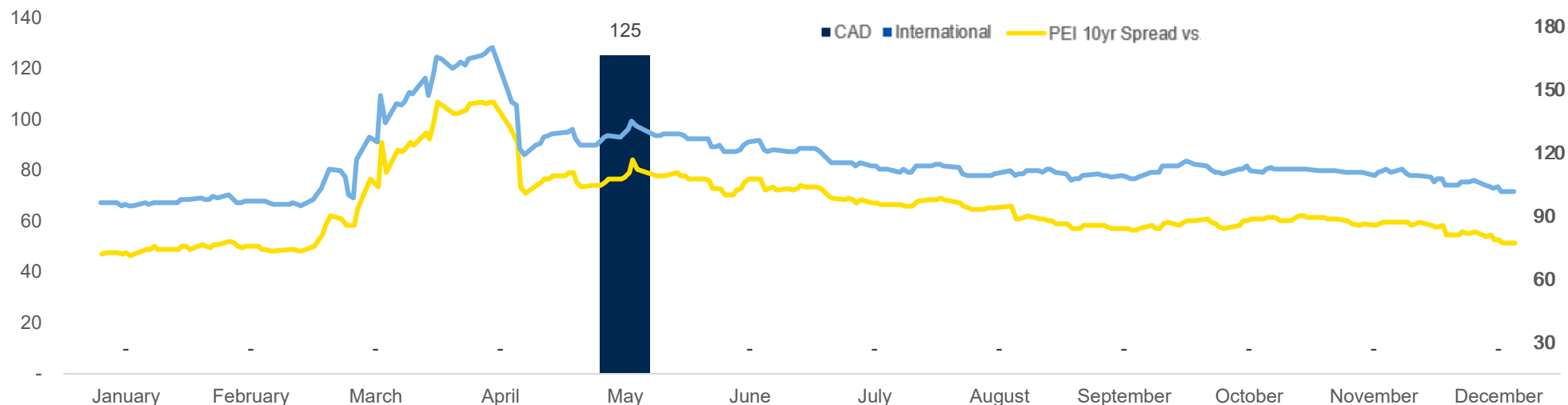
Issuance Currency



Issuance by Term



Issuance Volume by Month vs Spread moves to GoC



Appendix II

Green, Social & Sustainability
Market Update



RBC Capital Markets

Green Bond Market Update (CAD GSS)

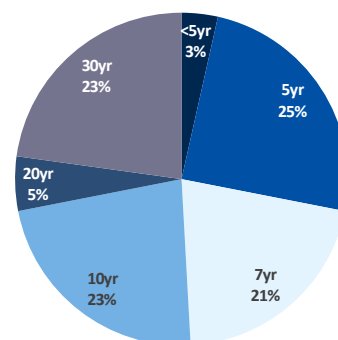
CAD Issuance to date, Current Market Share and Other stats

- **Market Size:** Green, Social and Sustainability Bond issuance has reached a record high year-to-date at C\$12.46 billion with the current outstanding market size now at \$37 billion, with Green at C\$26.6 billion, Social at C\$1.1 billion and Sustainability at C\$9.4 billion
- **Number of Issuers:** Over 30 issuers have accessed the green, sustainable and social bond market to date in the CAD market, ranging from Provinces, SSAs, pension funds, municipalities and corporations
- **Top Issuers:** Province of Ontario is the largest issuer in the space followed by IBRD and Province of Quebec, accounting for 43% of total CAD GSS issuance to date. Ontario, Quebec and EIB are the largest Green bond issuers, while notable Sustainability issuers are IADB and IBRD. The only Social issuances are from City of Toronto and CIBC
- **Types of Issuers:** Government backed issuers account for 29% of outstanding bonds, with Development Bank & Agencies at 24% and Corporates at 35%
- **Type of issuance:** 81% of issuance is from Green bonds, followed by 16% for Sustainability and 3% for social causes
- **Tenor:** 28% of issuance has been in the 5-year or under sector, followed by 21% 7-year, 23% 10-year, 5% 20-year, and 23% of 30-year

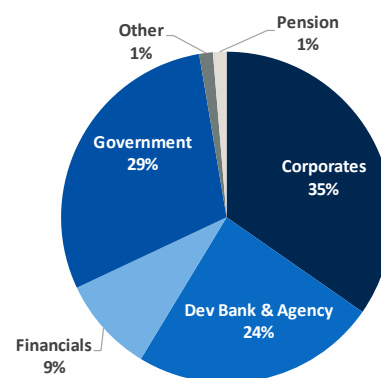
Top CAD Green Bond Issuance to date

Price Date	Issuer	Size (C\$mm)	Maturity	Type
6-Oct-20	Province of Ontario	1,500	1-Feb-27	Green
13-Jun-18	CPPIB	1,500	15-Jun-28	Green
25-Jan-18	Province of Ontario	1,000	5-Feb-25	Green
31-Jan-19	Province of Ontario	950	5-Feb-25	Green
2-Apr-20	Ontario Power Generation	800	8-Apr-30	Green
14-Feb-19	Province of Quebec	800	22-Feb-24	Green
25-Jan-17	Province of Ontario	800	27-Jan-23	Green
20-Nov-19	Province of Ontario	750	5-Feb-25	Green
4-Sep-19	IFC	750	13-Sep-24	Green
22-Jan-16	Province of Ontario	750	27-Jan-23	Green

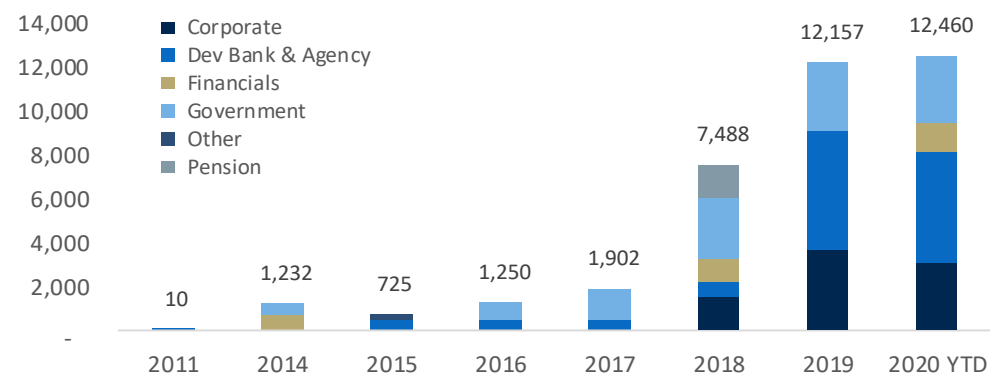
Issuance by Term



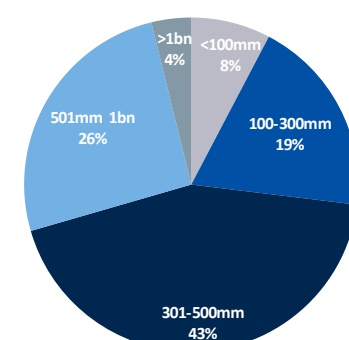
Issuance by Sector (in \$mm)



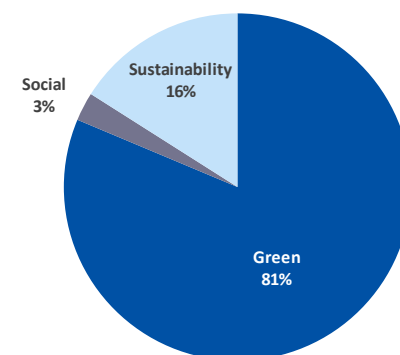
Issuance by Sector (in C\$mm)



Issuance by Size



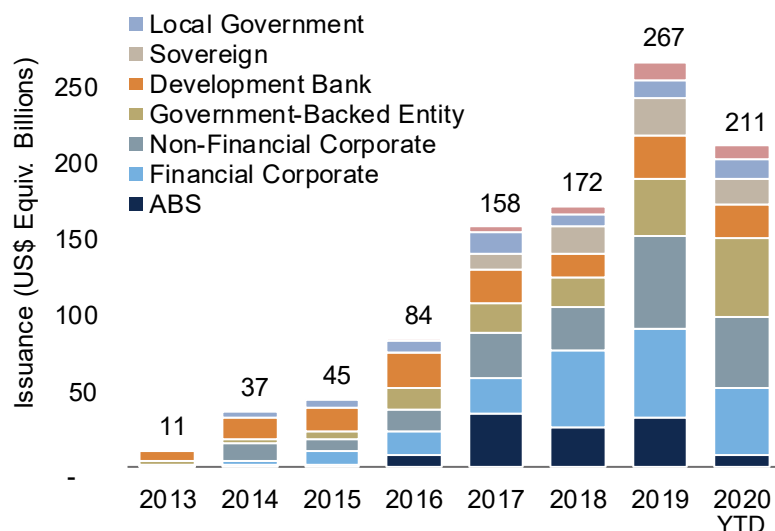
Issuance by GSS Type



Global Green Bond Market Update

Issuance to date, Current Market Share and other stats

Global Green Bond Issuances Span Across Various Sectors

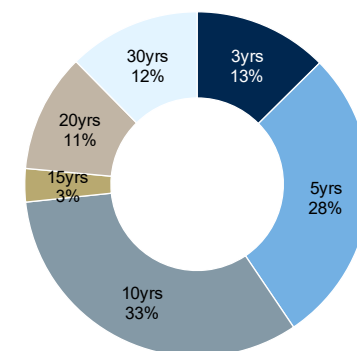


- **Market Size:** Global Green Bond issuances have reached a record high of \$267 billion (US\$ equiv.) in 2019, up 55% from 2018

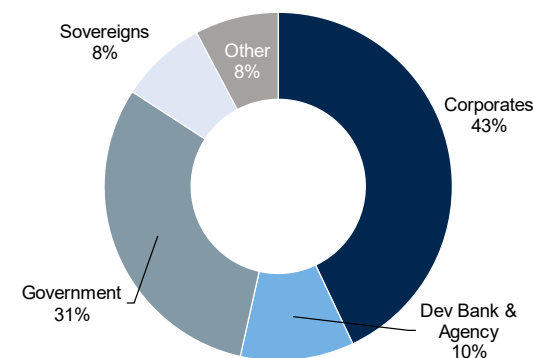
- **Number of Issuers:** Over 1100 issuers have accessed the global Green Bond market to date, ranging from Provinces, SSAs, pension funds, municipalities and corporations

- **Top Issuers:** European Investment Bank (EIB), KfW, Republic of France and International Bank for Reconstruction and Development (IBRD) are among the top issuers in the space, accounting for ~12% of the historical issuances

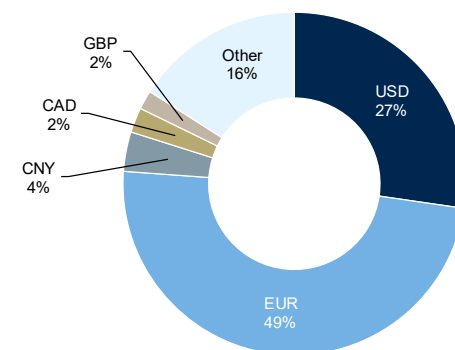
Issuance by Term (2020 YTD)



Issuance by Sector (2020 YTD)



Issuance by Currency (2020 YTD, in \$mm)

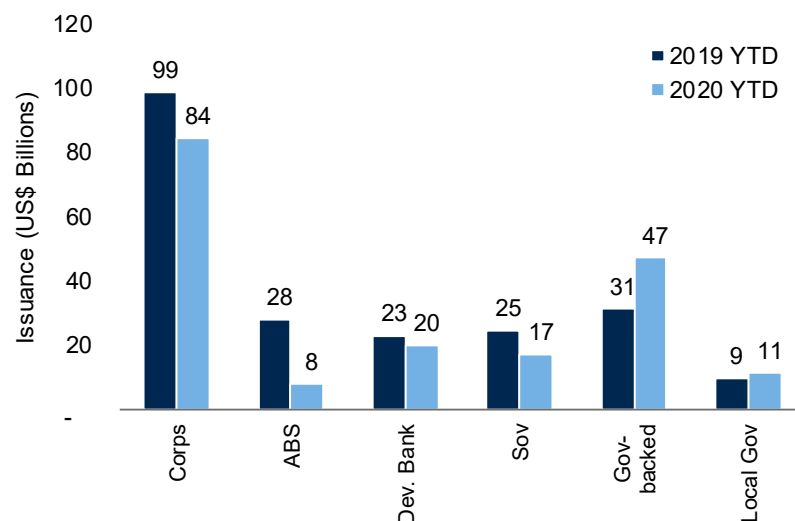


Government Sector Green Bond Issuances Have Picked Up in 2020

- **Types of Issuers:** Government issuers account for 31% of global issuances, with Development Bank & Agencies at 10% and Corporates at 43%

- **Tenor:** 33% of issuances have been in the 10-year sector, followed by 28% in 5-year, and 13% in 3-years and 12% in 30-years

- **Types of currency:** EUR is the main form of currency being issued, accounting for 49% of the market, followed by USD at 27%. Other issued currencies include CNY, CAD and GBP



Appendix III

Corporate Funding Highlights



RBC Capital Markets

Canadian Debt Capital Markets | 2020 Review & 2021 Outlook

Corporate Primary Market Overview

C\$117.3 bn (+1.9%) Total Supply	C\$56.2 bn (+22%) Record Year for Non-FI Supply	C\$57 bn (-6%) Financial Supply
C\$58.3 bn (42 deals) Transactions >\$1bn	152 / 256 Issuers / Tranches ⁽¹⁾	15 Deals (C\$4.2 bn) Inaugural Debt Offerings

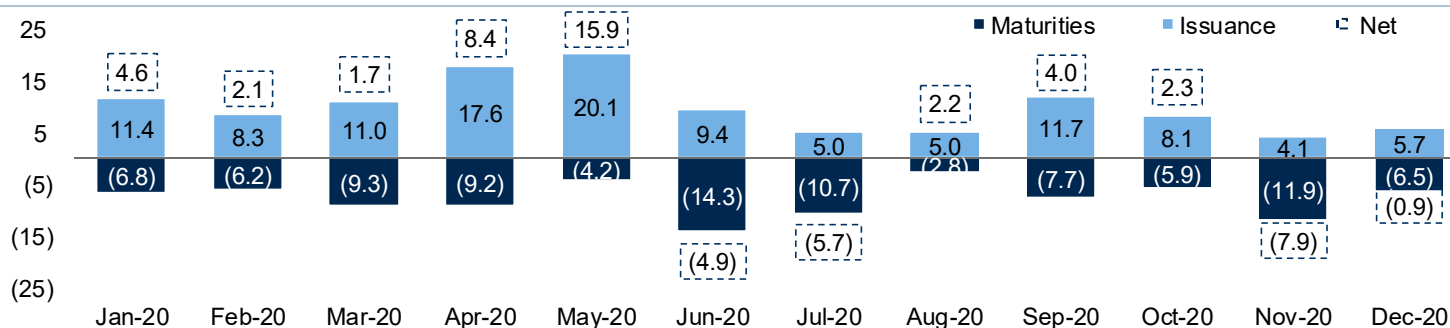
Breakdown by Sector

	2019		2020 YTD		Y/Y Change	
	C\$bn	% Total	C\$bn	% Total	C\$bn	%
Banks	49.3	43%	41.6	35%	(7.7)	▼ (16%)
Non-Bank Financials	11.6	10%	15.4	13%	3.8	▲ +33%
Financials	60.9	53%	57.0	49%	(3.9)	▼ (6%)
Energy / Utilities	19.0	17%	17.7	15%	(1.3)	▼ (7%)
Natural Resources	1.1	1%	3.7	3%	2.7	▲ +252%
CME	6.6	6%	11.7	10%	5.0	▲ +75%
Real Estate	7.2	6%	9.2	8%	2.0	▲ +28%
Industrials	3.6	3%	3.1	3%	(0.6)	▼ (15%)
Consumer / Retail	0.8	1%	2.6	2%	1.8	▲ +237%
Infrastructure	7.2	6%	7.6	6%	0.4	▲ +5%
Pension Real Estate	0.6	1%	0.7	1%	0.1	▲ +17%
Non FI Corporates	46.1	40%	56.2	48%	10.1	▲ +22%
Securitization	8.1	7%	4.0	3%	(4.1)	▼ (51%)
Total Supply	115.1	100%	117.3	100%	2.2	▲ +1.9%

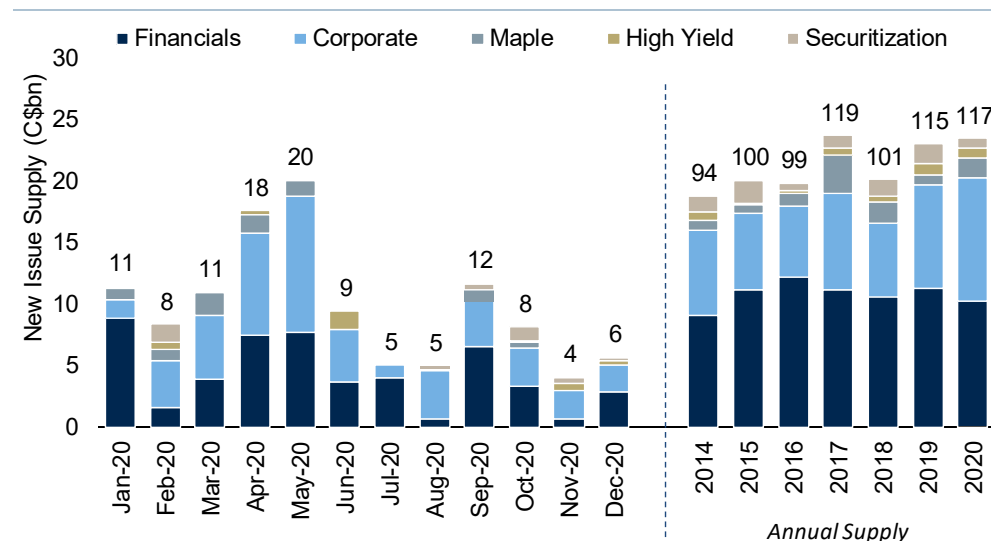
Net Maturities

Net Maturities of ~C\$22 bn

- 2020 maturities amounted to ~C\$95 bn split 73% and 17% across FI and non-FI maturities, respectively while the remaining 10% was comprised of securitization

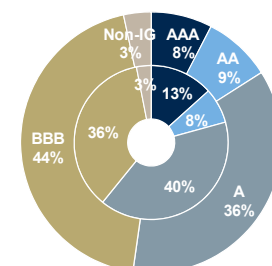


New Issue Volumes in 2020

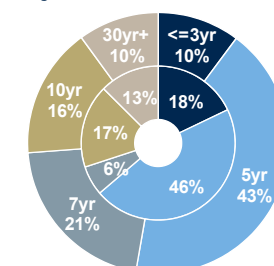


Composition of New Issue Supply⁽¹⁾

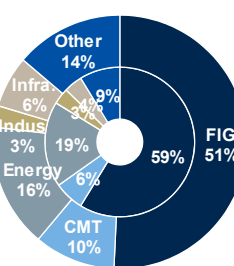
By Rating



By Tenor



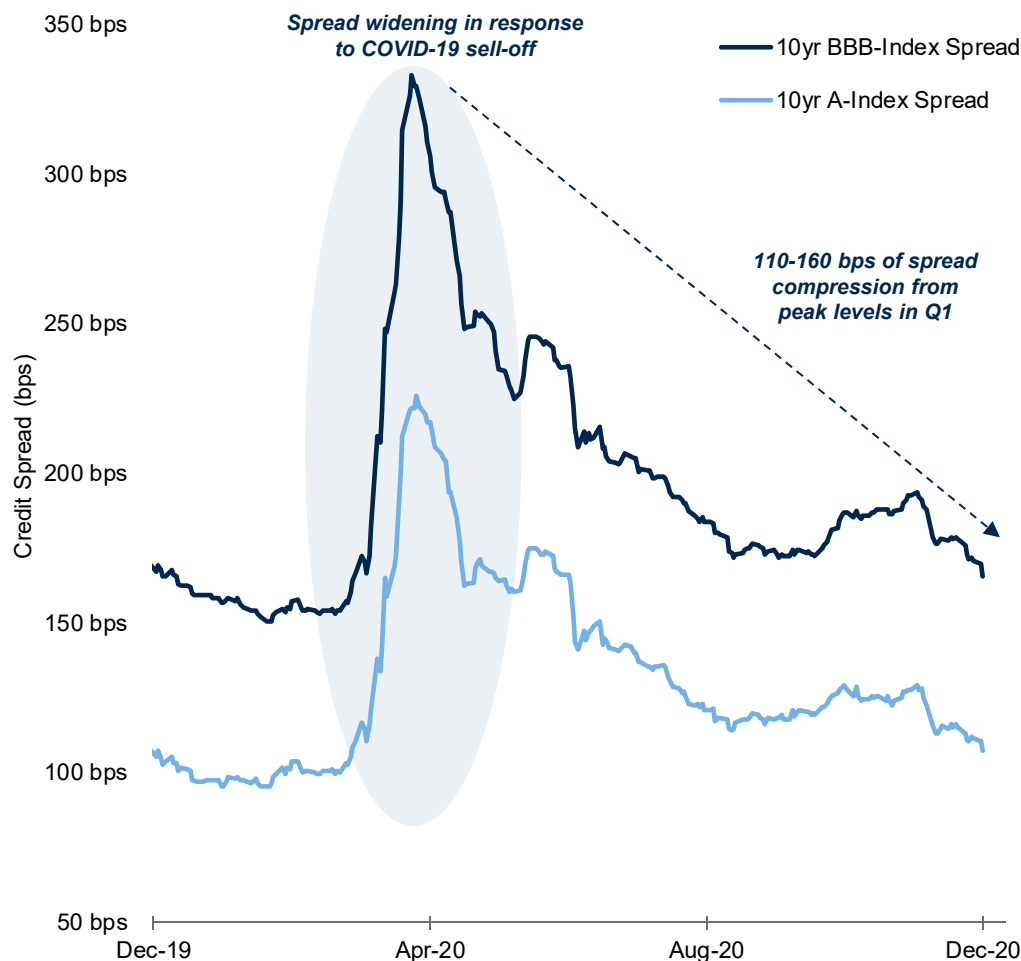
By Sector



Canadian Debt Capital Markets | 2020 Review & 2021 Outlook

Credit Spread Performance

Credit Spread Index Performance ⁽¹⁾



Credit spreads have retraced much of the widening in Q1 as market tone improvement and the support from the Bank of Canada asset purchase programs has assisted in maintaining a strong bid in the secondary market

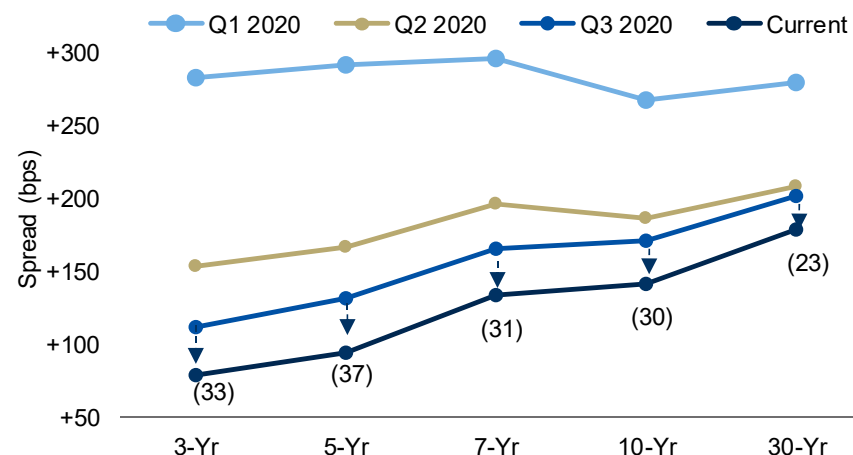
- Looking ahead, expect credit spreads to remain subject to broader risk tone and developments in corporate fundamentals, while lighter supply volumes in the quarter continues to act as a technical tailwind

Spread Performance by Sector & Tenor in 2020 YTD ⁽²⁾

	<= 3yr	5yr	7yr	10yr	30yr	Average
Telcos	(21)	(26)	(18)	(18)	(2)	(17)
Deposit Notes	(19)	(12)	(5)	n.a.	n.a.	(12)
Autos	+3	(25)	n.a.	n.a.	n.a.	(11)
Insurance	(17)	(15)	(14)	(5)	-	(10)
Retail	(28)	(42)	(11)	+8	+2	(14)
Utilities	(10)	+1	+5	(2)	+15	+2
Oil & Gas	(6)	+25	+101	+24	+62	+41
Midstream and Pipes	(9)	(2)	+15	+10	+34	+10
Real Estate	+11	(14)	(9)	n.a.	(3)	(4)
Corporate Infrastructure	(6)	n.a.	+23	+15	+19	+13
Average Δ Spreads	(8)	(10)	+1	+6	+16	+1
Δ GoC Yields	(139)	(124)	(118)	(99)	(48)	(106)
Average Δ All In Yields	(147)	(134)	(117)	(93)	(32)	(105)

All in funding costs have benefited from a ~30-150bps decline with the front-end the most impacted as a result of the Bank of Canada's accommodative monetary policy response

Shape of the Credit Curve (2020)⁽²⁾



Spreads continued to compress in Q4 in response to strong risk appetite, with the broader short-end outperforming and credit curve steepening modestly

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