



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

This report contains information regarding assets pledged as security (the Cover Pool) in respect of the obligations under the Covered Bonds issued under RBC's Global Covered Bond Programme as of the indicated Calculation Date. In this report, credit bureau scores refer to FICO® Scores obtained from TransUnion, based on the latest available information as at the cut-off date of the report and generally calculated in the same calendar quarter as this report. The composition of the Cover Pool will change as Loans are added and removed from the Cover Pool from time to time and, accordingly, the characteristics and performance of the Loans in the Cover Pool will vary over time. Certain of the information set forth in this report, including credit bureau scores, current ratings and "The Teranet-National Bank House Price Index™" Methodology has been obtained from and is based upon sources believed by RBC and the Guarantor LP to be accurate, however, neither RBC nor the Guarantor LP makes any representation or warranty, express or implied, in relation to the accuracy, completeness or reliability of such information or assumes any liability for any errors or any reliance you place on such information. Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. The information contained in this report does not constitute an invitation or recommendation to invest or otherwise deal in, or an offer to sell or the solicitation of an offer to buy or subscribe for, any security, which will be made only by a prospectus or otherwise in accordance with applicable securities laws. Reliance should not be placed on the information herein when making any decision to buy, hold or sell any security or for any other purpose. THESE COVERED BONDS HAVE NOT BEEN APPROVED OR DISAPPROVED BY CANADA MORTGAGE HOUSING CORPORATION (CMHC) NOR HAS CMHC PASSED UPON THE ACCURACY OR ADEQUACY OF THIS REPORT. THE COVERED BONDS ARE NOT INSURED OR GUARANTEED BY CMHC OR THE GOVERNMENT OF CANADA OR ANY OTHER AGENCY THEREOF. The Cover Pool is owned by RBC Covered Bond Guarantor Limited Partnership (Guarantor LP), which has no liabilities or claims outstanding against it other than those relating to the RBC Covered Bond Programme. Please click on the link below for additional information about the RBC Covered Bond Programme and the information contained herein. For the meaning of capitalized terms used and not otherwise defined in this report, click the following link and go to the Glossary tab in the Monthly Investor Report section: [http://www.rbc.com/investorrelations/covered\\_bonds-terms.html](http://www.rbc.com/investorrelations/covered_bonds-terms.html)

In this report, currency amounts are stated in Canadian dollars ("C\$"), unless otherwise specified.

## Programme Information

### Outstanding Covered Bonds

Series <sup>(6)</sup>	Initial Principal Amount	Translation Rate	C\$ Equivalent	Final Maturity Date <sup>(1)</sup>	Interest Basis	Rate Type
CB22	€279,500,000	1.4017000 C\$/€	\$391,775,150	2031/07/21	1.652%	Fixed
CB27	€410,500,000	1.4524599 C\$/€	\$596,234,800	2034/12/15	1.616%	Fixed
CB28	€100,000,000	1.5370000 C\$/€	\$153,700,000	2036/01/14	1.625%	Fixed
CB37	€1,500,000,000	1.5417000 C\$/€	\$2,312,550,000	2023/06/28	0.250%	Fixed
CB38	€1,500,000,000	1.5148000 C\$/€	\$2,272,200,000	2025/09/10	0.625%	Fixed
CB40	€1,750,000,000	1.5160000 C\$/€	\$2,653,000,000	2024/01/29	0.250%	Fixed
CB41	€100,000,000	1.5110000 C\$/€	\$151,100,000	2039/03/14	1.384%	Fixed
CB42	€1,250,000,000	1.5040000 C\$/€	\$1,880,000,000	2026/06/19	0.050%	Fixed
CB45	€1,000,000,000	1.6354000 C\$/€	\$1,635,400,000	2024/10/03	SONIA +0.580%	Floating
CB46	€150,000,000	1.4687000 C\$/€	\$220,305,000	2039/12/30	0.652%	Fixed
CB47	€1,500,000,000	1.4505000 C\$/€	\$2,175,750,000	2027/01/21	0.010%	Fixed
CB48	€120,000,000	1.4529000 C\$/€	\$174,348,000	2040/01/24	0.667%	Fixed
CB49	€1,250,000,000	1.7234000 C\$/€	\$2,154,250,000	2025/01/30	SONIA +0.470%	Floating
CB50	€1,000,000,000	1.5600000 C\$/€	\$1,560,000,000	2025/03/25	0.125%	Fixed
CB52	CHF200,000,000	1.4557000 C\$/CHF	\$291,140,000	2027/04/06	0.155%	Fixed
CB55 <sup>(2)</sup>	\$5,000,000,000	N/A	\$5,000,000,000	2023/03/27	3 month BA +0.500%	Floating
CB56 <sup>(2)</sup>	\$5,000,000,000	N/A	\$5,000,000,000	2023/09/27	3 month BA +0.600%	Floating
CB57	AUD\$2,250,000,000	0.8909700 C\$/AU\$	\$2,004,682,500	2023/04/24	3 month AUD BBSW +1.000%	Floating
CB60	€1,250,000,000	1.5467000 C\$/€	\$1,933,375,000	2031/01/27	0.010%	Fixed
CB61	£1,250,000,000	1.7188000 C\$/£	\$2,148,500,000	2026/07/13	SONIA +1.000%	Floating
CB62	€160,000,000	1.4729000 C\$/€	\$235,664,000	2041/07/15	0.513%	Fixed
CB63	USD\$2,500,000,000	1.2647000 C\$/US\$	\$3,161,750,000	2026/09/14	1.050%	Fixed
CB64	€1,250,000,000	1.4818000 C\$/€	\$1,852,250,000	2028/10/05	0.010%	Fixed
CB65	€100,000,000	1.4548000 C\$/€	\$145,480,000	2041/10/21	0.638%	Fixed
CB66	£750,000,000	1.6941000 C\$/£	\$1,270,575,000	2026/10/22	SONIA +1.000%	Floating
CB67	€2,000,000,000	1.4212000 C\$/€	\$2,842,400,000	2027/04/26	0.125%	Fixed
CB68	€2,000,000,000	1.4000000 C\$/€	\$2,800,000,000	2026/03/23	0.625%	Fixed
CB69	€150,000,000	1.4000000 C\$/€	\$210,000,000	2037/03/24	1.296%	Fixed
CB70	USD\$1,500,000,000	1.2632000 C\$/US\$	\$1,894,800,000	2027/03/24	2.600%	Fixed
CB71	CHF250,000,000	1.3441158 C\$/CHF	\$336,028,942	2026/10/05	0.400%	Fixed
CB72	AUD\$750,000,000	0.9077500 C\$/AU\$	\$680,812,500	2025/05/06	3 month AUD BBSW +0.700%	Floating
CB73	AUD\$750,000,000	0.9077500 C\$/AU\$	\$680,812,500	2025/05/06	3.750%	Fixed
CB74	€1,000,000,000	1.3546000 C\$/€	\$1,354,600,000	2029/06/08	1.750%	Fixed
CB75	USD\$1,600,000,000	1.2629000 C\$/US\$	\$2,020,640,000	2025/06/09	3.400%	Fixed
CB76	CHF275,000,000	1.3392000 C\$/CHF	\$368,280,000	2025/07/08	1.495%	Fixed
CB77	AUD\$500,000,000	0.8850000 C\$/AU\$	\$442,500,000	2027/07/13	3 month AUD BBSW +1.050%	Floating
CB78	AUD\$800,000,000	0.8850000 C\$/AU\$	\$708,000,000	2027/07/13	4.500%	Fixed
CB79	€1,500,000,000	1.3023000 C\$/€	\$1,953,450,000	2027/09/13	2.375%	Fixed
CB80	€120,000,000	1.3115000 C\$/€	\$157,380,000	2042/09/22	2.761%	Fixed
CB80A	€30,000,000	1.3530000 C\$/€	\$40,590,000	2042/09/22	2.761%	Fixed
CB81	USD\$5,000,000,000	1.3427000 C\$/US\$	\$6,713,500,000	2025/12/08	SOFR + 0.800%	Floating
CB82	USD\$1,250,000,000	1.3590000 C\$/US\$	\$1,698,750,000	2025/12/12	4.784%	Fixed
CB83	\$1,200,000,000	N/A	\$1,200,000,000	2025/12/22	4.109%	Fixed
<b>Total</b>			<b>\$67,476,573,392</b>			

OSFI Covered Bond Ratio: <sup>(3)</sup> 3.23% <sup>(3)(4)</sup>, 3.79% <sup>(3)(5)</sup> OSFI Covered Bond Ratio Limit: <sup>(3)</sup> 5.50%

Weighted average maturity of Outstanding Covered Bonds (months) 40.57

Weighted average remaining term of Loans in Cover Pool (months) 28.50

Series Ratings	Moody's	DBRS	Fitch
CB22	Aaa	AAA	AAA
CB27	Aaa	AAA	AAA



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

CB28	Aaa	AAA	AAA
CB37	Aaa	AAA	AAA
CB38	Aaa	AAA	AAA
CB40	Aaa	AAA	AAA
CB41	Aaa	AAA	AAA
CB42	Aaa	AAA	AAA
CB45	Aaa	AAA	AAA
CB46	Aaa	AAA	AAA
CB47	Aaa	AAA	AAA
CB48	Aaa	AAA	AAA
CB49	Aaa	AAA	AAA
CB50	Aaa	AAA	AAA
CB52	Aaa	AAA	AAA
CB55	Aaa	AAA	AAA
CB56	Aaa	AAA	AAA
CB57	Aaa	AAA	AAA
CB60	Aaa	AAA	AAA
CB61	Aaa	AAA	AAA
CB62	Aaa	AAA	AAA
CB63	Aaa	AAA	AAA
CB64	Aaa	AAA	AAA
CB65	Aaa	AAA	AAA
CB66	Aaa	AAA	AAA
CB67	Aaa	AAA	AAA
CB68	Aaa	AAA	AAA
CB69	Aaa	AAA	AAA
CB70	Aaa	AAA	AAA
CB71	Aaa	AAA	AAA
CB72	Aaa	AAA	AAA
CB73	Aaa	AAA	AAA
CB74	Aaa	AAA	AAA
CB75	Aaa	AAA	AAA
CB76	Aaa	AAA	AAA
CB77	Aaa	AAA	AAA
CB78	Aaa	AAA	AAA
CB79	Aaa	AAA	AAA
CB80	Aaa	AAA	AAA
CB80A	Aaa	AAA	AAA
CB81	Aaa	AAA	AAA
CB82	Aaa	AAA	AAA
CB83	Aaa	AAA	AAA



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

<sup>(1)</sup> An Extended Due for Payment Date twelve-months after the Final Maturity Date has been specified in the Final Terms of each Series. The Interest Basis specified in this report in respect of each Series applies until the Final Maturity Date for the relevant Series following which the floating rate of interest specified in the Final Terms of each Series is payable monthly in arrears from the Final Maturity Date to but excluding the Extended Due for Payment Date.

<sup>(2)</sup> Issued for purpose of accessing Bank of Canada facilities.

<sup>(3)</sup> On March 27, 2020, OSFI provided temporary relief to allow Canadian federal deposit taking institutions to pledge covered bonds as collateral to the Bank of Canada by providing that assets pledged for covered bonds relative to total on-balance sheet assets not exceed 10.00% including instruments issued to the market and those pledged to Bank of Canada; provided that the maximum amount of pool assets relating to market instruments remained limited to 5.50%. On April 6, 2021, OSFI announced the unwinding of the temporary increase to the covered bond limit effective immediately.

<sup>(4)</sup> Includes only assets that relate to covered bonds issued to the market and does not include assets that relate to covered bonds issued for the purpose of accessing Bank of Canada facilities.

<sup>(5)</sup> Includes assets that relate to covered bonds issued to the market and for the purpose of accessing Bank of Canada facilities.

<sup>(6)</sup> Series CB84 £750,000,000 Compounded Daily SONIA +0.75 per cent. Covered Bonds Due January 18, 2028 (C\$ equivalent of 1,219,200,000) will close on January 18, 2023 (after the Calculation Date) and accordingly has not been included in the Asset Coverage Test or other statistical information in this report.



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

## Supplementary Information

### Parties to RBC Global Covered Bond Programme

Issuer	Royal Bank of Canada
Guarantor entity	RBC Covered Bond Guarantor Limited Partnership
Servicer & Cash Manager	Royal Bank of Canada
Swap Providers	Royal Bank of Canada
Covered Bond Trustee & Custodian	Computershare Trust Company of Canada
Asset Monitor	PricewaterhouseCoopers LLP
Account Bank & GDA Provider	Royal Bank of Canada
Standby Account Bank & GDA Provider	Bank of Montreal
Paying Agent <sup>(1)</sup>	The Bank of New York Mellon

<sup>(1)</sup> The Paying Agent in respect of Series CB55 and CB56 is Royal Bank of Canada. The Paying Agent in respect of Series CB52 is UBS AG. The Paying Agent in respect of Series CB71 and CB76 is Credit Suisse AG. The Paying Agent in respect of Series CB57, CB72, CB73, CB77 and CB78 is BTA Institutional Services Australia Limited.

### Royal Bank of Canada's Ratings

	Moody's	DBRS	Fitch
Senior Debt <sup>(1)</sup> / Long-Term Issuer Default Rating (Fitch)	Aa1	AA (high)	AA/AA-
Short-Term Debt / Short-Term Issuer Default Rating (Fitch)	P-1	R-1 (high)	F1+
Deposit Rating ("dr") (Short-Term/Long-Term)	P-1 (dr) / Aa1 (dr)	n/a / AA (high)(dr)	F1+/AA
Counterparty Risk Assessment (Short-Term/Long-Term)	P-1 (cr) / Aa1 (cr)	n/a	n/a
Derivative Counterparty Rating (Short-Term/Long-Term)	n/a	n/a	AA(dcr)
Rating Outlook	Stable	Stable	Stable

### Applicable Ratings of Standby Account Bank & Standby GDA Provider

	Moody's	DBRS	Fitch
Senior Debt <sup>(2)</sup> / Long-Term Issuer Default Rating (Fitch)	Aa2	AA	AA/AA-
Short-Term Debt / Short-Term Issuer Default Rating (Fitch)	P-1	R-1 (high)	F1+
Deposit Rating (Short-Term/Long-Term)	P-1 (dr) / Aa2 (dr)	n/a / AA (dr)	F1+ / AA

### Description of Ratings Triggers<sup>(3)(4)</sup>

#### A. Party Replacement

If the rating(s) of the Party falls below the level stipulated below, such party is required to be replaced or in the case of the Swap Providers (i) transfer credit support and (ii) replace itself or obtain a guarantee for its obligations.

Role (Current Party)	Moody's	DBRS	Fitch
Account Bank/GDA Provider (RBC)	P-1 (dr) & A2 (dr)	R-1 (low) & A	F1 & A <sup>(5)</sup>
Standby Account Bank/GDA Provider (BMO)	P-1 (dr) & A2 (dr)	R-1 (low) & A	F1 & A <sup>(5)</sup>
Cash Manager (RBC)	P-2 (cr)	BBB (low) (long)	F2 & BBB <sup>(6)</sup>
Servicer (RBC)	Baa3 (cr)	BBB (low) (long)	F2 & BBB <sup>(6)</sup>
Interest Rate Swap Provider (RBC)	P-2 (cr) & A3 (cr)	R-2 (middle) & BBB	F2 & BBB <sup>(6)</sup>
Covered Bond Swap Provider (RBC)	P-2 (cr) & A3 (cr)	R-2 (middle) & BBB	F2 & BBB <sup>(6)</sup>

#### B. Specified Rating Related Action

i. The following actions are required if the rating of the Cash Manager (RBC) falls below the stipulated rating

	Moody's	DBRS	Fitch
(a) Asset Monitor is required to verify the Cash Manager's calculations of the Asset Coverage/Amortization test on each Calculation Date	Baa3 (cr)	n/a	BBB (long) <sup>(6)</sup>
(b) Amounts received by the Cash Manager are required to be deposited directly into the Transaction Account	P-1 (dr)	BBB (low)	F1 & A <sup>(5)</sup>
(c) Amounts received by the Servicer are to be deposited directly to the GIC Account and not provided to the Cash Manager	P-1 (dr)	BBB (low)	F1 & A <sup>(5)</sup>

ii. The following actions are required if the rating of the Servicer (RBC) falls below the stipulated rating

	Moody's	DBRS	Fitch
a) Servicer is required to hold amounts received in a separate account and transfer them to the Cash Manager or GIC Account, as applicable, within 2 business days	P-1 (dr)	BBB (low)	F1 & A <sup>(5)</sup>

iii. The following actions are required if the rating of the Issuer (RBC) falls below the stipulated rating

	Moody's	DBRS	Fitch
(a) Establishment of the Reserve Fund	P-1(cr)	R-1 (mid) & A (low)	F1 & A <sup>(5)</sup>

iv. The following actions are required if the rating of the Issuer (RBC) falls below the stipulated rating

	Moody's	DBRS	Fitch
(a) Cash flows will be exchanged under the Covered Bond Swap Agreement (to the extent not already occurring) except as otherwise provided in the Covered Bond Swap Agreement	Baa1 (cr)	BBB (high) (long)	BBB+ (dcr)

v. Each Swap Provider is required to replace itself, transfer credit support or obtain a guarantee of its obligations if the rating of such Swap Provider falls below the specified rating

	Moody's	DBRS	Fitch
(a) Interest Rate Swap Provider	P-1 (cr) & A2 (cr)	R-1 (low) & A	F1 & A <sup>(6)</sup>
(b) Covered Bond Swap Provider	P-1 (cr) & A2 (cr)	R-1 (low) & A	F1 & A <sup>(6)</sup>

### Events of Default & Triggers

Asset Coverage Test (C\$ Equivalent of Outstanding Covered Bonds < Adjusted Aggregate Asset Amount)	Pass
Issuer Event of Default	No
Guarantor LP Event of Default	No

<sup>(1)</sup> Includes: (a) senior debt issued prior to September 23, 2018; and (b) senior debt issued on or after September 23, 2018 which is excluded from the bank recapitalization "bail-in" regime. Senior debt subject to conversion under the bail-in regime is rated A1 by Moody's, AA by DBRS and AA- by Fitch.

<sup>(2)</sup> Includes: (a) senior debt issued prior to September 23, 2018; and (b) senior debt issued on or after September 23, 2018 which is excluded from the bank recapitalization "bail-in" regime. Senior debt subject to conversion under the bail-in regime is rated A2 by Moody's, AA (low) by DBRS and AA- by Fitch.



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

<sup>(3)</sup> Where one rating or assessment is expressed, unless otherwise specified, such rating or assessment is short-term. Where two ratings or assessments are expressed, the first is short-term and the second is long-term. Unless otherwise specified, ratings or assessments are in respect of Senior Debt (or the Long-Term Issuer Default Rating in the case of Fitch) and Short-Term Debt (or the Short-Term Issuer Default Rating in the case of Fitch). Where two ratings or assessments are listed in respect of a relevant action, the action is required to be taken where the rating or assessment of the relevant party falls below both such ratings or assessments.

<sup>(4)</sup> The discretion of the Guarantor LP to waive a required action upon a Rating Trigger may be limited by the terms of the Transaction Documents.

<sup>(5)</sup> These ratings will be in respect of deposit ratings from Fitch following Fitch having assigned deposit ratings to the relevant party.

<sup>(6)</sup> These ratings will be in respect of Derivative Counterparty Ratings from Fitch and include the (dcr) reference following Fitch having assigned Derivative Counterparty Ratings to the relevant party.



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

## Asset Coverage Test

<b>C\$ Equivalent of Outstanding Covered Bonds</b>	\$67,476,573,392		
A = lower of (i) LTV Adjusted True Balance, and (ii) Asset Percentage Adjusted True Balance, as adjusted	\$109,366,047,120	A (i)	\$117,593,698,077
B = Principal Receipts	-	A (ii)	\$109,366,047,120
C = Cash Capital Contributions	-	Asset Percentage:	93.00%
		Maximum Asset Percentage:	93.00%
D = Substitute Assets	-		
E = Reserve Fund balance	-		
F = Negative Carry Factor calculation	\$1,140,702,369		
<b>Adjusted Aggregate Asset Amount (Total: A + B + C + D + E - F)</b>	<b>\$108,225,344,751</b>		

## Regulatory OC Minimum Calculation

A Lesser of (a) Cover Pool Collateral, and (b) Cover Pool Collateral required to meet the Asset Coverage Test	\$72,618,999,982	A(a)	\$117,496,297,956*
B (C\$ Equivalent of Outstanding Covered Bonds)	\$67,476,573,392	A(b)	\$72,618,999,982
Level of Overcollateralization (A/B)	107.62%		
Regulatory OC Minimum	103.00%		

\*Amount includes Voluntary Overcollateralization and does not include Accrued Interest, Arrears of Interest or any other amount which is due or accrued on the Loans amount which has not been paid or capitalized.

## Valuation Calculation

<b>Trading Value of Covered Bonds</b>	<b>\$64,238,701,237</b>		
A = LTV Adjusted Present Value	\$112,286,130,281	Weighted Average Effective Yield of Performing Eligible Loans:	5.98%
B = Principal Receipts	-		
C = Cash Capital Contributions	-		
D = Trading Value of Substitute Assets	-		
E = Reserve Fund Balance	-		
F = Trading Value of Swap Collateral	-		
<b>Present Value Adjusted Aggregate Asset Amount (Total: A + B + C + D + E + F)</b>	<b>\$112,286,130,281</b>		

## Intercompany Loan Balance

Guarantee Loan	\$73,141,033,776
Demand Loan	\$44,657,267,885
<b>Total</b>	<b>\$117,798,301,662</b>

## Cover Pool Losses

Period End	Write-off Amounts	Loss Percentage (Annualized)
December 30, 2022	\$42,692	0.00%

## Cover Pool Flow of Funds

	30-Dec-2022	30-Nov-2022
<b>Cash Inflows</b>		
Principal Receipts	\$1,493,102,127	\$1,578,253,478
Proceeds for sale of Loans	-	-
Draw on Intercompany Loan	-	-
Revenue Receipts	\$359,993,199	\$344,863,039
Swap receipts	\$570,048,287 <sup>(1)</sup>	\$530,304,688 <sup>(2)</sup>
Swap Breakage Fee	-	-
<b>Cash Outflows</b>		
Swap payment	(\$359,993,199) <sup>(1)</sup>	(\$344,863,039) <sup>(2)</sup>
Intercompany Loan interest	(\$568,908,191) <sup>(1)</sup>	(\$529,244,079) <sup>(2)</sup>
Intercompany Loan principal	(\$1,493,102,127) <sup>(1)</sup>	(\$1,578,253,478) <sup>(2)</sup>
Purchase of Loans	-	-
Net inflows/(outflows)	<b>\$1,140,097</b>	<b>\$1,060,609</b>

<sup>(1)</sup> Cash settlement to occur on January 17, 2023

<sup>(2)</sup> Cash settlement occurred on December 19, 2022



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

## Cover Pool Summary Statistics

Previous Month Ending Balance	\$119,049,670,248		
Current Month Ending Balance	\$117,556,525,429		
Number of Mortgages in Pool	475,905		
Average Mortgage Size	\$247,017		
Ten Largest Mortgages as a % of Current Month Ending Balance	0.02%		
Number of Properties	423,117		
Number of Borrowers	392,509		
	<b>Original<sup>(1)</sup></b>	<b>Indexed<sup>(2)</sup></b>	
Weighted Average LTV - Authorized	70.04%	53.79%	
Weighted Average LTV - Drawn	62.57%	48.54%	
Weighted Average LTV - Original Authorized	72.56%		
Weighted Average Mortgage Rate	3.68%		
Weighted Average Seasoning (Months)	26.30		
Weighted Average Original Term (Months)	55.24		
Weighted Average Remaining Term (Months)	28.50		

<sup>(1)</sup> Value as most recently determined or assessed in accordance with the underwriting policies (whether upon origination or renewal of the Eligible Loan or subsequently thereto).

<sup>(2)</sup> Value as determined by adjusting, not less than quarterly, the Original Market Value for each Property subject to the Related Security in respect of a Loan utilizing the Housing Price Index Methodology for subsequent price developments. See Appendix under "Housing Price Index Methodology" for details.

Disclaimer: Due to rounding, numbers presented in the following distribution tables may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

## Cover Pool Delinquency Distribution

Aging Summary	Number of Loans	Percentage	Principal Balance	Percentage
Current and less than 30 days past due	475,175	99.85	\$117,379,017,470	99.85
30 to 59 days past due	310	0.07	\$90,962,669	0.08
60 to 89 days past due	94	0.02	\$26,317,817	0.02
90 or more days past due	326	0.07	\$60,227,474	0.05
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Provincial Distribution

Province	Number of Loans	Percentage	Principal Balance	Percentage
Alberta	55,422	11.65	\$11,779,578,109	10.02
British Columbia	90,783	19.08	\$28,165,913,619	23.96
Manitoba	19,092	4.01	\$2,990,716,585	2.54
New Brunswick	10,820	2.27	\$1,271,511,559	1.08
Newfoundland and Labrador	6,632	1.39	\$1,004,700,946	0.85
Northwest Territories	10	0.00	\$544,994	0.00
Nova Scotia	16,090	3.38	\$2,319,102,920	1.97
Nunavut	1	0.00	\$33,073	0.00
Ontario	177,514	37.30	\$52,523,919,675	44.68
Prince Edward Island	2,074	0.44	\$300,691,629	0.26
Quebec	81,590	17.14	\$14,687,403,994	12.49
Saskatchewan	15,824	3.33	\$2,504,814,627	2.13
Yukon	53	0.01	\$7,593,700	0.01
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Credit Bureau Score Distribution

Credit Bureau Score	Number of Loans	Percentage	Principal Balance	Percentage
Score Unavailable	4,519	0.95	\$1,875,237,260	1.60
499 and below	271	0.06	\$54,992,819	0.05
500 - 539	638	0.13	\$124,719,160	0.11
540 - 559	565	0.12	\$122,144,774	0.10
560 - 579	782	0.16	\$174,216,638	0.15
580 - 599	1,137	0.24	\$266,991,356	0.23
600 - 619	1,954	0.41	\$468,804,410	0.40
620 - 639	3,475	0.73	\$871,675,040	0.74
640 - 659	7,902	1.66	\$2,072,599,052	1.76
660 - 679	12,282	2.58	\$3,170,043,366	2.70
680 - 699	18,075	3.80	\$4,745,498,012	4.04
700 - 719	23,617	4.96	\$6,141,250,502	5.22
720 - 739	27,740	5.83	\$7,248,140,287	6.17
740 - 759	31,159	6.55	\$8,287,838,402	7.05
760 - 779	35,333	7.42	\$9,556,470,026	8.13
780 - 799	41,520	8.72	\$11,261,154,568	9.58
800 and above	264,936	55.67	\$61,114,749,759	51.99
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

## Cover Pool Rate Type Distribution

Rate Type	Number of Loans	Percentage	Principal Balance	Percentage
Fixed	362,149	76.10	\$79,469,662,399	67.60
Variable	113,756	23.90	\$38,086,863,030	32.40
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Mortgage Asset Type Distribution

Asset Type	Number of Loans	Percentage	Principal Balance	Percentage
Conventional Mortgage	122,174	25.67	\$36,210,067,276	30.80
Homeline Mortgage Segment	353,731	74.33	\$81,346,458,153	69.20
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Occupancy Type Distribution

Occupancy Type	Number of Loans	Percentage	Principal Balance	Percentage
Owner Occupied	405,915	85.29	\$98,241,902,408	83.57
Non-Owner Occupied	69,990	14.71	\$19,314,623,022	16.43
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Mortgage Rate Distribution

Mortgage Rate (%)	Number of Loans	Percentage	Principal Balance	Percentage
1.9999% and below	72,761	15.29	\$18,993,663,355	16.16
2.0000% - 2.4999%	54,972	11.55	\$12,672,158,693	10.78
2.5000% - 2.9999%	122,203	25.68	\$26,624,259,992	22.65
3.0000% - 3.4999%	52,248	10.98	\$10,555,064,283	8.98
3.5000% - 3.9999%	31,848	6.69	\$5,248,803,702	4.46
4.0000% - 4.4999%	4,501	0.95	\$854,383,191	0.73
4.5000% - 4.9999%	4,620	0.97	\$916,722,086	0.78
5.0000% - 5.4999%	54,892	11.53	\$18,135,108,968	15.43
5.5000% - 5.9999%	66,495	13.97	\$20,950,114,762	17.82
6.0000% - 6.4999%	8,801	1.85	\$2,259,000,351	1.92
6.5000% - 6.9999%	85	0.02	\$13,235,412	0.01
7.0000% and above	2,479	0.52	\$334,010,636	0.28
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Remaining Term Distribution

Remaining Term (Months)	Number of Loans	Percentage	Principal Balance	Percentage
Less than 12.00	117,591	24.71	\$24,194,833,361	20.58
12.00 - 23.99	106,967	22.48	\$22,863,441,562	19.45
24.00 - 35.99	110,013	23.12	\$25,686,691,925	21.85
36.00 - 47.99	96,368	20.25	\$32,188,002,756	27.38
48.00 - 59.99	43,454	9.13	\$12,355,543,984	10.51
60.00 - 71.99	820	0.17	\$152,039,158	0.13
72.00 - 83.99	410	0.09	\$63,419,146	0.05
84.00 - 119.99	282	0.06	\$52,553,538	0.04
120.00 and above	0	0.00	\$0	0.00
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Loan Seasoning

Loan Seasoning (Months)	Number of Loans	Percentage	Principal Balance	Percentage
Less than 12.00	69,922	14.69	\$16,403,638,407	13.95
12.00 - 23.99	131,957	27.73	\$41,716,690,788	35.49
24.00 - 35.99	101,507	21.33	\$22,939,670,762	19.51
36.00 - 59.99	171,163	35.97	\$36,303,728,655	30.88
60.00 and above	1,356	0.28	\$192,796,817	0.16
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>





# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

## Cover Pool Range of Remaining Principal Balance

Range of Remaining Principal Balance	Number of Loans	Percentage	Principal Balance	Percentage
99,999 and below	123,774	26.01	\$6,652,525,627	5.66
100,000 - 149,999	68,610	14.42	\$8,572,854,142	7.29
150,000 - 199,999	60,784	12.77	\$10,606,581,061	9.02
200,000 - 249,999	49,779	10.46	\$11,157,719,779	9.49
250,000 - 299,999	39,285	8.25	\$10,761,924,908	9.15
300,000 - 349,999	28,910	6.07	\$9,362,385,353	7.96
350,000 - 399,999	22,015	4.63	\$8,233,204,360	7.00
400,000 - 449,999	16,991	3.57	\$7,203,253,781	6.13
450,000 - 499,999	13,336	2.80	\$6,321,069,529	5.38
500,000 - 549,999	10,359	2.18	\$5,429,863,813	4.62
550,000 - 599,999	8,144	1.71	\$4,672,903,121	3.98
600,000 - 649,999	6,457	1.36	\$4,028,314,389	3.43
650,000 - 699,999	5,170	1.09	\$3,484,597,119	2.96
700,000 - 749,999	4,073	0.86	\$2,949,797,417	2.51
750,000 - 799,999	3,430	0.72	\$2,654,687,113	2.26
800,000 - 849,999	2,735	0.57	\$2,254,431,697	1.92
850,000 - 899,999	2,268	0.48	\$1,981,471,656	1.69
900,000 - 949,999	1,851	0.39	\$1,711,771,722	1.46
950,000 - 999,999	1,557	0.33	\$1,516,430,693	1.29
1,000,000 and above	6,377	1.34	\$8,000,738,150	6.81
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Property Type Distribution

Property Type	Number of Loans	Percentage	Principal Balance	Percentage
Apartment (Condominium)	71,727	15.07	\$15,940,116,611	13.56
Detached	333,985	70.18	\$83,586,376,024	71.10
Duplex	4,310	0.91	\$656,947,454	0.56
Fourplex	1,029	0.22	\$217,045,431	0.18
Other	331	0.07	\$43,803,953	0.04
Row (Townhouse)	35,364	7.43	\$9,600,155,692	8.17
Semi-detached	27,950	5.87	\$7,286,008,723	6.20
Triplex	1,209	0.25	\$226,071,541	0.19
<b>Total</b>	<b>475,905</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Indexed LTV - Authorized Distribution

Indexed LTV (%)	Number of Properties	Percentage	Principal Balance	Percentage
20.00 and below	19,512	4.61	\$1,886,164,479	1.60
20.01 - 25.00	14,405	3.40	\$2,277,683,802	1.94
25.01 - 30.00	23,508	5.56	\$4,253,803,700	3.62
30.01 - 35.00	32,712	7.73	\$6,549,003,455	5.57
35.01 - 40.00	39,163	9.26	\$8,197,113,424	6.97
40.01 - 45.00	41,327	9.77	\$9,826,404,504	8.36
45.01 - 50.00	40,720	9.62	\$11,354,953,488	9.66
50.01 - 55.00	42,485	10.04	\$13,208,148,913	11.24
55.01 - 60.00	52,519	12.41	\$16,073,388,012	13.67
60.01 - 65.00	42,437	10.03	\$13,951,861,263	11.87
65.01 - 70.00	33,557	7.93	\$12,212,070,595	10.39
70.01 - 75.00	23,987	5.67	\$10,023,062,629	8.53
75.01 - 80.00	14,934	3.53	\$7,036,835,161	5.99
> 80.00	1,851	0.44	\$706,032,004	0.60
<b>Total</b>	<b>423,117</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>

## Cover Pool Indexed LTV - Drawn Distribution

Indexed LTV (%)	Number of Loans	Percentage	Principal Balance	Percentage
20.00 and below	64,143	15.16	\$6,604,695,806	5.62
20.01 - 25.00	26,920	6.36	\$5,031,702,084	4.28
25.01 - 30.00	31,656	7.48	\$6,887,199,837	5.86
30.01 - 35.00	34,190	8.08	\$8,033,027,850	6.83
35.01 - 40.00	35,735	8.45	\$9,233,620,893	7.85
40.01 - 45.00	36,716	8.68	\$10,425,592,822	8.87
45.01 - 50.00	36,990	8.74	\$11,474,923,821	9.76
50.01 - 55.00	43,506	10.28	\$14,459,642,269	12.30
55.01 - 60.00	40,073	9.47	\$13,974,367,470	11.89
60.01 - 65.00	29,120	6.88	\$11,091,188,828	9.43
65.01 - 70.00	18,593	4.39	\$7,812,552,898	6.65
70.01 - 75.00	19,188	4.53	\$9,110,216,705	7.75
75.01 - 80.00	5,659	1.34	\$3,171,300,900	2.70
> 80.00	628	0.15	\$246,493,249	0.21
<b>Total</b>	<b>423,117</b>	<b>100.00</b>	<b>\$117,556,525,429</b>	<b>100.00</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

## Provincial Distribution by Indexed LTV- Drawn and Aging Summary

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Alberta</b>						
	20.00 and below	\$397,489,480	\$298,858	\$73,838	\$330,011	\$398,192,187
	20.01 - 25.00	\$331,172,051	\$749,807	\$74,170	\$380,337	\$332,376,364
	25.01 - 30.00	\$477,336,130	\$198,373	\$0	\$101,814	\$477,636,317
	30.01 - 35.00	\$635,702,483	\$1,033,897	\$329,577	\$1,768,349	\$638,834,306
	35.01 - 40.00	\$763,022,084	\$725,246	\$53,984	\$573,875	\$764,375,189
	40.01 - 45.00	\$893,983,617	\$689,598	\$0	\$783,738	\$895,456,953
	45.01 - 50.00	\$1,139,712,390	\$759,533	\$557,985	\$3,620,364	\$1,144,650,272
	50.01 - 55.00	\$1,538,926,724	\$724,795	\$0	\$1,954,295	\$1,541,605,814
	55.01 - 60.00	\$2,102,946,962	\$1,365,644	\$1,220,848	\$2,149,231	\$2,107,682,684
	60.01 - 65.00	\$1,842,569,551	\$1,337,177	\$1,102,859	\$1,466,867	\$1,846,476,454
	65.01 - 70.00	\$1,155,168,415	\$1,332,767	\$0	\$701,496	\$1,157,202,677
	70.01 - 75.00	\$430,333,221	\$311,227	\$283,770	\$656,715	\$431,584,933
	75.01 - 80.00	\$30,286,149	\$0	\$0	\$0	\$30,286,149
	> 80.00	\$13,149,113	\$68,695	\$0	\$0	\$13,217,808
Total Alberta		<b>\$11,751,798,369</b>	<b>\$9,595,618</b>	<b>\$3,697,030</b>	<b>\$14,487,091</b>	<b>\$11,779,578,109</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>British Columbia</b>						
	20.00 and below	\$1,926,006,403	\$915,462	\$789,280	\$441,319	\$1,928,152,464
	20.01 - 25.00	\$1,480,904,758	\$4,342,693	\$701,319	\$191,124	\$1,486,139,894
	25.01 - 30.00	\$1,952,405,297	\$131,203	\$288,566	\$414,860	\$1,953,239,925
	30.01 - 35.00	\$2,088,824,209	\$699,914	\$353,878	\$1,062,366	\$2,090,940,367
	35.01 - 40.00	\$2,238,128,070	\$1,357,511	\$476,876	\$984,234	\$2,240,946,691
	40.01 - 45.00	\$2,314,577,612	\$2,165,318	\$347,031	\$0	\$2,317,089,961
	45.01 - 50.00	\$2,781,252,966	\$1,695,823	\$437,236	\$477,100	\$2,783,863,125
	50.01 - 55.00	\$2,994,891,873	\$1,612,939	\$659,304	\$901,116	\$2,998,065,232
	55.01 - 60.00	\$3,298,997,606	\$650,790	\$0	\$2,582,052	\$3,302,230,449
	60.01 - 65.00	\$2,972,234,343	\$2,097,407	\$1,570,841	\$2,540,432	\$2,978,443,024
	65.01 - 70.00	\$1,728,564,902	\$521,228	\$588,983	\$0	\$1,729,675,114
	70.01 - 75.00	\$1,582,397,858	\$0	\$1,017,889	\$0	\$1,583,415,747
	75.01 - 80.00	\$720,648,748	\$0	\$0	\$0	\$720,648,748
	> 80.00	\$53,062,880	\$0	\$0	\$0	\$53,062,880
Total British Columbia		<b>\$28,132,897,525</b>	<b>\$16,190,289</b>	<b>\$7,231,203</b>	<b>\$9,594,602</b>	<b>\$28,165,913,619</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Manitoba</b>						
	20.00 and below	\$89,582,315	\$21,321	\$0	\$122,484	\$89,726,121
	20.01 - 25.00	\$71,991,888	\$0	\$0	\$0	\$71,991,888
	25.01 - 30.00	\$105,172,968	\$0	\$0	\$366,608	\$105,539,576
	30.01 - 35.00	\$139,629,915	\$0	\$260,493	\$247,823	\$140,138,231
	35.01 - 40.00	\$183,694,544	\$168,451	\$196,827	\$137,919	\$184,197,741
	40.01 - 45.00	\$214,687,903	\$415,430	\$171,987	\$0	\$215,275,320
	45.01 - 50.00	\$277,082,893	\$478,696	\$0	\$0	\$277,561,589
	50.01 - 55.00	\$381,358,668	\$452,059	\$0	\$604,671	\$382,415,398
	55.01 - 60.00	\$485,046,984	\$0	\$0	\$872,270	\$485,919,254
	60.01 - 65.00	\$442,924,473	\$343,502	\$0	\$776,781	\$444,044,756
	65.01 - 70.00	\$282,730,228	\$514,425	\$0	\$0	\$283,244,653
	70.01 - 75.00	\$204,913,724	\$0	\$0	\$0	\$204,913,724
	75.01 - 80.00	\$96,428,867	\$0	\$0	\$0	\$96,428,867
	> 80.00	\$9,319,466	\$0	\$0	\$0	\$9,319,466
Total Manitoba		<b>\$2,984,564,838</b>	<b>\$2,393,884</b>	<b>\$629,308</b>	<b>\$3,128,555</b>	<b>\$2,990,716,585</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>New Brunswick</b>						
	20.00 and below	\$47,929,183	\$0	\$28,137	\$0	\$47,957,320
	20.01 - 25.00	\$43,018,315	\$0	\$0	\$0	\$43,018,315
	25.01 - 30.00	\$57,259,823	\$83,042	\$0	\$52,285	\$57,395,150
	30.01 - 35.00	\$75,352,371	\$91,975	\$115,236	\$99,480	\$75,659,063
	35.01 - 40.00	\$91,239,759	\$0	\$0	\$0	\$91,239,759
	40.01 - 45.00	\$93,657,460	\$132,437	\$0	\$389,288	\$94,179,184
	45.01 - 50.00	\$115,371,474	\$0	\$62,237	\$0	\$115,433,712
	50.01 - 55.00	\$168,687,581	\$72,088	\$54,089	\$0	\$168,813,758
	55.01 - 60.00	\$175,641,543	\$353,157	\$0	\$158,449	\$176,153,150
	60.01 - 65.00	\$134,792,986	\$0	\$0	\$156,018	\$134,949,004
	65.01 - 70.00	\$104,240,842	\$0	\$0	\$0	\$104,240,842
	70.01 - 75.00	\$126,070,024	\$0	\$0	\$0	\$126,070,024
	75.01 - 80.00	\$30,039,297	\$0	\$0	\$0	\$30,039,297
	> 80.00	\$6,362,983	\$0	\$0	\$0	\$6,362,983
Total New Brunswick		<b>\$1,269,663,640</b>	<b>\$732,699</b>	<b>\$259,700</b>	<b>\$855,520</b>	<b>\$1,271,511,559</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Newfoundland and Labrador</b>						
	20.00 and below	\$41,691,668	\$13,595	\$0	\$98,172	\$41,803,434
	20.01 - 25.00	\$41,705,588	\$126,320	\$0	\$0	\$41,831,907
	25.01 - 30.00	\$61,743,198	\$37,920	\$0	\$0	\$61,781,118
	30.01 - 35.00	\$81,126,069	\$5	\$0	\$0	\$81,126,074
	35.01 - 40.00	\$101,187,904	\$0	\$133,023	\$129,898	\$101,450,825
	40.01 - 45.00	\$102,640,188	\$0	\$0	\$371,655	\$103,011,843
	45.01 - 50.00	\$101,574,393	\$82,347	\$115,783	\$0	\$101,772,523
	50.01 - 55.00	\$143,188,737	\$35,858	\$322,975	\$0	\$143,547,570
	55.01 - 60.00	\$120,294,268	\$0	\$0	\$257,390	\$120,551,658
	60.01 - 65.00	\$78,474,987	\$0	\$0	\$0	\$78,474,987
	65.01 - 70.00	\$49,368,864	\$0	\$0	\$0	\$49,368,864
	70.01 - 75.00	\$64,229,627	\$0	\$0	\$0	\$64,229,627
	75.01 - 80.00	\$12,399,846	\$0	\$0	\$0	\$12,399,846
	> 80.00	\$3,350,670	\$0	\$0	\$0	\$3,350,670
Total Newfoundland and Labrador		<b>\$1,002,976,006</b>	<b>\$296,044</b>	<b>\$571,781</b>	<b>\$857,115</b>	<b>\$1,004,700,946</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Northwest Territories</b>						
	20.00 and below	\$245,318	\$0	\$0	\$0	\$245,318
	20.01 - 25.00	\$0	\$0	\$0	\$0	\$0
	25.01 - 30.00	\$147,364	\$0	\$0	\$0	\$147,364
	30.01 - 35.00	\$152,312	\$0	\$0	\$0	\$152,312
	35.01 - 40.00	\$0	\$0	\$0	\$0	\$0
	40.01 - 45.00	\$0	\$0	\$0	\$0	\$0
	45.01 - 50.00	\$0	\$0	\$0	\$0	\$0
	50.01 - 55.00	\$0	\$0	\$0	\$0	\$0
	55.01 - 60.00	\$0	\$0	\$0	\$0	\$0
	60.01 - 65.00	\$0	\$0	\$0	\$0	\$0
	65.01 - 70.00	\$0	\$0	\$0	\$0	\$0
	70.01 - 75.00	\$0	\$0	\$0	\$0	\$0
	75.01 - 80.00	\$0	\$0	\$0	\$0	\$0
	> 80.00	\$0	\$0	\$0	\$0	\$0
Total Northwest Territories		<b>\$544,994</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$544,994</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Nova Scotia</b>						
	20.00 and below	\$100,473,727	\$82,341	\$0	\$14,099	\$100,570,167
	20.01 - 25.00	\$89,720,095	\$24,611	\$0	\$58,590	\$89,803,295
	25.01 - 30.00	\$139,021,927	\$72,836	\$0	\$328,731	\$139,423,494
	30.01 - 35.00	\$185,712,230	\$131,548	\$0	\$670,216	\$186,513,994
	35.01 - 40.00	\$250,445,408	\$0	\$0	\$427,274	\$250,872,682
	40.01 - 45.00	\$271,864,801	\$738,016	\$0	\$172,405	\$272,775,222
	45.01 - 50.00	\$237,578,768	\$43,941	\$168,307	\$0	\$237,791,017
	50.01 - 55.00	\$256,972,297	\$0	\$0	\$91,731	\$257,064,028
	55.01 - 60.00	\$231,922,642	\$0	\$0	\$132,678	\$232,055,320
	60.01 - 65.00	\$194,835,084	\$0	\$0	\$79,597	\$194,914,681
	65.01 - 70.00	\$143,832,652	\$0	\$0	\$0	\$143,832,652
	70.01 - 75.00	\$163,802,389	\$0	\$0	\$0	\$163,802,389
	75.01 - 80.00	\$34,456,979	\$0	\$0	\$0	\$34,456,979
	> 80.00	\$15,227,000	\$0	\$0	\$0	\$15,227,000
Total Nova Scotia		<b>\$2,315,865,999</b>	<b>\$1,093,294</b>	<b>\$168,307</b>	<b>\$1,975,320</b>	<b>\$2,319,102,920</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Nunavut</b>						
	20.00 and below	\$0	\$0	\$0	\$0	\$0
	20.01 - 25.00	\$33,073	\$0	\$0	\$0	\$33,073
	25.01 - 30.00	\$0	\$0	\$0	\$0	\$0
	30.01 - 35.00	\$0	\$0	\$0	\$0	\$0
	35.01 - 40.00	\$0	\$0	\$0	\$0	\$0
	40.01 - 45.00	\$0	\$0	\$0	\$0	\$0
	45.01 - 50.00	\$0	\$0	\$0	\$0	\$0
	50.01 - 55.00	\$0	\$0	\$0	\$0	\$0
	55.01 - 60.00	\$0	\$0	\$0	\$0	\$0
	60.01 - 65.00	\$0	\$0	\$0	\$0	\$0
	65.01 - 70.00	\$0	\$0	\$0	\$0	\$0
	70.01 - 75.00	\$0	\$0	\$0	\$0	\$0
	75.01 - 80.00	\$0	\$0	\$0	\$0	\$0
	> 80.00	\$0	\$0	\$0	\$0	\$0
Total Nunavut		<b>\$33,073</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$33,073</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Ontario</b>						
	20.00 and below	\$3,237,716,305	\$821,841	\$2,020,777	\$1,257,429	\$3,241,816,351
	20.01 - 25.00	\$2,351,620,968	\$1,711,709	\$357,068	\$683,165	\$2,354,372,911
	25.01 - 30.00	\$3,154,228,687	\$3,600,101	\$446,044	\$727,324	\$3,159,002,156
	30.01 - 35.00	\$3,497,268,362	\$3,835,817	\$851,191	\$1,803,539	\$3,503,758,909
	35.01 - 40.00	\$3,836,994,988	\$5,235,648	\$857,127	\$1,196,118	\$3,844,283,881
	40.01 - 45.00	\$4,477,076,189	\$3,213,295	\$712,409	\$2,338,042	\$4,483,339,935
	45.01 - 50.00	\$4,796,770,077	\$5,379,399	\$1,660,582	\$3,022,757	\$4,806,832,815
	50.01 - 55.00	\$6,790,565,987	\$4,040,071	\$1,299,216	\$2,364,856	\$6,798,270,129
	55.01 - 60.00	\$5,581,118,132	\$6,251,477	\$894,625	\$2,670,392	\$5,590,934,626
	60.01 - 65.00	\$3,643,382,257	\$1,876,356	\$968,347	\$360,354	\$3,646,587,314
	65.01 - 70.00	\$3,326,870,926	\$3,143,385	\$0	\$919,696	\$3,330,934,007
	70.01 - 75.00	\$5,455,065,623	\$8,038,559	\$633,840	\$2,185,053	\$5,465,923,075
	75.01 - 80.00	\$2,160,190,851	\$3,966,390	\$261,873	\$949,261	\$2,165,368,375
	> 80.00	\$132,495,191	\$0	\$0	\$0	\$132,495,191
Total Ontario		<b>\$52,441,364,543</b>	<b>\$51,114,048</b>	<b>\$10,963,099</b>	<b>\$20,477,986</b>	<b>\$52,523,919,675</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Prince Edward Island</b>						
	20.00 and below	\$10,059,081	\$34,150	\$0	\$0	\$10,093,231
	20.01 - 25.00	\$8,118,503	\$0	\$0	\$0	\$8,118,503
	25.01 - 30.00	\$14,057,863	\$0	\$0	\$222,377	\$14,280,240
	30.01 - 35.00	\$18,439,984	\$0	\$0	\$0	\$18,439,984
	35.01 - 40.00	\$21,592,506	\$0	\$0	\$0	\$21,592,506
	40.01 - 45.00	\$27,561,629	\$0	\$0	\$0	\$27,561,629
	45.01 - 50.00	\$26,727,854	\$0	\$0	\$0	\$26,727,854
	50.01 - 55.00	\$39,768,942	\$0	\$0	\$0	\$39,768,942
	55.01 - 60.00	\$53,992,536	\$0	\$161,431	\$0	\$54,153,967
	60.01 - 65.00	\$30,862,714	\$0	\$0	\$0	\$30,862,714
	65.01 - 70.00	\$17,176,658	\$0	\$0	\$0	\$17,176,658
	70.01 - 75.00	\$24,475,310	\$0	\$0	\$0	\$24,475,310
	75.01 - 80.00	\$4,672,285	\$0	\$0	\$0	\$4,672,285
	> 80.00	\$2,767,807	\$0	\$0	\$0	\$2,767,807
Total Prince Edward Island		<b>\$300,273,671</b>	<b>\$34,150</b>	<b>\$161,431</b>	<b>\$222,377</b>	<b>\$300,691,629</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Quebec</b>						
	20.00 and below	\$612,042,831	\$44,576	\$109,735	\$185,780	\$612,382,922
	20.01 - 25.00	\$487,752,234	\$0	\$132,062	\$169,875	\$488,054,171
	25.01 - 30.00	\$744,462,030	\$198,701	\$0	\$140,326	\$744,801,057
	30.01 - 35.00	\$1,060,936,416	\$613,820	\$0	\$245,056	\$1,061,795,292
	35.01 - 40.00	\$1,462,110,797	\$341,371	\$0	\$389,401	\$1,462,841,570
	40.01 - 45.00	\$1,756,159,344	\$1,657,234	\$0	\$622,897	\$1,758,439,475
	45.01 - 50.00	\$1,758,413,210	\$954,826	\$106,855	\$1,285,133	\$1,760,760,025
	50.01 - 55.00	\$1,808,333,753	\$0	\$562,812	\$0	\$1,808,896,565
	55.01 - 60.00	\$1,604,500,786	\$986,807	\$183,871	\$45,502	\$1,605,716,965
	60.01 - 65.00	\$1,539,098,082	\$451,456	\$193,961	\$422,699	\$1,540,166,197
	65.01 - 70.00	\$882,605,780	\$1,064,712	\$0	\$0	\$883,670,492
	70.01 - 75.00	\$902,489,285	\$444,399	\$0	\$0	\$902,933,684
	75.01 - 80.00	\$52,740,810	\$0	\$0	\$0	\$52,740,810
	> 80.00	\$4,204,769	\$0	\$0	\$0	\$4,204,769
Total Quebec		<b>\$14,675,850,127</b>	<b>\$6,757,901</b>	<b>\$1,289,296</b>	<b>\$3,506,669</b>	<b>\$14,687,403,994</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Saskatchewan</b>						
	20.00 and below	\$132,404,313	\$27,922	\$0	\$319,103	\$132,751,337
	20.01 - 25.00	\$114,054,158	\$0	\$67,086	\$506,905	\$114,628,149
	25.01 - 30.00	\$170,412,421	\$582,526	\$0	\$436,876	\$171,431,823
	30.01 - 35.00	\$233,529,686	\$471,265	\$0	\$910,605	\$234,911,555
	35.01 - 40.00	\$269,702,486	\$1,094,684	\$0	\$913,632	\$271,710,802
	40.01 - 45.00	\$255,308,778	\$103,569	\$0	\$1,480,648	\$256,892,995
	45.01 - 50.00	\$219,039,396	\$117,789	\$300,838	\$0	\$219,458,023
	50.01 - 55.00	\$320,217,332	\$0	\$816,983	\$256,222	\$321,290,536
	55.01 - 60.00	\$298,002,915	\$356,987	\$161,756	\$298,249	\$298,819,907
	60.01 - 65.00	\$196,152,169	\$0	\$0	\$0	\$196,152,169
	65.01 - 70.00	\$113,206,940	\$0	\$0	\$0	\$113,206,940
	70.01 - 75.00	\$142,816,172	\$0	\$0	\$0	\$142,816,172
	75.01 - 80.00	\$24,259,543	\$0	\$0	\$0	\$24,259,543
	> 80.00	\$6,484,675	\$0	\$0	\$0	\$6,484,675
Total Saskatchewan		<b>\$2,495,590,984</b>	<b>\$2,754,742</b>	<b>\$1,346,662</b>	<b>\$5,122,239</b>	<b>\$2,504,814,627</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Yukon</b>						
	20.00 and below	\$1,378,691	\$0	\$0	\$0	\$1,378,691
	20.01 - 25.00	\$1,443,126	\$0	\$0	\$0	\$1,443,126
	25.01 - 30.00	\$2,320,238	\$0	\$0	\$0	\$2,320,238
	30.01 - 35.00	\$1,103,181	\$0	\$0	\$0	\$1,103,181
	35.01 - 40.00	\$783,996	\$0	\$0	\$0	\$783,996
	40.01 - 45.00	\$510,681	\$0	\$0	\$0	\$510,681
	45.01 - 50.00	\$0	\$0	\$0	\$0	\$0
	50.01 - 55.00	\$0	\$0	\$0	\$0	\$0
	55.01 - 60.00	\$53,787	\$0	\$0	\$0	\$53,787
	60.01 - 65.00	\$0	\$0	\$0	\$0	\$0
	65.01 - 70.00	\$0	\$0	\$0	\$0	\$0
	70.01 - 75.00	\$0	\$0	\$0	\$0	\$0
	75.01 - 80.00	\$0	\$0	\$0	\$0	\$0
	> 80.00	\$0	\$0	\$0	\$0	\$0
Total Yukon		<b>\$7,593,700</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,593,700</b>
<b>Grand Total</b>		<b>\$117,379,017,470</b>	<b>\$90,962,669</b>	<b>\$26,317,817</b>	<b>\$60,227,474</b>	<b>\$117,556,525,429</b>

## Provincial Distribution by Indexed LTV - Drawn and Aging Summary (%)

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Alberta</b>						
	20.00 and below	0.34	0.00	0.00	0.00	0.34
	20.01 - 25.00	0.28	0.00	0.00	0.00	0.28
	25.01 - 30.00	0.41	0.00	0.00	0.00	0.41
	30.01 - 35.00	0.54	0.00	0.00	0.00	0.54
	35.01 - 40.00	0.65	0.00	0.00	0.00	0.65
	40.01 - 45.00	0.76	0.00	0.00	0.00	0.76
	45.01 - 50.00	0.97	0.00	0.00	0.00	0.97
	50.01 - 55.00	1.31	0.00	0.00	0.00	1.31
	55.01 - 60.00	1.79	0.00	0.00	0.00	1.79
	60.01 - 65.00	1.57	0.00	0.00	0.00	1.57
	65.01 - 70.00	0.98	0.00	0.00	0.00	0.98
	70.01 - 75.00	0.37	0.00	0.00	0.00	0.37
	75.01 - 80.00	0.03	0.00	0.00	0.00	0.03
	> 80.00	0.01	0.00	0.00	0.00	0.01
Total Alberta		<b>10.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>10.02</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>British Columbia</b>						
	20.00 and below	1.64	0.00	0.00	0.00	1.64
	20.01 - 25.00	1.26	0.00	0.00	0.00	1.26
	25.01 - 30.00	1.66	0.00	0.00	0.00	1.66
	30.01 - 35.00	1.78	0.00	0.00	0.00	1.78
	35.01 - 40.00	1.90	0.00	0.00	0.00	1.91
	40.01 - 45.00	1.97	0.00	0.00	0.00	1.97
	45.01 - 50.00	2.37	0.00	0.00	0.00	2.37
	50.01 - 55.00	2.55	0.00	0.00	0.00	2.55
	55.01 - 60.00	2.81	0.00	0.00	0.00	2.81
	60.01 - 65.00	2.53	0.00	0.00	0.00	2.53
	65.01 - 70.00	1.47	0.00	0.00	0.00	1.47
	70.01 - 75.00	1.35	0.00	0.00	0.00	1.35
	75.01 - 80.00	0.61	0.00	0.00	0.00	0.61
	> 80.00	0.05	0.00	0.00	0.00	0.05
Total British Columbia		<b>23.93</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>23.96</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Manitoba</b>						
	20.00 and below	0.08	0.00	0.00	0.00	0.08
	20.01 - 25.00	0.06	0.00	0.00	0.00	0.06
	25.01 - 30.00	0.09	0.00	0.00	0.00	0.09
	30.01 - 35.00	0.12	0.00	0.00	0.00	0.12
	35.01 - 40.00	0.16	0.00	0.00	0.00	0.16
	40.01 - 45.00	0.18	0.00	0.00	0.00	0.18
	45.01 - 50.00	0.24	0.00	0.00	0.00	0.24
	50.01 - 55.00	0.32	0.00	0.00	0.00	0.33
	55.01 - 60.00	0.41	0.00	0.00	0.00	0.41
	60.01 - 65.00	0.38	0.00	0.00	0.00	0.38
	65.01 - 70.00	0.24	0.00	0.00	0.00	0.24
	70.01 - 75.00	0.17	0.00	0.00	0.00	0.17
	75.01 - 80.00	0.08	0.00	0.00	0.00	0.08
	> 80.00	0.01	0.00	0.00	0.00	0.01
Total Manitoba		<b>2.54</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.54</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>New Brunswick</b>						
	20.00 and below	0.04	0.00	0.00	0.00	0.04
	20.01 - 25.00	0.04	0.00	0.00	0.00	0.04
	25.01 - 30.00	0.05	0.00	0.00	0.00	0.05
	30.01 - 35.00	0.06	0.00	0.00	0.00	0.06
	35.01 - 40.00	0.08	0.00	0.00	0.00	0.08
	40.01 - 45.00	0.08	0.00	0.00	0.00	0.08
	45.01 - 50.00	0.10	0.00	0.00	0.00	0.10
	50.01 - 55.00	0.14	0.00	0.00	0.00	0.14
	55.01 - 60.00	0.15	0.00	0.00	0.00	0.15
	60.01 - 65.00	0.11	0.00	0.00	0.00	0.11
	65.01 - 70.00	0.09	0.00	0.00	0.00	0.09
	70.01 - 75.00	0.11	0.00	0.00	0.00	0.11
	75.01 - 80.00	0.03	0.00	0.00	0.00	0.03
	> 80.00	0.01	0.00	0.00	0.00	0.01
Total New Brunswick		<b>1.08</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.08</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Newfoundland and Labrador</b>						
	20.00 and below	0.04	0.00	0.00	0.00	0.04
	20.01 - 25.00	0.04	0.00	0.00	0.00	0.04
	25.01 - 30.00	0.05	0.00	0.00	0.00	0.05
	30.01 - 35.00	0.07	0.00	0.00	0.00	0.07
	35.01 - 40.00	0.09	0.00	0.00	0.00	0.09
	40.01 - 45.00	0.09	0.00	0.00	0.00	0.09
	45.01 - 50.00	0.09	0.00	0.00	0.00	0.09
	50.01 - 55.00	0.12	0.00	0.00	0.00	0.12
	55.01 - 60.00	0.10	0.00	0.00	0.00	0.10
	60.01 - 65.00	0.07	0.00	0.00	0.00	0.07
	65.01 - 70.00	0.04	0.00	0.00	0.00	0.04
	70.01 - 75.00	0.05	0.00	0.00	0.00	0.05
	75.01 - 80.00	0.01	0.00	0.00	0.00	0.01
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Newfoundland and Labrador		<b>0.85</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.85</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Northwest Territories</b>						
	20.00 and below	0.00	0.00	0.00	0.00	0.00
	20.01 - 25.00	0.00	0.00	0.00	0.00	0.00
	25.01 - 30.00	0.00	0.00	0.00	0.00	0.00
	30.01 - 35.00	0.00	0.00	0.00	0.00	0.00
	35.01 - 40.00	0.00	0.00	0.00	0.00	0.00
	40.01 - 45.00	0.00	0.00	0.00	0.00	0.00
	45.01 - 50.00	0.00	0.00	0.00	0.00	0.00
	50.01 - 55.00	0.00	0.00	0.00	0.00	0.00
	55.01 - 60.00	0.00	0.00	0.00	0.00	0.00
	60.01 - 65.00	0.00	0.00	0.00	0.00	0.00
	65.01 - 70.00	0.00	0.00	0.00	0.00	0.00
	70.01 - 75.00	0.00	0.00	0.00	0.00	0.00
	75.01 - 80.00	0.00	0.00	0.00	0.00	0.00
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Northwest Territories		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Nova Scotia</b>						
	20.00 and below	0.09	0.00	0.00	0.00	0.09
	20.01 - 25.00	0.08	0.00	0.00	0.00	0.08
	25.01 - 30.00	0.12	0.00	0.00	0.00	0.12
	30.01 - 35.00	0.16	0.00	0.00	0.00	0.16
	35.01 - 40.00	0.21	0.00	0.00	0.00	0.21
	40.01 - 45.00	0.23	0.00	0.00	0.00	0.23
	45.01 - 50.00	0.20	0.00	0.00	0.00	0.20
	50.01 - 55.00	0.22	0.00	0.00	0.00	0.22
	55.01 - 60.00	0.20	0.00	0.00	0.00	0.20
	60.01 - 65.00	0.17	0.00	0.00	0.00	0.17
	65.01 - 70.00	0.12	0.00	0.00	0.00	0.12
	70.01 - 75.00	0.14	0.00	0.00	0.00	0.14
	75.01 - 80.00	0.03	0.00	0.00	0.00	0.03
	> 80.00	0.01	0.00	0.00	0.00	0.01
Total Nova Scotia		<b>1.97</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.97</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Nunavut</b>						
	20.00 and below	0.00	0.00	0.00	0.00	0.00
	20.01 - 25.00	0.00	0.00	0.00	0.00	0.00
	25.01 - 30.00	0.00	0.00	0.00	0.00	0.00
	30.01 - 35.00	0.00	0.00	0.00	0.00	0.00
	35.01 - 40.00	0.00	0.00	0.00	0.00	0.00
	40.01 - 45.00	0.00	0.00	0.00	0.00	0.00
	45.01 - 50.00	0.00	0.00	0.00	0.00	0.00
	50.01 - 55.00	0.00	0.00	0.00	0.00	0.00
	55.01 - 60.00	0.00	0.00	0.00	0.00	0.00
	60.01 - 65.00	0.00	0.00	0.00	0.00	0.00
	65.01 - 70.00	0.00	0.00	0.00	0.00	0.00
	70.01 - 75.00	0.00	0.00	0.00	0.00	0.00
	75.01 - 80.00	0.00	0.00	0.00	0.00	0.00
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Nunavut		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>





# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Ontario</b>						
	20.00 and below	2.75	0.00	0.00	0.00	2.76
	20.01 - 25.00	2.00	0.00	0.00	0.00	2.00
	25.01 - 30.00	2.68	0.00	0.00	0.00	2.69
	30.01 - 35.00	2.97	0.00	0.00	0.00	2.98
	35.01 - 40.00	3.26	0.00	0.00	0.00	3.27
	40.01 - 45.00	3.81	0.00	0.00	0.00	3.81
	45.01 - 50.00	4.08	0.00	0.00	0.00	4.09
	50.01 - 55.00	5.78	0.00	0.00	0.00	5.78
	55.01 - 60.00	4.75	0.01	0.00	0.00	4.76
	60.01 - 65.00	3.10	0.00	0.00	0.00	3.10
	65.01 - 70.00	2.83	0.00	0.00	0.00	2.83
	70.01 - 75.00	4.64	0.01	0.00	0.00	4.65
	75.01 - 80.00	1.84	0.00	0.00	0.00	1.84
	> 80.00	0.11	0.00	0.00	0.00	0.11
Total Ontario		<b>44.61</b>	<b>0.04</b>	<b>0.01</b>	<b>0.02</b>	<b>44.68</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Prince Edward Island</b>						
	20.00 and below	0.01	0.00	0.00	0.00	0.01
	20.01 - 25.00	0.01	0.00	0.00	0.00	0.01
	25.01 - 30.00	0.01	0.00	0.00	0.00	0.01
	30.01 - 35.00	0.02	0.00	0.00	0.00	0.02
	35.01 - 40.00	0.02	0.00	0.00	0.00	0.02
	40.01 - 45.00	0.02	0.00	0.00	0.00	0.02
	45.01 - 50.00	0.02	0.00	0.00	0.00	0.02
	50.01 - 55.00	0.03	0.00	0.00	0.00	0.03
	55.01 - 60.00	0.05	0.00	0.00	0.00	0.05
	60.01 - 65.00	0.03	0.00	0.00	0.00	0.03
	65.01 - 70.00	0.01	0.00	0.00	0.00	0.01
	70.01 - 75.00	0.02	0.00	0.00	0.00	0.02
	75.01 - 80.00	0.00	0.00	0.00	0.00	0.00
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Prince Edward Island		<b>0.26</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.26</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Quebec</b>						
	20.00 and below	0.52	0.00	0.00	0.00	0.52
	20.01 - 25.00	0.41	0.00	0.00	0.00	0.42
	25.01 - 30.00	0.63	0.00	0.00	0.00	0.63
	30.01 - 35.00	0.90	0.00	0.00	0.00	0.90
	35.01 - 40.00	1.24	0.00	0.00	0.00	1.24
	40.01 - 45.00	1.49	0.00	0.00	0.00	1.50
	45.01 - 50.00	1.50	0.00	0.00	0.00	1.50
	50.01 - 55.00	1.54	0.00	0.00	0.00	1.54
	55.01 - 60.00	1.36	0.00	0.00	0.00	1.37
	60.01 - 65.00	1.31	0.00	0.00	0.00	1.31
	65.01 - 70.00	0.75	0.00	0.00	0.00	0.75
	70.01 - 75.00	0.77	0.00	0.00	0.00	0.77
	75.01 - 80.00	0.04	0.00	0.00	0.00	0.04
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Quebec		<b>12.48</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>12.49</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Saskatchewan</b>						
	20.00 and below	0.11	0.00	0.00	0.00	0.11
	20.01 - 25.00	0.10	0.00	0.00	0.00	0.10
	25.01 - 30.00	0.14	0.00	0.00	0.00	0.15
	30.01 - 35.00	0.20	0.00	0.00	0.00	0.20
	35.01 - 40.00	0.23	0.00	0.00	0.00	0.23
	40.01 - 45.00	0.22	0.00	0.00	0.00	0.22
	45.01 - 50.00	0.19	0.00	0.00	0.00	0.19
	50.01 - 55.00	0.27	0.00	0.00	0.00	0.27
	55.01 - 60.00	0.25	0.00	0.00	0.00	0.25
	60.01 - 65.00	0.17	0.00	0.00	0.00	0.17
	65.01 - 70.00	0.10	0.00	0.00	0.00	0.10
	70.01 - 75.00	0.12	0.00	0.00	0.00	0.12
	75.01 - 80.00	0.02	0.00	0.00	0.00	0.02
	> 80.00	0.01	0.00	0.00	0.00	0.01
Total Saskatchewan		<b>2.12</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.13</b>

Province	Indexed LTV (%)	Current and less than 30 days past due	30 to 59 days past due	60 to 89 days past due	90 or more days past due	Total
<b>Yukon</b>						
	20.00 and below	0.00	0.00	0.00	0.00	0.00
	20.01 - 25.00	0.00	0.00	0.00	0.00	0.00
	25.01 - 30.00	0.00	0.00	0.00	0.00	0.00
	30.01 - 35.00	0.00	0.00	0.00	0.00	0.00
	35.01 - 40.00	0.00	0.00	0.00	0.00	0.00
	40.01 - 45.00	0.00	0.00	0.00	0.00	0.00
	45.01 - 50.00	0.00	0.00	0.00	0.00	0.00
	50.01 - 55.00	0.00	0.00	0.00	0.00	0.00
	55.01 - 60.00	0.00	0.00	0.00	0.00	0.00
	60.01 - 65.00	0.00	0.00	0.00	0.00	0.00
	65.01 - 70.00	0.00	0.00	0.00	0.00	0.00
	70.01 - 75.00	0.00	0.00	0.00	0.00	0.00
	75.01 - 80.00	0.00	0.00	0.00	0.00	0.00
	> 80.00	0.00	0.00	0.00	0.00	0.00
Total Yukon		<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>
<b>Grand Total</b>		<b>99.85</b>	<b>0.08</b>	<b>0.02</b>	<b>0.05</b>	<b>100.00</b>

## Cover Pool Indexed LTV - Drawn by Credit Bureau Score (continued)

Indexed LTV (%)	Credit Bureau Score	Principal Balance	Percentage
20.00 and below			
	Score Unavailable	\$36,662,253	0.03
	499 and below	\$2,276,054	0.00
	500 - 539	\$7,061,799	0.01
	540 - 559	\$6,438,422	0.01
	560 - 579	\$5,691,363	0.00
	580 - 599	\$9,882,628	0.01
	600 - 619	\$16,056,141	0.01
	620 - 639	\$27,245,480	0.02
	640 - 659	\$48,727,424	0.04
	660 - 679	\$76,466,447	0.07
	680 - 699	\$116,535,374	0.10
	700 - 719	\$183,484,089	0.16
	720 - 739	\$216,881,869	0.18
	740 - 759	\$251,900,316	0.21
	760 - 779	\$287,748,580	0.24
	780 - 799	\$423,203,820	0.36
	800 and above	\$4,888,807,482	4.16
<b>Total</b>		<b>\$6,605,069,543</b>	<b>5.62</b>

Indexed LTV (%)	Credit Bureau Score	Principal Balance	Percentage
20.01 - 25.00			
	Score Unavailable	\$22,906,152	0.02
	499 and below	\$3,134,124	0.00
	500 - 539	\$5,880,719	0.01
	540 - 559	\$7,654,875	0.01
	560 - 579	\$9,707,195	0.01
	580 - 599	\$10,532,545	0.01
	600 - 619	\$16,834,673	0.01
	620 - 639	\$31,066,666	0.03
	640 - 659	\$46,505,288	0.04



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

660 - 679	\$71,665,805	0.06
680 - 699	\$110,437,913	0.09
700 - 719	\$173,660,030	0.15
720 - 739	\$202,862,164	0.17
740 - 759	\$242,507,689	0.21
760 - 779	\$287,579,348	0.24
780 - 799	\$383,039,448	0.33
800 and above	\$3,405,836,961	2.90
<b>Total</b>	<b>\$5,031,811,596</b>	<b>4.28</b>

## Indexed LTV (%)

25.01 - 30.00

Credit Bureau Score	Principal Balance	Percentage
Score Unavailable	\$32,901,229	0.03
499 and below	\$3,897,755	0.00
500 - 539	\$8,514,803	0.01
540 - 559	\$9,646,199	0.01
560 - 579	\$8,902,830	0.01
580 - 599	\$15,888,294	0.01
600 - 619	\$26,454,093	0.02
620 - 639	\$44,249,943	0.04
640 - 659	\$87,092,460	0.07
660 - 679	\$124,971,284	0.11
680 - 699	\$192,292,720	0.16
700 - 719	\$256,699,272	0.22
720 - 739	\$316,243,988	0.27
740 - 759	\$364,640,322	0.31
760 - 779	\$431,237,589	0.37
780 - 799	\$534,791,971	0.45
800 and above	\$4,428,573,706	3.77
<b>Total</b>	<b>\$6,886,998,458</b>	<b>5.86</b>

## Indexed LTV (%)

30.01 - 35.00

Credit Bureau Score	Principal Balance	Percentage
Score Unavailable	\$24,883,286	0.02
499 and below	\$5,206,570	0.00
500 - 539	\$14,521,775	0.01
540 - 559	\$8,691,043	0.01
560 - 579	\$16,338,464	0.01
580 - 599	\$21,849,300	0.02
600 - 619	\$37,449,829	0.03
620 - 639	\$56,623,688	0.05
640 - 659	\$120,815,760	0.10
660 - 679	\$168,410,203	0.14
680 - 699	\$265,155,418	0.23
700 - 719	\$345,830,652	0.29
720 - 739	\$416,404,572	0.35
740 - 759	\$468,527,178	0.40
760 - 779	\$558,311,139	0.47
780 - 799	\$687,597,656	0.58
800 and above	\$4,816,756,735	4.10
<b>Total</b>	<b>\$8,033,373,267</b>	<b>6.83</b>

## Indexed LTV (%)

35.01 - 40.00

Credit Bureau Score	Principal Balance	Percentage
Score Unavailable	\$36,647,127	0.03
499 and below	\$5,854,123	0.00
500 - 539	\$16,658,095	0.01
540 - 559	\$14,822,735	0.01
560 - 579	\$14,928,808	0.01
580 - 599	\$32,157,450	0.03
600 - 619	\$44,934,367	0.04
620 - 639	\$77,855,275	0.07
640 - 659	\$150,307,885	0.13
660 - 679	\$196,264,479	0.17
680 - 699	\$336,016,101	0.29
700 - 719	\$394,614,936	0.34
720 - 739	\$518,090,584	0.44
740 - 759	\$629,571,670	0.54
760 - 779	\$717,490,416	0.61
780 - 799	\$820,419,343	0.70
800 and above	\$5,227,662,246	4.45
<b>Total</b>	<b>\$9,234,295,641</b>	<b>7.86</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

**Indexed LTV (%)**

40.01 - 45.00

<u>Credit Bureau Score</u>	<u>Principal Balance</u>	<u>Percentage</u>
Score Unavailable	\$50,504,662	0.04
499 and below	\$9,191,498	0.01
500 - 539	\$13,961,540	0.01
540 - 559	\$15,243,717	0.01
560 - 579	\$24,509,981	0.02
580 - 599	\$23,943,772	0.02
600 - 619	\$42,096,906	0.04
620 - 639	\$84,995,101	0.07
640 - 659	\$165,371,791	0.14
660 - 679	\$254,522,962	0.22
680 - 699	\$401,518,328	0.34
700 - 719	\$525,992,862	0.45
720 - 739	\$629,757,784	0.54
740 - 759	\$702,368,730	0.60
760 - 779	\$835,647,750	0.71
780 - 799	\$981,400,920	0.83
800 and above	\$5,663,504,898	4.82
<b>Total</b>	<b>\$10,424,533,199</b>	<b>8.87</b>

**Indexed LTV (%)**

45.01 - 50.00

<u>Credit Bureau Score</u>	<u>Principal Balance</u>	<u>Percentage</u>
Score Unavailable	\$91,289,555	0.08
499 and below	\$5,973,327	0.01
500 - 539	\$16,561,525	0.01
540 - 559	\$13,231,080	0.01
560 - 579	\$16,792,692	0.01
580 - 599	\$28,666,927	0.02
600 - 619	\$49,547,459	0.04
620 - 639	\$89,482,321	0.08
640 - 659	\$199,750,434	0.17
660 - 679	\$318,300,653	0.27
680 - 699	\$482,977,914	0.41
700 - 719	\$599,354,401	0.51
720 - 739	\$691,514,467	0.59
740 - 759	\$842,329,955	0.72
760 - 779	\$923,194,166	0.79
780 - 799	\$1,153,112,408	0.98
800 and above	\$5,952,771,671	5.06
<b>Total</b>	<b>\$11,474,850,954</b>	<b>9.76</b>

**Indexed LTV (%)**

50.01 - 55.00

<u>Credit Bureau Score</u>	<u>Principal Balance</u>	<u>Percentage</u>
Score Unavailable	\$150,243,833	0.13
499 and below	\$9,137,948	0.01
500 - 539	\$17,276,232	0.01
540 - 559	\$15,032,714	0.01
560 - 579	\$24,463,343	0.02
580 - 599	\$39,243,601	0.03
600 - 619	\$73,589,941	0.06
620 - 639	\$120,063,266	0.10
640 - 659	\$284,232,821	0.24
660 - 679	\$431,657,280	0.37
680 - 699	\$597,438,822	0.51
700 - 719	\$781,743,274	0.66
720 - 739	\$948,830,654	0.81
740 - 759	\$1,090,327,552	0.93
760 - 779	\$1,269,217,818	1.08
780 - 799	\$1,454,175,956	1.24
800 and above	\$7,153,062,917	6.08
<b>Total</b>	<b>\$14,459,737,972</b>	<b>12.30</b>



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date:

12/30/2022

## Indexed LTV (%)

55.01 - 60.00

### Credit Bureau Score

### Principal Balance

### Percentage

Score Unavailable	\$219,026,650	0.19
499 and below	\$5,137,775	0.00
500 - 539	\$12,932,998	0.01
540 - 559	\$14,641,728	0.01
560 - 579	\$20,661,549	0.02
580 - 599	\$37,902,511	0.03
600 - 619	\$58,434,481	0.05
620 - 639	\$134,931,801	0.11
640 - 659	\$305,028,576	0.26
660 - 679	\$460,685,116	0.39
680 - 699	\$677,588,892	0.58
700 - 719	\$848,827,692	0.72
720 - 739	\$982,347,338	0.84
740 - 759	\$1,095,492,964	0.93
760 - 779	\$1,275,990,518	1.09
780 - 799	\$1,455,447,997	1.24
800 and above	\$6,369,193,180	5.42
<b>Total</b>	<b>\$13,974,271,767</b>	<b>11.89</b>

## Indexed LTV (%)

60.01 - 65.00

### Credit Bureau Score

### Principal Balance

### Percentage

Score Unavailable	\$287,388,670	0.24
499 and below	\$1,995,184	0.00
500 - 539	\$5,441,876	0.00
540 - 559	\$6,293,515	0.01
560 - 579	\$15,621,012	0.01
580 - 599	\$14,594,491	0.01
600 - 619	\$38,236,228	0.03
620 - 639	\$73,324,596	0.06
640 - 659	\$232,429,035	0.20
660 - 679	\$368,333,826	0.31
680 - 699	\$551,531,825	0.47
700 - 719	\$722,133,274	0.61
720 - 739	\$803,286,281	0.68
740 - 759	\$917,150,085	0.78
760 - 779	\$1,021,252,509	0.87
780 - 799	\$1,178,599,289	1.00
800 and above	\$4,853,459,606	4.13
<b>Total</b>	<b>\$11,091,071,301</b>	<b>9.43</b>

## Indexed LTV (%)

65.01 - 70.00

### Credit Bureau Score

### Principal Balance

### Percentage

Score Unavailable	\$294,578,538	0.25
499 and below	\$1,080,425	0.00
500 - 539	\$1,305,206	0.00
540 - 559	\$3,181,121	0.00
560 - 579	\$7,494,625	0.01
580 - 599	\$9,917,118	0.01
600 - 619	\$21,479,813	0.02
620 - 639	\$48,338,425	0.04
640 - 659	\$162,298,036	0.14
660 - 679	\$282,373,922	0.24
680 - 699	\$399,323,972	0.34
700 - 719	\$517,811,960	0.44
720 - 739	\$608,599,676	0.52
740 - 759	\$624,778,907	0.53
760 - 779	\$735,391,232	0.63
780 - 799	\$819,478,360	0.70
800 and above	\$3,275,121,562	2.79
<b>Total</b>	<b>\$7,812,552,898</b>	<b>6.65</b>

## Indexed LTV (%)

70.01 - 75.00

### Credit Bureau Score

### Principal Balance

### Percentage

Score Unavailable	\$435,314,178	0.37
499 and below	\$1,289,143	0.00
500 - 539	\$2,925,959	0.00
540 - 559	\$5,959,691	0.01
560 - 579	\$5,846,751	0.00
580 - 599	\$13,705,385	0.01
600 - 619	\$31,669,104	0.03
620 - 639	\$56,349,172	0.05
640 - 659	\$193,617,410	0.16
660 - 679	\$306,450,679	0.26
680 - 699	\$430,106,694	0.37
700 - 719	\$566,145,625	0.48
720 - 739	\$640,571,136	0.54



# RBC Covered Bond Programme Monthly Investor Report

Calculation Date: 12/30/2022

740 - 759	\$754,575,869	0.64
760 - 779	\$876,379,244	0.75
780 - 799	\$967,956,313	0.82
800 and above	\$3,821,302,332	3.25
<b>Total</b>	<b>\$9,110,164,685</b>	<b>7.75</b>

## Indexed LTV (%)

75.01 - 80.00

Credit Bureau Score	Principal Balance	Percentage
Score Unavailable	\$190,771,504	0.16
499 and below	\$818,892	0.00
500 - 539	\$1,607,939	0.00
540 - 559	\$1,307,934	0.00
560 - 579	\$2,571,530	0.00
580 - 599	\$7,446,909	0.01
600 - 619	\$10,506,383	0.01
620 - 639	\$22,176,796	0.02
640 - 659	\$71,448,393	0.06
660 - 679	\$102,062,626	0.09
680 - 699	\$167,393,226	0.14
700 - 719	\$210,005,959	0.18
720 - 739	\$253,409,212	0.22
740 - 759	\$276,985,033	0.24
760 - 779	\$310,878,604	0.26
780 - 799	\$381,434,857	0.32
800 and above	\$1,160,475,105	0.99
<b>Total</b>	<b>\$3,171,300,900</b>	<b>2.70</b>

## Indexed LTV (%)

> 80.00

Credit Bureau Score	Principal Balance	Percentage
Score Unavailable	\$2,119,624	0.00
499 and below	\$0	0.00
500 - 539	\$68,695	0.00
540 - 559	\$0	0.00
560 - 579	\$686,496	0.00
580 - 599	\$1,260,427	0.00
600 - 619	\$1,514,992	0.00
620 - 639	\$4,972,508	0.00
640 - 659	\$4,973,740	0.00
660 - 679	\$7,878,083	0.01
680 - 699	\$17,180,812	0.01
700 - 719	\$14,946,477	0.01
720 - 739	\$19,340,561	0.02
740 - 759	\$26,682,132	0.02
760 - 779	\$26,151,114	0.02
780 - 799	\$20,496,230	0.02
800 and above	\$98,221,358	0.08
<b>Total</b>	<b>\$246,493,249</b>	<b>0.21</b>

## Grand Total

<b>\$117,556,525,429</b>	<b>100.00</b>
--------------------------	---------------



# RBC Covered Bond Programme Monthly Investor Report

## Appendix

### Housing Price Index Methodology

#### Indexation Methodology

The Market Value of the Properties used in calculating the Asset Coverage Test, the Valuation Calculation and the Amortization Test (except in respect of Calculation Dates prior to June 30, 2014) and for other purposes required by the Guide is adjusted, at least quarterly, for subsequent price developments with respect to the Property subject to the Related Security in respect of each such Loan by adjusting the Latest Valuation for such Property by a rate of change determined by the Index (as described below).

The Teranet-National Bank House Price Index™ Composite 11 (the **Index**) is an independently developed representation of monthly average home price changes in the following eleven Canadian metropolitan areas: Victoria, Vancouver, Calgary, Edmonton, Winnipeg, Hamilton, Toronto, Ottawa, Montréal, Québec and Halifax. These metropolitan areas are combined to form the Index. The Index is the weighted average of these eleven metropolitan areas.

Further details on the Index including a description of the method used to calculate the Index is available at [www.housepriceindex.ca](http://www.housepriceindex.ca)

A three-step process is used to determine the Market Value for each Property subject to the Related Security in respect of a Loan. First, a code (the Forward Sortation Area (FSA)) which identifies the location of the Property is compared to corresponding codes maintained by Teranet Inc. to confirm whether the property is located within any of the 11 Canadian metropolitan areas covered by the Index. Second, to the extent an FSA match is not found, the name of the city in which such Property is located is used to confirm whether such city matches any of the Canadian metropolitan areas covered by the Index. The Market Value is then determined by adjusting the Latest Valuation for such Property, at least quarterly, by the rate of change for the corresponding Canadian metropolitan area, and where there is no corresponding Canadian metropolitan area, the rate of change indicated in the Index, from the date of the Latest Valuation to the date on which the Latest Valuation is being adjusted for purposes of determining the Market Value for such Property. Where the Latest Valuation in respect of such Property pre-dates the first available date for the relevant rate of change in the Index, the first available date for such rate of change is used to determine the rate of change to apply to adjust the Latest Valuation for purposes of determining the Market Value for such Property. Such adjusted Market Value is the adjusted Original Market Value referred to in footnote 2 on page 4 of the Investor Report.

The Issuer and the Guarantor LP may from time to time determine to use a different index or indices or a different indexation methodology to adjust the Latest Valuation for subsequent price developments to determine Market Value for example, to obtain rates of changes in home prices for metropolitan or geographic areas not covered by the Index, to use an index or indices that the Issuer and Guarantor LP believe will produce better or more reliable results or that is more cost effective. Any such change in the Index or Index Methodology used to determine Market Value will be disclosed to Covered Bondholders and made in accordance with the definition of "Market Value" and "Index Methodology" in the Master Definition and Construction Agreement and be required to meet the requirements in the Guide, which include the requirement that any such change may only be made (i) upon notice to CMHC and satisfaction of any other conditions specified by CMHC in relation thereto, (ii) if such change constitutes a material change, subject to Rating Agency Confirmation, and (iii) if such change is materially prejudicial to the Covered Bondholders, subject to the consent of the Bond Trustee. In addition, the Issuer is required, pursuant to the Guide, to provide CMHC notice upon becoming aware of any change or proposed change in the method used to calculate the Index.

No website referred to herein forms part of the Investor Report, nor have the contents of any such website been approved by or submitted to CMHC or any other governmental, securities or other regulatory authority.

#### Risk Factors relating to the Indexation Methodology

The Issuer and the Guarantor LP believe that the following factors, although not exhaustive, could be material for the purpose of assessing risks associated with the use of the Index.  
*No recourse for errors in the data in the Index*

The Issuer and the Guarantor LP have received written permission from the Index providers to use the Index. The data in the Index is provided on an "as is" basis and without any warranty as to the accuracy, completeness, non-infringement, originality, timeliness or any other characteristic of the data and the Index providers disclaim any and all liability with respect to such data. Neither the Issuer nor the Guarantor LP makes any representation or warranty, express or implied, in relation to the accuracy, completeness or reliability of such information or assumes any liability for any errors or reliance placed on such information. As a result, there will not be any recourse for investors, the Issuer or the Guarantor LP for any errors in the data in the Index relied upon to determine the Market Value in respect of any Property subject to the Related Security in respect of a Loan.

*The actual rate of change in the value of a Property may differ from the rate of change used to adjust the Latest Valuation for such Property in determining its Market Value*

The Index does not include a representation of changes in average home prices outside of the Canadian metropolitan areas that it covers and was developed as a representation of monthly average home price changes in the Canadian metropolitan areas that it does cover. While the Index uses data from single family properties, including detached, semi-detached, townhouse/row homes and condominium properties, it is being used to determine the Market Value of all Properties included as Related Security for Loans in the Covered Bond Portfolio, which may not correspond in every case to the categories included in the Index. The actual value of a Property subject to the Related Security in respect of each Loan may change at a rate that is greater than or less than the rate of change used to determine the Market Value for such Property. This discrepancy may be magnified when the Index is used to determine the Market Value for a Property outside of the Canadian metropolitan areas covered by the Index given factors that affect housing prices may vary significantly regionally from a national average or where the Index is used to determine Market Value for a Property in a category not covered by the Index and whose value is affected by factors that are different from those that affect the value of properties in the categories used by the Index. In addition, the methodology applied to produce the Index makes certain fundamental assumptions that impose difficulties in selecting or filtering the properties that are used to produce the Index due to a lack of information about the properties, which may result in such properties being excluded and may impact the accuracy of the representation of the rate of change in the Index.

*The Index may not always be available in its current form or a different Index may be used to determine Market Value for a Property subject to Related Security in respect of a Loan*

The Index providers may make a change to the method used to calculate the Index, the frequency with which the Index is published may change (such that the Index no longer meets the requirements in the Guide), or the Index may cease to be available to the Issuer and the Guarantor LP for determining the Market Value of the Property subject to Related Security in respect of a Loan. In such circumstances, the Issuer and the Guarantor LP may or will need to select one or more new indices for determining Market Value of the Property subject to Related Security in respect of a Loan. The Issuer and the Guarantor LP may also determine at any time to use a different index or indices to adjust the Latest Valuation of the Property subject to Related Security in respect of a Loan for subsequent price developments to determine the Market Value of such Property, for example, to obtain rates of changes in home prices for metropolitan or geographic areas not covered by the Index, to use an index or indices that the Issuer and Guarantor LP believe will produce better or more reliable Market Value results or that is more cost effective. The use of any such new indices to adjust Latest Valuation could result in a significant change in the Market Value of the real property subject to the Related Security in respect of each Loan. See "Housing Price Index Methodology - Indexation Methodology".