

Fixed Income Insights

MONTHLY REPORT - MARCH 2023 | CANADA EDITION

FOR PROFESSIONAL INVESTORS ONLY

Flat Q4 growth justifies BoC pause, even if January rebound drives bonds lower

The BoC’s dilemma over pausing policy tightening was eased by Q4 GDP flat-lining, even if firm January data reopens the policy debate. Canadian fixed income assets sold off in February as the market adjusted to “higher for longer” risks, with deep curve inversion giving no reward for duration risk. EM inflation bonds outperformed.

Growth and inflation expectations – Soft landing doubts drive “higher for longer” fears on rates

Tight labour and strong business sentiment raise doubts on soft landing and fueled fears of “higher for longer” rates. (page 2)

Canadian govts and credit – High energy weighting supports Canadian HY credits

Canadian high yield spreads have been less volatile than their US equivalents since Covid, reflecting the higher energy weighting in Canadian HY. (pages 3-4)

Global yields and spreads – Central bank caution prevails driving bearish inversion of curves

Canadian yield curves are deeply inverted, but February’s bearish inversion was driven by rises in short yields. (pages 5-6)

Performance – Broad bond sell-off hurts long Canadian bonds

Canadian provinces and municipals, and long-dated government bonds, suffered most in the February sell-off. (pages 7-9)

Sovereign and climate bonds – Relative performance dominated by country weights, and duration

Climate-WGBI underperformed WGBI in February, reflecting longer duration in climate-WGBI. (page 10)

Appendix

Canadian & Global bond market returns, historical bond yields, durations and market values and foreign exchange returns.

Chart 1: Shipping costs have returned to pre-Covid levels, easing supply chain pressures for raw materials and tradeable goods.

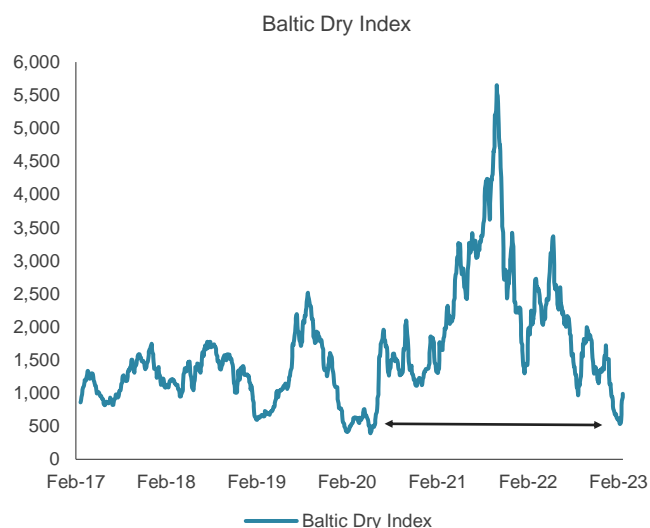
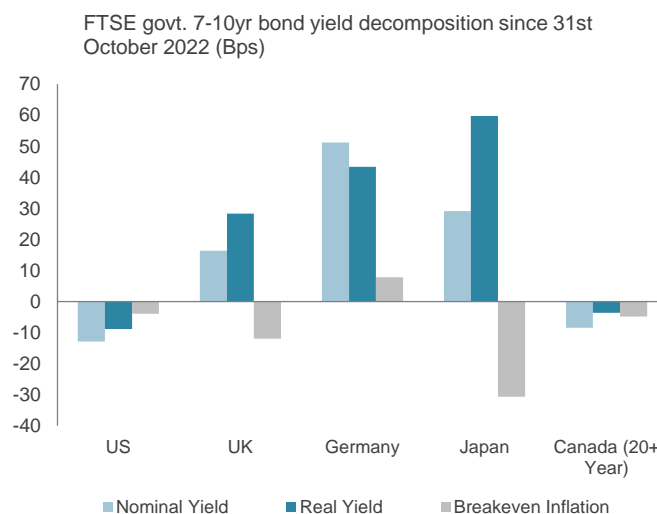


Chart 2: Inflation breakevens have fallen in most regions since bond yields peaked in October, though only modestly in Canada and US.



Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. This report should not be considered 'research' for the purposes of MIFID II. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix for list of indices used for each market.

Macroeconomic Backdrop – Growth and Inflation Expectations

IMF growth forecasts were upgraded for 2023, with the UK the only economy projected to contract in 2023, and Canada's forecast left unchanged at 1.5% growth. Chairman Powell confirmed the Fed's hawkish stance in February, while stronger data intensified debate about the BoC's policy pause. The pace of decline in G7 inflation has moved centre stage.

Latest IMF growth forecasts were modestly upgraded in most economies, despite higher policy rates. However, Canadian 2023 forecasts have remained unchanged, a stance justified by zero GDP growth in Canada in Q4, well below the BoC's forecast of 1.3% annualised. Conflicting data signals, with strong January data, suggest the BoC may retain its policy pause in March.

Inflation rates fell in January, but marginally, as fuel prices rebounded and food price inflation remains a factor throughout the G7. Canadian CPI inflation, at 5.9% y/y, is much lower than the June 2022 peak of 8.1% y/y, but the pace of decline slowed (Chart 2).

Chart 3 shows US short rates moving above Canadian short rates, after the Fed move in February. A strong rebound in business confidence and manufacturing intensifies debate about the policy pause by the Bank of Canada. The PBoC kept the LPR rate steady for the six consecutive month, increasing rate differentials with other central banks.

Chart 4 shows the US dollar rebounded modestly in February, in response to the stronger data, but that the US dollar's previous negative correlation with energy and commodity prices, broke down in 2022/23. The positive correlation of a strong dollar with strong energy prices in 2022/23 increased inflation pressures in other G7 economies, complicating inflation control.

Chart 1: Apart from Canada (unchanged) and a revision down to the UK, all IMF growth forecasts for 2023 from January show modest revisions higher, in response to stronger Q4 data.

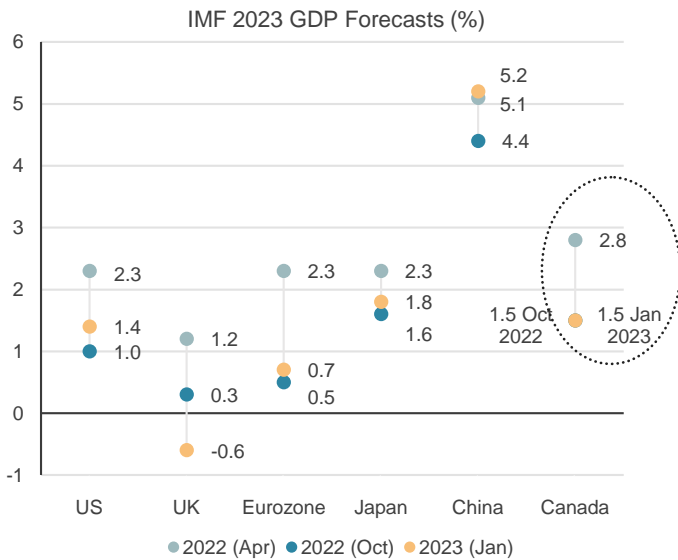


Chart 2: Inflation is predicted to stay well above target in most G7 in 2023, notably in the UK. Canada is among a few G7 countries expected to be close to meeting its inflation target in 2024.

	2023	Change Since Jan-23 (Bps)	2024	Change Since Jan-23 (Bps)
US	3.8	10	2.5	0
UK	7.0	0	2.6	10
Eurozone	5.6	-40	2.5	0
Japan	2.0	20	1.4	10
China	2.3	0	2.3	0
Canada	3.7	0	2.2	0

Chart 3: The Bank of Canada's policy pause was justified by zero GDP growth in Q4, even if economic data rebounded in January. Interest rate differentials widened further with China.

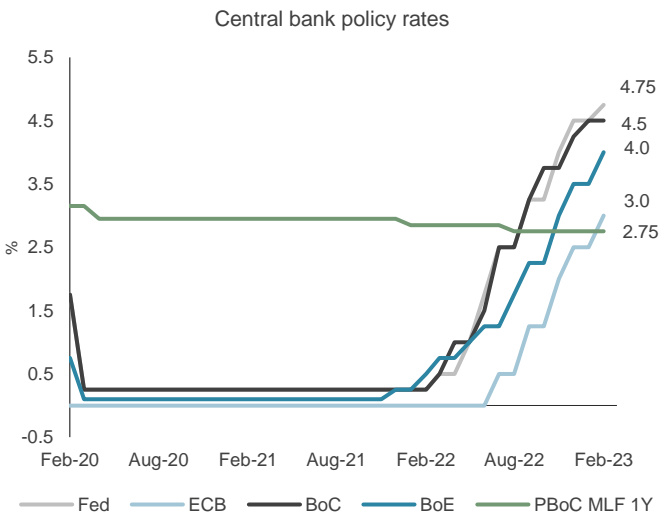
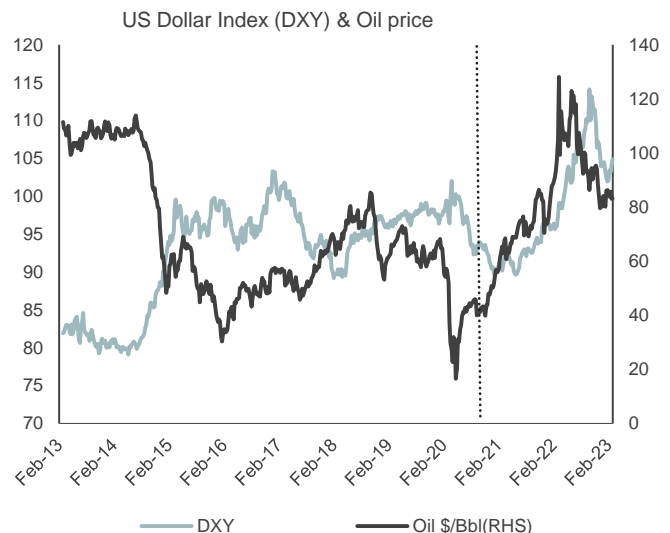


Chart 2: The US dollar's negative correlation with the oil price has weakened. The positive correlation of strong energy prices and US dollar reinforced inflation pressures outside the US in 2022.



Source: FTSE Russell and Refinitiv. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Canadian Governments, Provinces and Municipalities

Chart 1: Canadian 10s/2s and 20s/2s curves remain deeply inverted, signalling recession risks after GDP flat-lined in Q4. But strong January data re-opened debate on the policy pause.

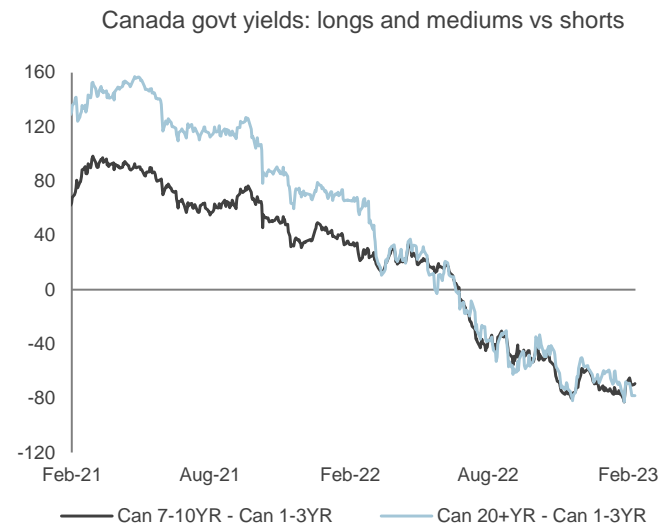


Chart 2: Canadian 7-10-year governments continue to trade well through the US and UK, and spreads have widened significantly only versus Japan, due to the BoJ's curve control policy.

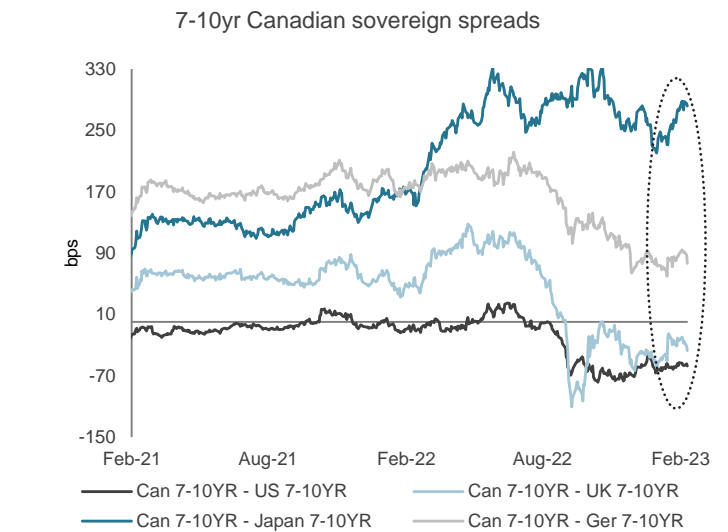


Chart 3: Long Canadian nominal and real yields have tracked closely, apart from the early Covid stage, when yields decoupled. Both rose in February after "higher for longer" rate concerns.

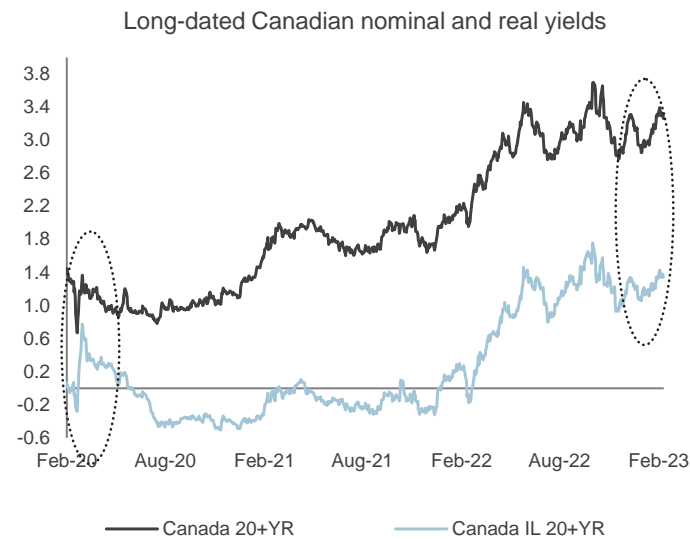


Chart 4: Long-dated Canadian breakevens ticked up in February, tracking US Treasuries, as nominal bonds responded more to fears of higher rates following robust economic data in January.

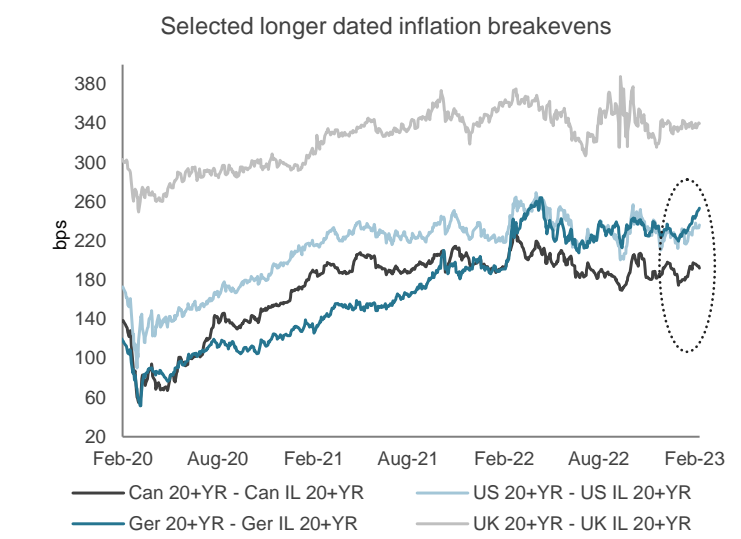


Chart 5: Provincial spreads fell versus governments and converged to historic lows against each other, especially in Alberta, where divergence versus other provinces has ended.

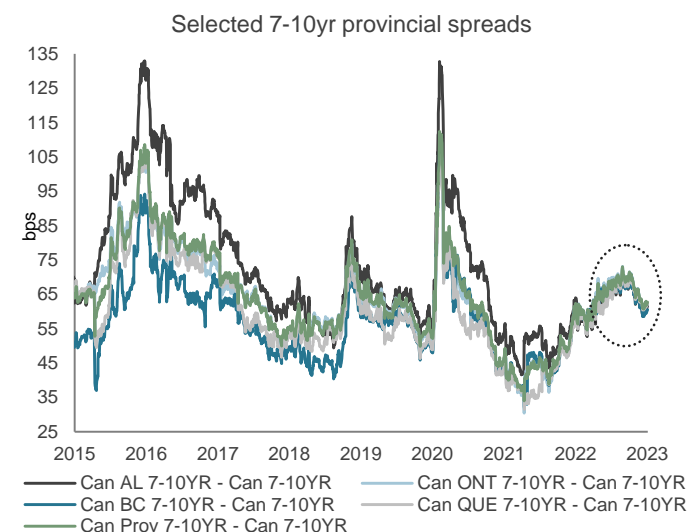
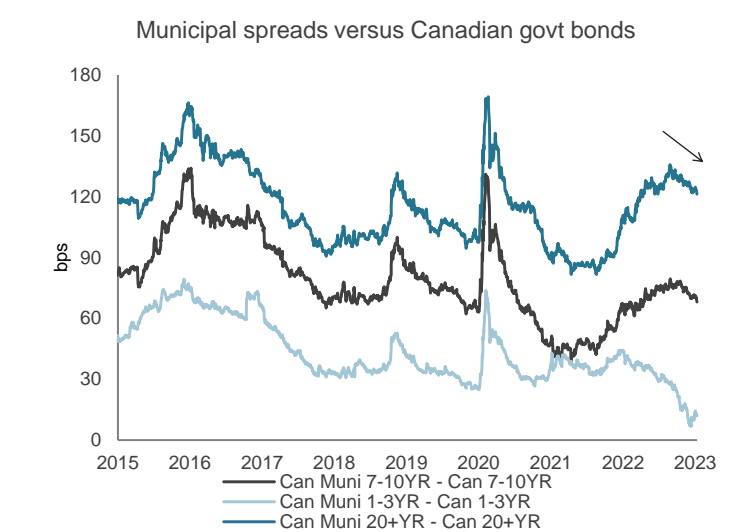


Chart 6: Longer muni spreads fell sharply in February, after fears of 'higher for longer' rates pushed Canadian govt. yields higher. The divergence between shorts and longs remain a feature however.



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Canadian Corporate Bonds

Chart 1: Yields on Canadian HY bonds remain more stable than US HY, and have outperformed since policy tightening began, while those of Canadian IG have mostly tracked their US IG equivalents.

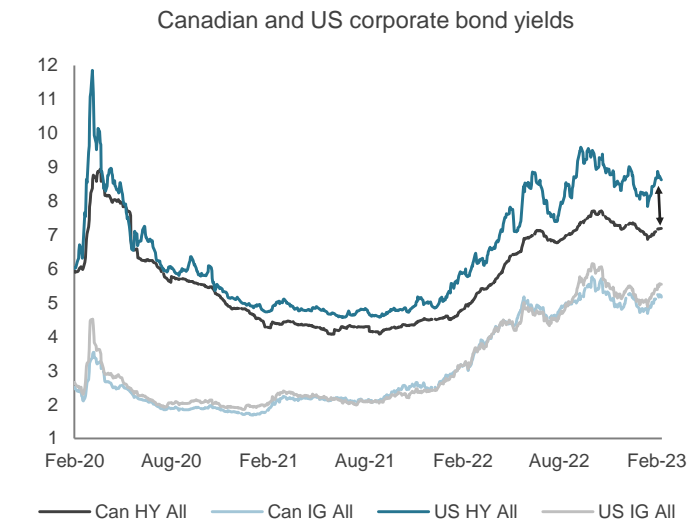


Chart 2: Infrastructure credit has been the most stable and best performing sector since Covid. Financial sector spreads proved the most sensitive to the inversion of the yield curve (see Chart 6).

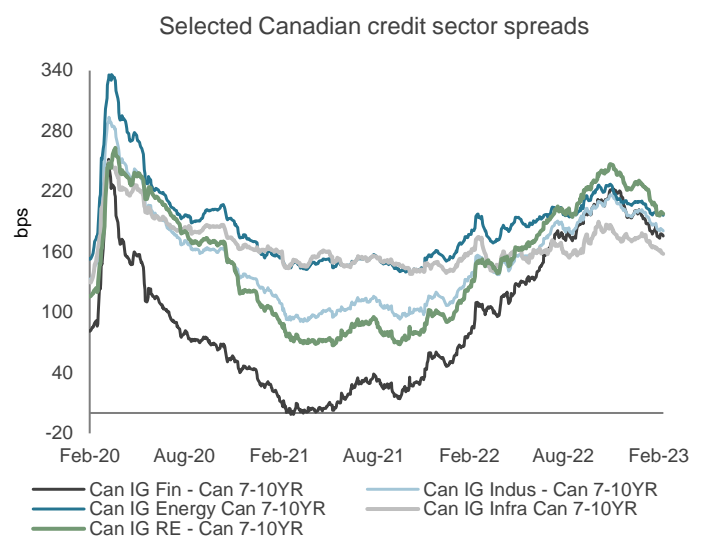


Chart 3: Canadian high yield spreads have been less volatile than their US equivalents since Covid, despite the higher energy weighting in Canadian HY (36%) compared to US HY (13%).

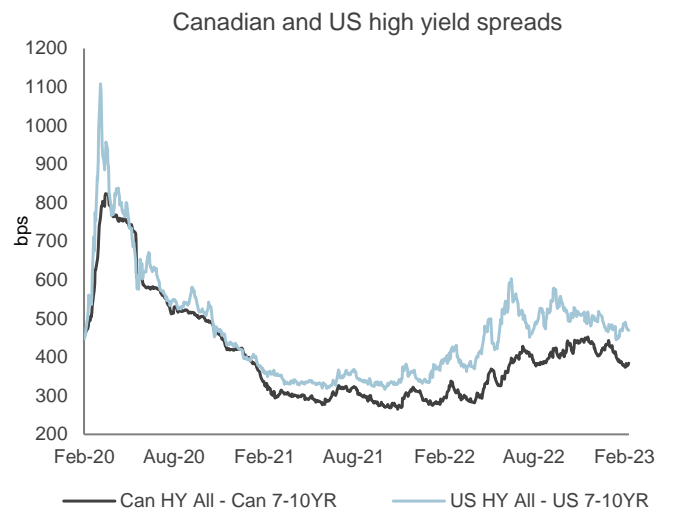


Chart 4: AAA corporate bond yields have risen more than their BBB-rated peers since 2021 and have been close to converging with their A-rated equivalents since the beginning of 2023.

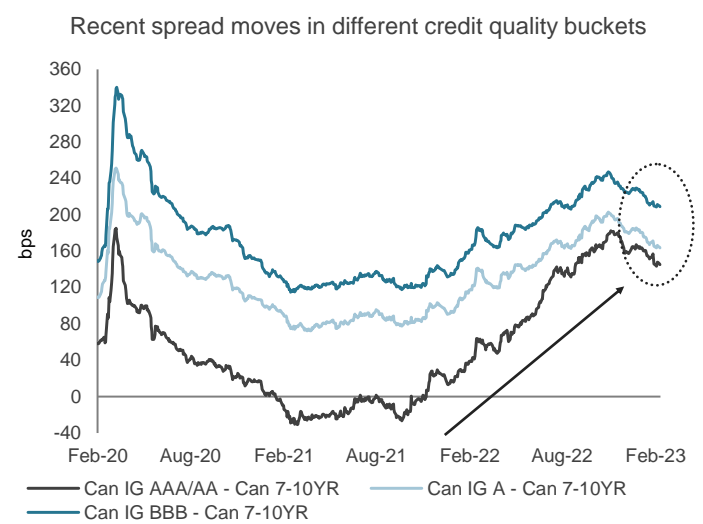


Chart 5: BBB spreads are 27bp tighter than AAA peers since Covid, despite predictions of a spike in downgrades to sub-investment grade. Closer correlation of AAA yields to BoC policy rates may explain this.

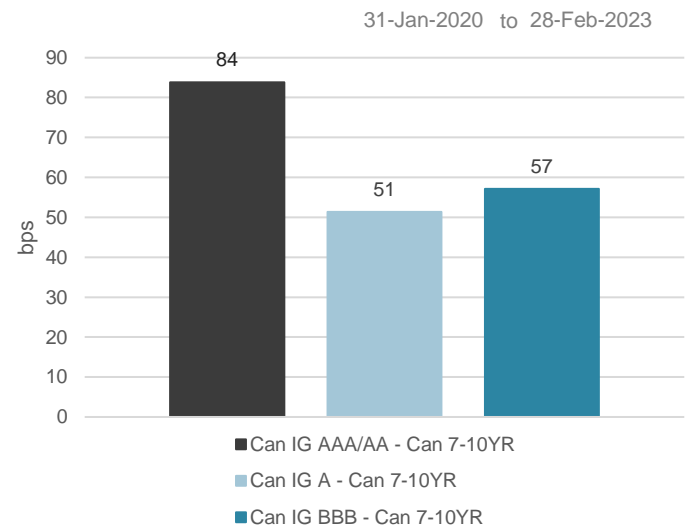
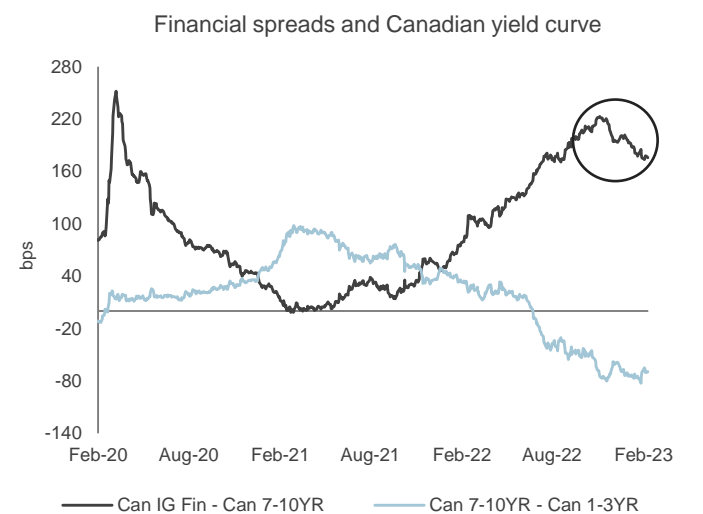


Chart 6: Financial spreads retain strong negative correlation to the yield curve, narrowing in the post-Covid reflation trade before widening as the curve inverted. But recent narrowing is of note.



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Global Yields, Curves and Spread Analysis

Chart 1: G7 bond yields reversed the January declines in February, led by Treasuries, as markets reacted to robust US employment growth, with rates now expected to peak nearer Fed dot plots.

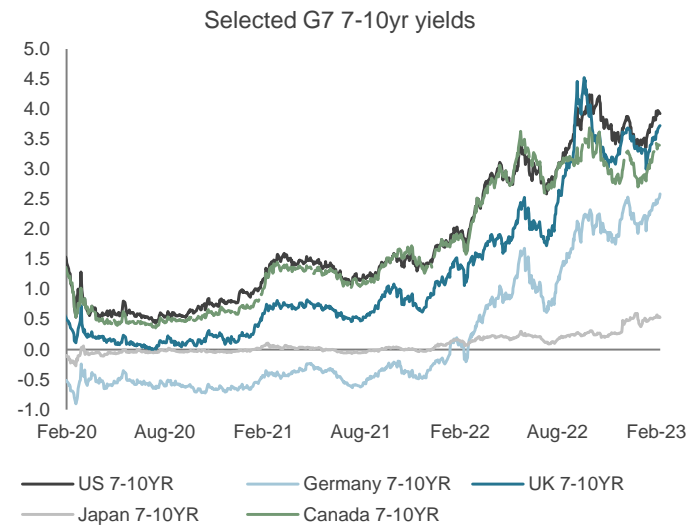


Chart 2: WGBI and US Inflation-linked yields are firmly positive, and just so in the UK and Germany. But real yields backed up less than nominal yields in February, as breakevens rose (see Charts 5 & 6).

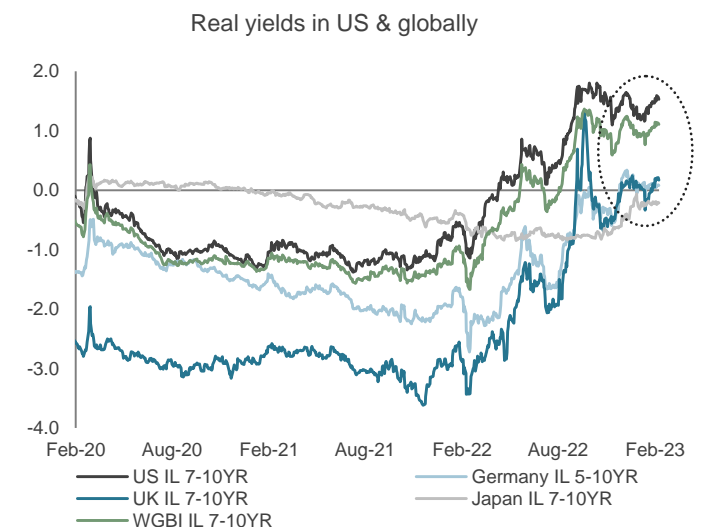


Chart 3: Deep inversion of 10s/2s yield curves continues (exc. Japan) but this time in a bear inversion (yields rising more in 2yrs than 10yrs), leaving investors unrewarded for extra duration risk.

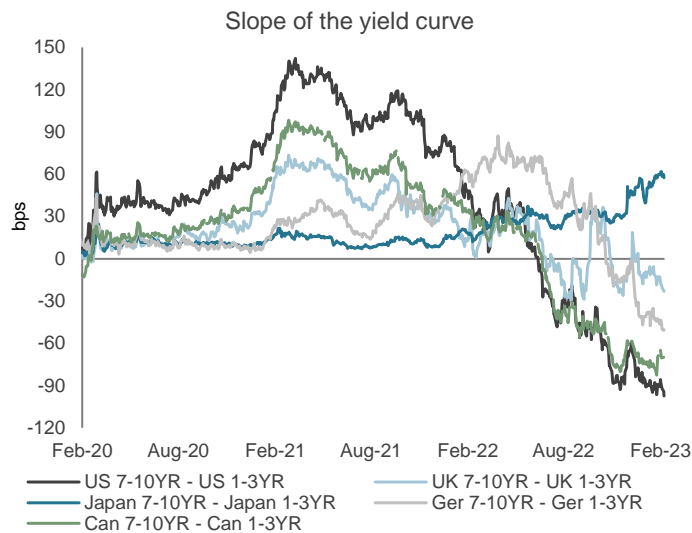


Chart 4: At the long end, only Japan and the UK (just), retain positively sloped yield curves. The US, Germany and Canada have deeply inverted curves, with similar inversion to 10s/2s in Chart 3.

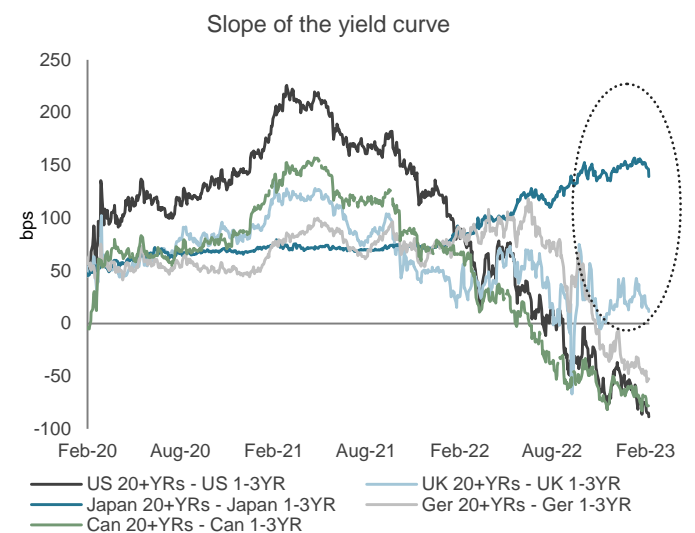


Chart 5: 7-10yr breakevens reversed their recent declines, and rose in February, as government yields rose after inflation showed little signs of easing sharply, despite monetary tightening in 2022-23.

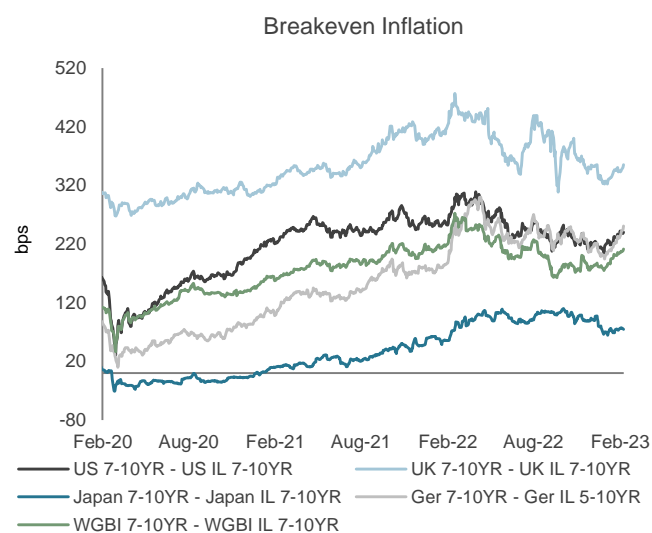


Chart 6: Short WGBI breakevens moved sharply higher in February, reversing falls since the 2022 Ukraine spike, as January data proved stronger than expected. Longer breakevens reacted less.



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Yield Spread and Credit Spread Analysis

Chart 1: US 7-10-year spreads have remained relatively flat against their G7 equivalents in February, except against Japan, where spreads widened after the BoJ kept its curve control policy.

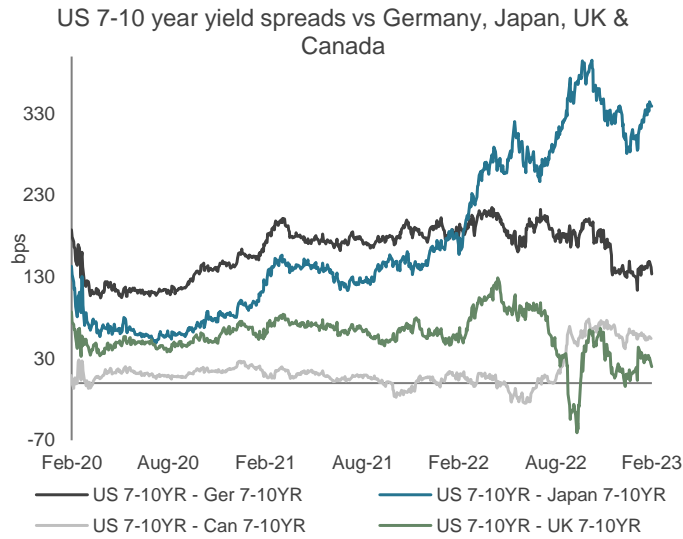


Chart 2: Italy 7-10yr spreads vs the US are a little higher than 2018-19, unlike vs Germany & France, where spreads fell sharply since Q4 2022. This may reflect the ECB's huge potential sales of Bunds.

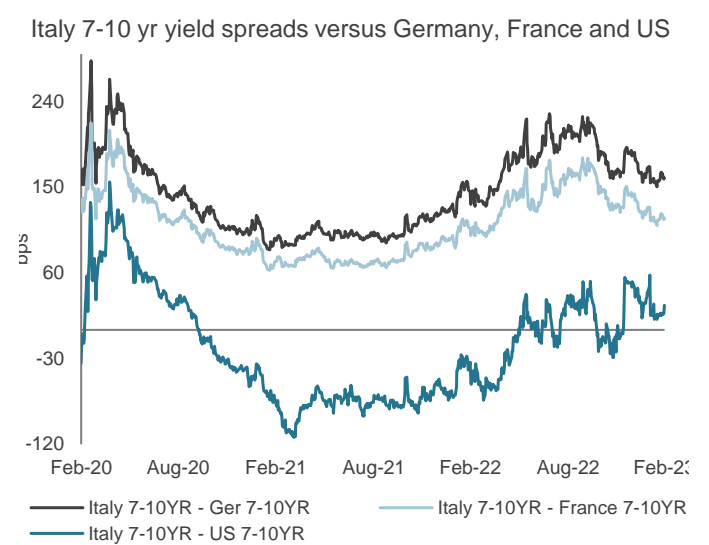


Chart 3: EM spread narrowing partly reflects higher G7 yields, but at no point have EM spreads spiked since Covid, as they did in genuine crises previously.

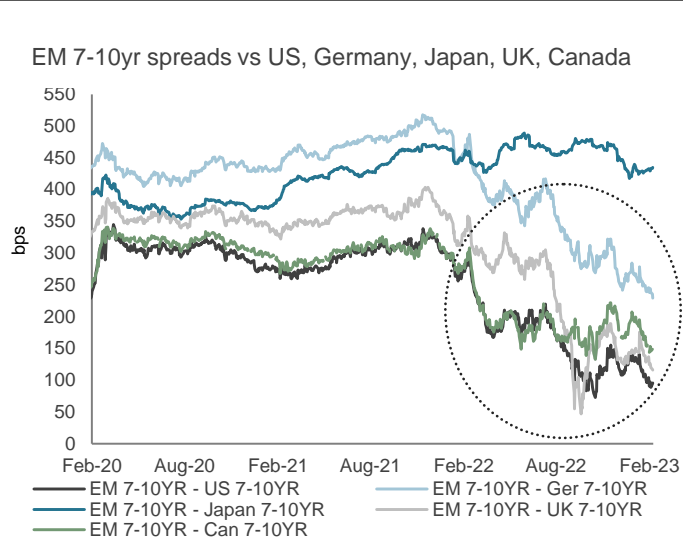


Chart 4: Low correlation of Chinese yields to G7 yields is well documented and does not appear directional, enhancing the portfolio diversification benefits of Chinese government bonds.

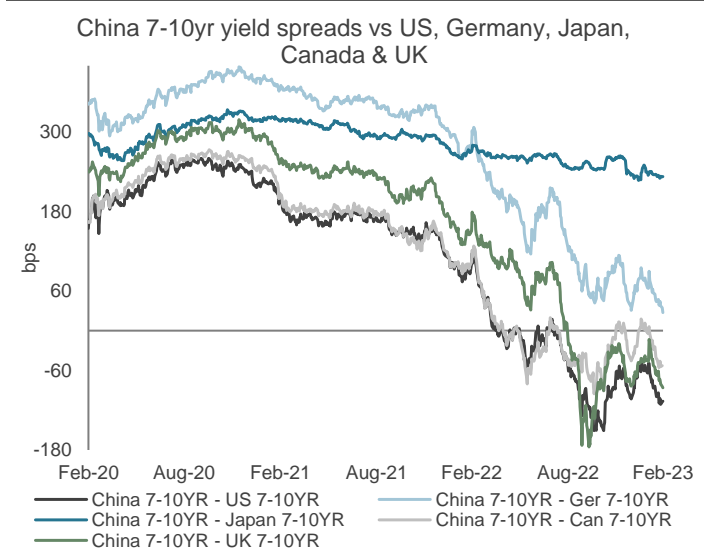


Chart 5: US and Eurozone credit spreads re-coupled in February after decoupling for much of 2022 as credit defaults remain low in both regions. The move is most noticeable in high yield credits.

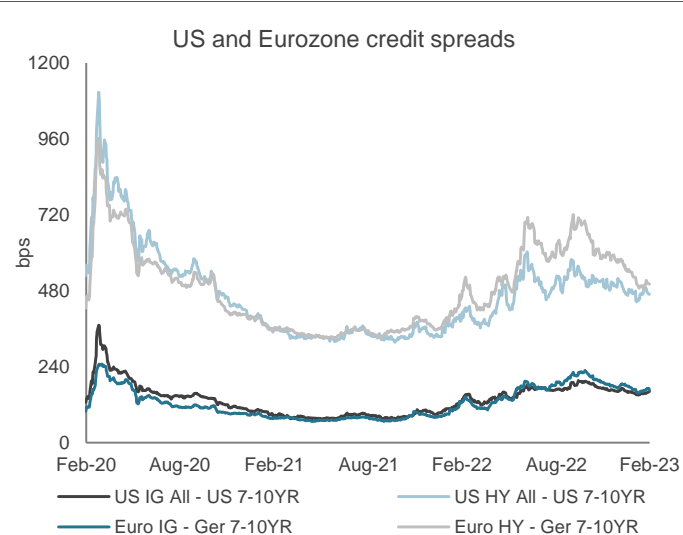


Chart 6: The sharp fall in Chinese \$ HY spreads stabilized in February, as investors reflected on property fundamentals and high yield risk appetite fell back on US inflation concerns.



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Global Bond Market Returns – 1M & 12M % (CAD, LC, TR) as of February 28, 2023

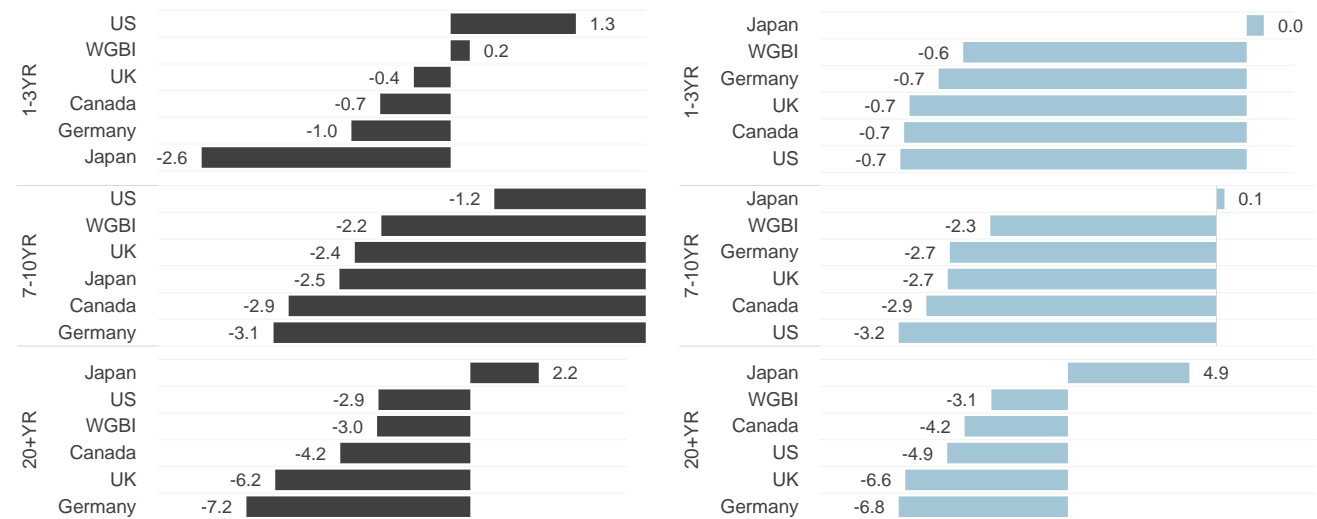
Robust economic data, notably in the US, triggered a reversal of the January global bond rally in February, after markets re-focused on the risks of higher for longer interest rates. Conventional bonds with longer durations incurred the largest losses, especially in Canada, where economic data rebounded strongly in January, and despite the BoC policy pause.

Longer maturities were hit the hardest in the February sell-off, though losses affected all regions and maturities. Long-dated Canadian conventional bonds fell by 4%. Returns for long inflation-linked bonds were also negative in all regions, especially in the UK, down minus 9%. Currency fluctuation was also a factor, with returns for JGBs and Bunds being eroded in Canadian dollars.

12M returns remained strongly negative, with deep losses registered by both global conventional and real return bonds. UK Gilts underperformed the most, with losses for index-linked bonds of 51% in Canadian dollar terms.

CONVENTIONAL BONDS

1M CAD 1M LCY

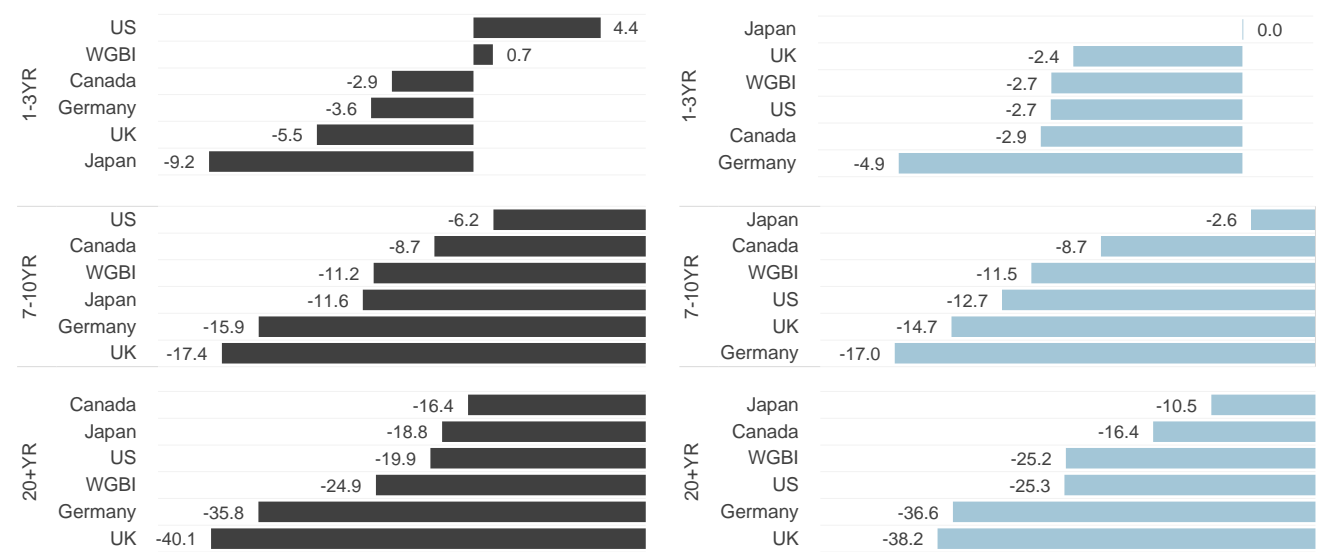


INFLATION LINKED BONDS



CONVENTIONAL BONDS

12M CAD 12M LCY



INFLATION LINKED BONDS



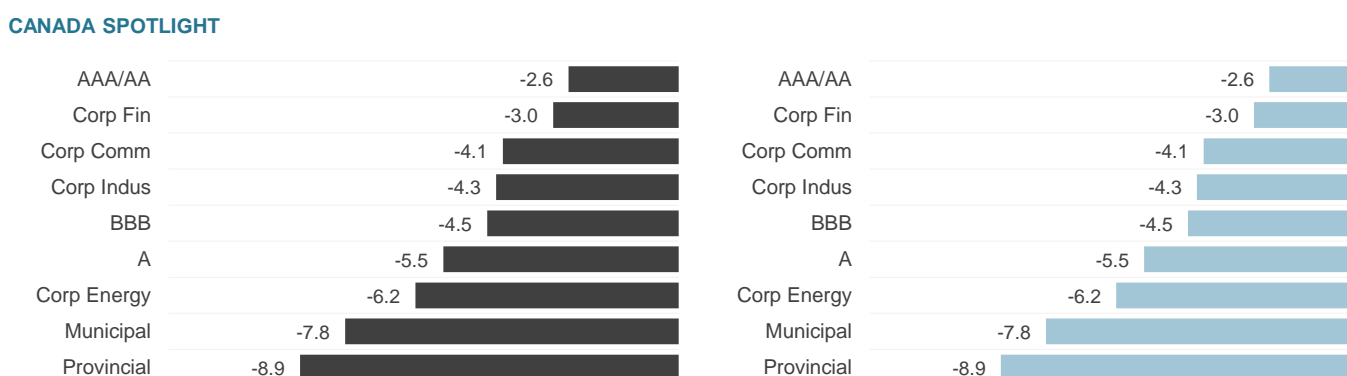
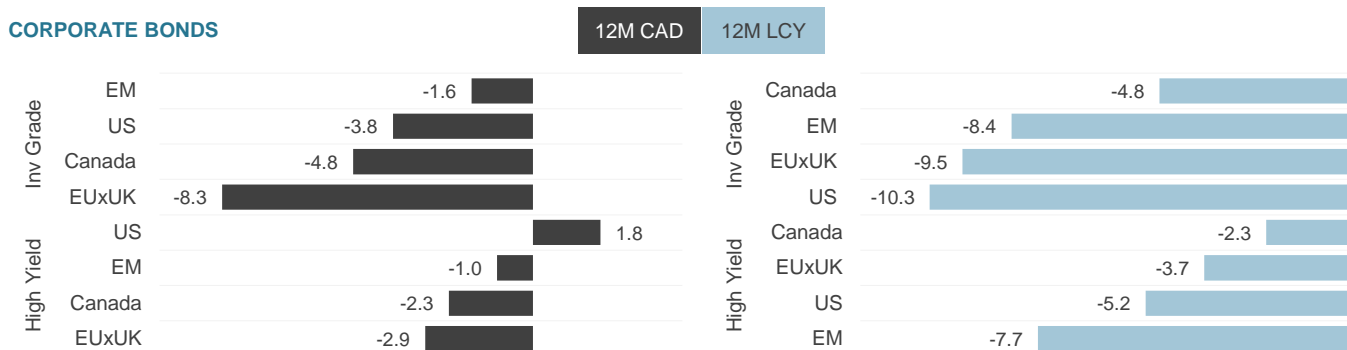
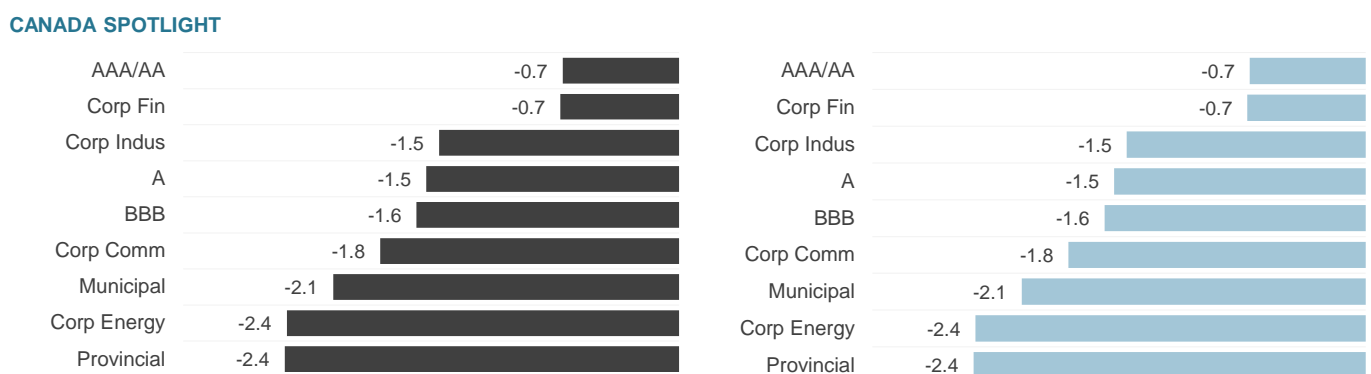
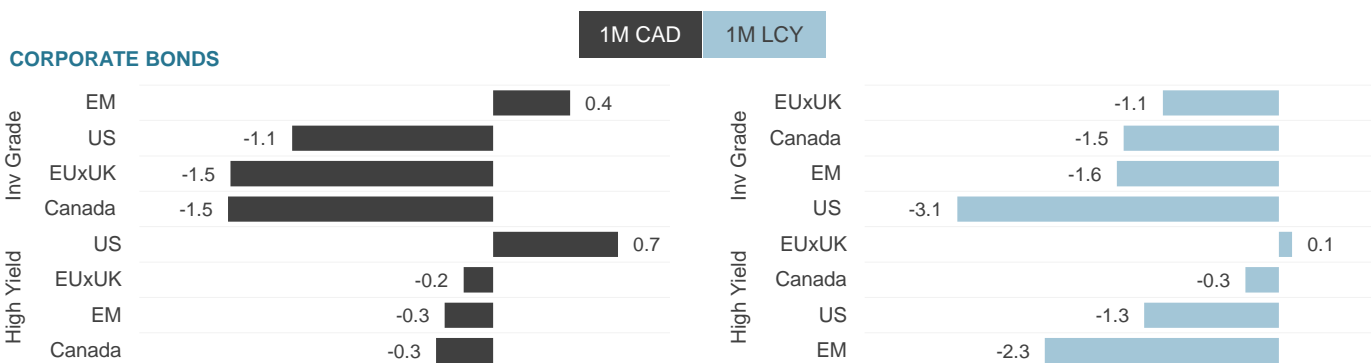
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Corporate Bond Returns – 1M & 12M % (CAD, LCY) as of February 28, 2023

Like government bonds, corporate bonds also sold off in February, with investment grade underperforming high yield credits. Municipal and provincial bonds lost 2% in February and underperformed the most over twelve months.

By credit quality, losses for AAA-rated corporates, down 1%, were less than their lower quality peers (-2%). Regionally, returns for Euro, Canadian and US HY credits less negative than their IG equivalents, except in emerging markets, where the reverse was true.

Municipals and Provincials have underperformed the most over the last twelve months with losses of 8-9%.



Indices used: FTSE Canada Corporate Bond Index (AAA/AA, A, BBB, Financial, Communication, Industrial, Energy, Overall), FTSE Canada High Yield Bond Index, FTSE Canada Provincial Bond Index, FTSE Canada Municipal Bond Index.

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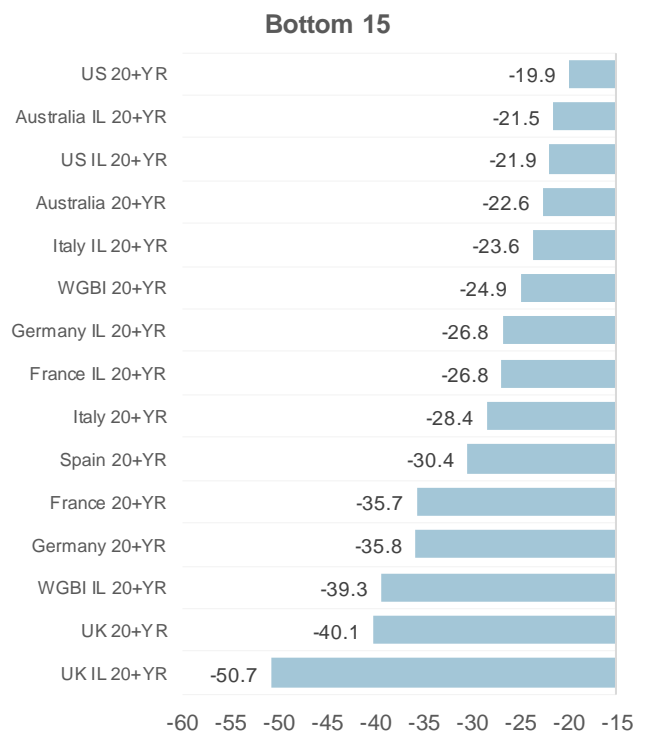
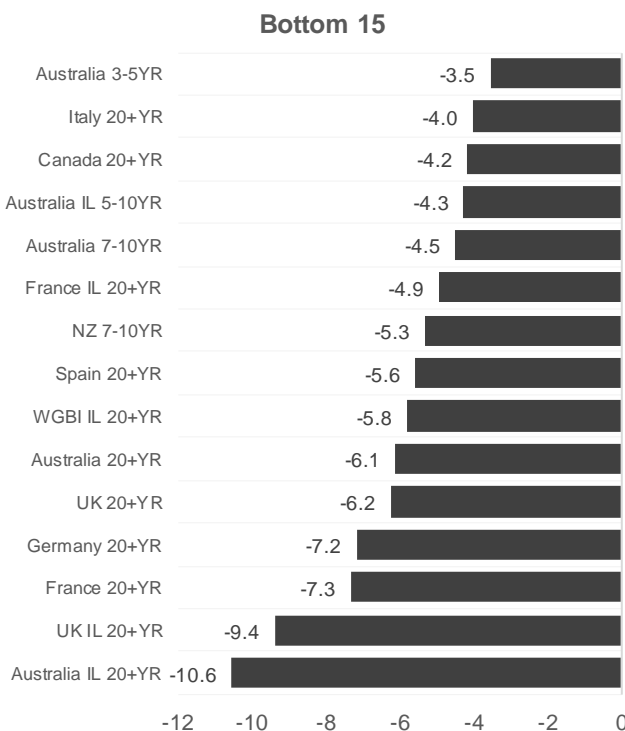
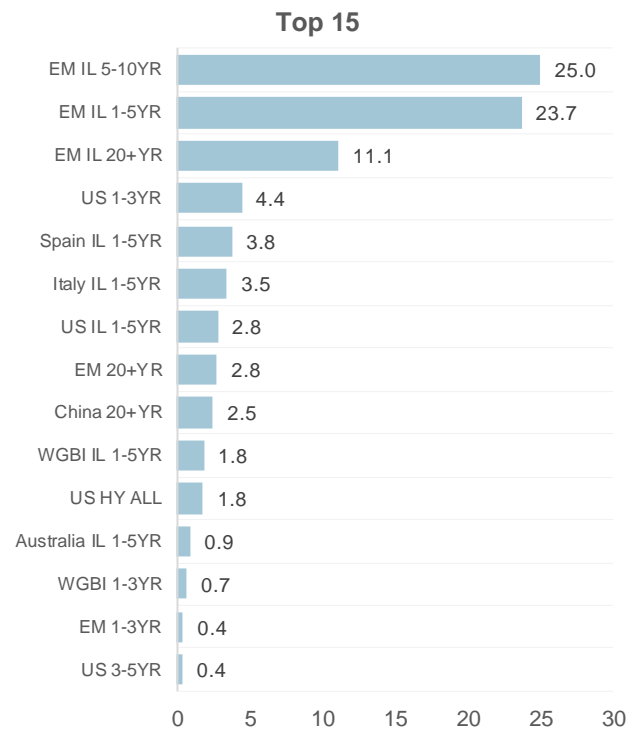
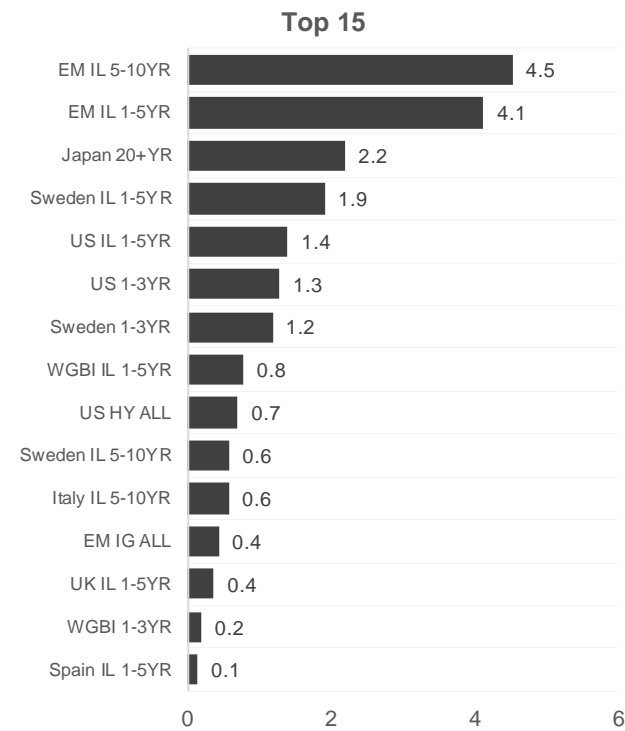
Top and Bottom Bond Returns – 1M & 12M % (CAD, TR) as of February 28, 2023

Short-dated EM inflation-linked (IL) bonds were among a few asset classes which did not succumb to the broad sell-off in global bond markets in February. Unsurprisingly, short-dated government bonds held up better than their longer equivalents overall. EM inflation-linked bonds continued to outperform over 12M.

Besides a few short-dated government bonds and EM IL bonds, returns for most global bonds were negative in February. The best performance came from 1-5-year EM IL bonds, with a return of 4-5%, while conventional and IL bonds with long maturities lost 4-11% in Canadian dollars.

Similarly over 12M, EM IL bonds have made substantial gains of up to 25%, while long government bonds have lost some 21-51%.

1M CAD 12M CAD



Source: FTSE Russell. All data as of February 28, 2023. This analysis is taken from 130+ FTSE Russell sub-indices. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Sovereign and Climate Bonds Analysis

Chart 1: Extra duration in the climate WGBI, since 2022's re-weighting, caused underperformance vs WGBI as yields increased.

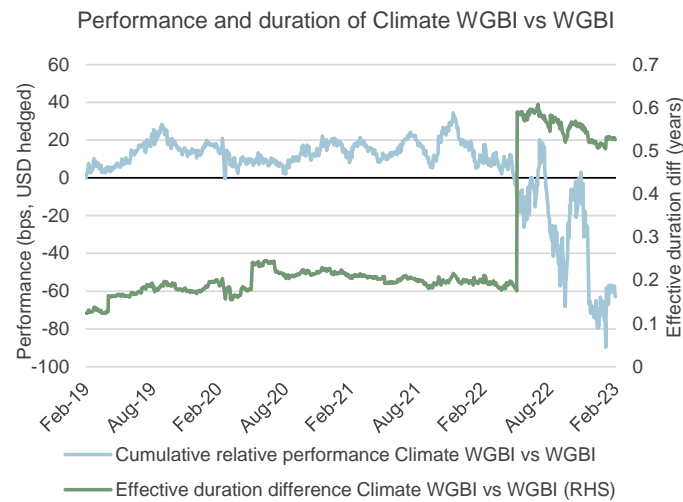


Chart 2: Japan & Canada's overweight, and the US underweight, are significant in the climate WGBI, driving 2022-23 performance.

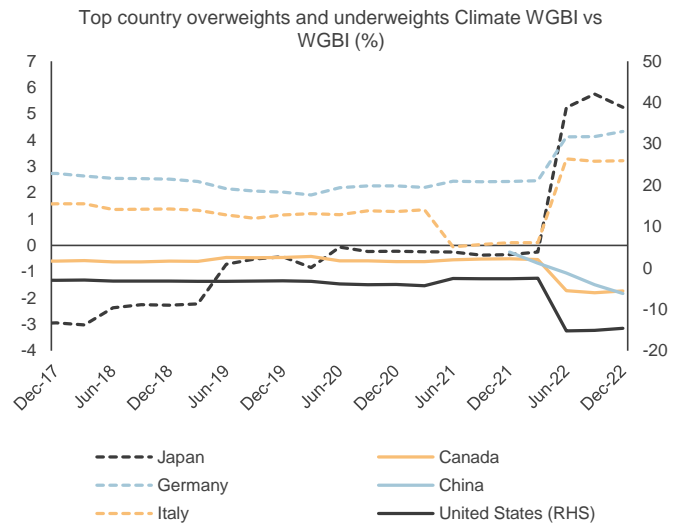


Chart 3: Climate WGBI has a lower yield to maturity versus WGBI, reflecting the higher weight of lower yielding Europe and Japan.

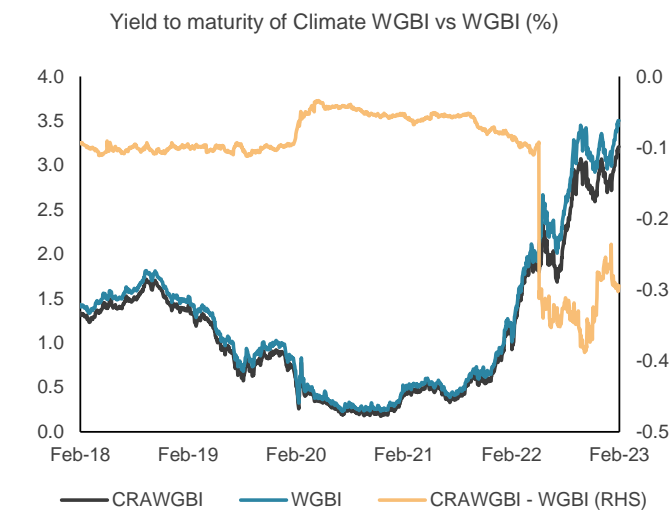


Chart 4: Big differences in Credit Quality: Climate WGBI has a lower weight in AA and a higher weight in AAA, A & BBB vs WGBI.

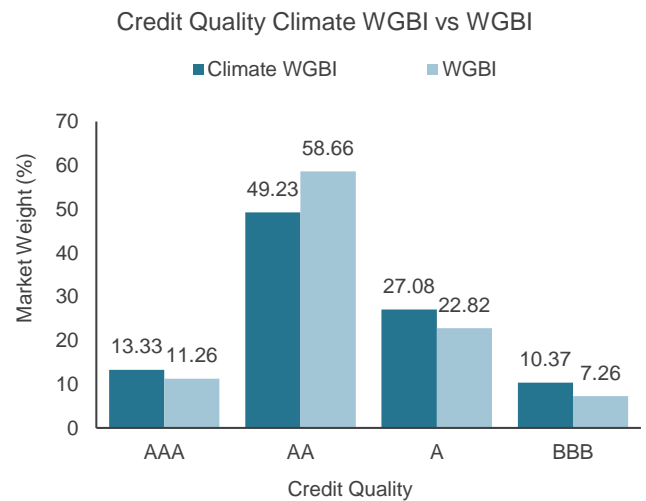


Chart 5: Despite yields increasing more in WGBI indices in 2022, led by US, climate WGBI's extra duration drove underperformance.

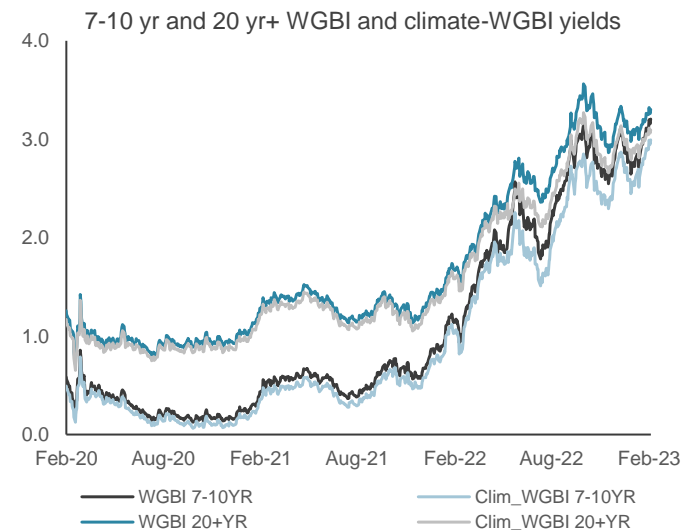
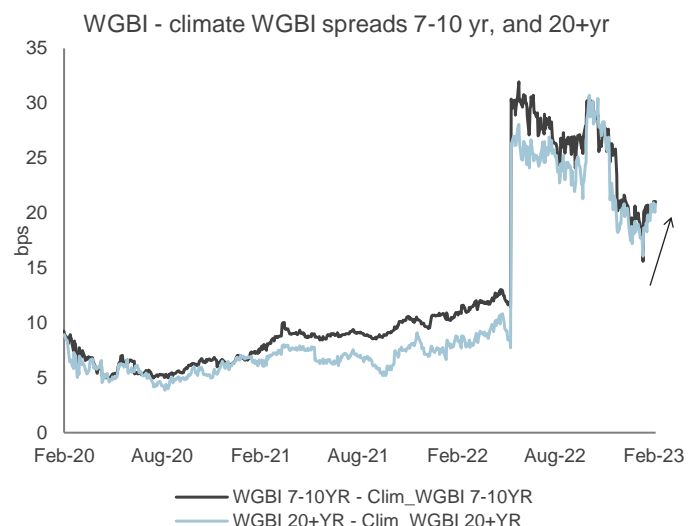


Chart 6: There was some reversal of recent spread narrowing in WGBI as US yields rose more in February (see Chart 1, page 5).



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Appendix – Canadian Bond Market Returns % (CAD vs USD, TR)

Government and corporate bond returns

Top 15% Bottom 15%

		3M		6M		YTD		12M	
		Local	USD	Local	USD	Local	USD	Local	USD
Government	1-3YR	0.09	-0.33	0.69	-3.15	0.24	-0.24	-2.85	-9.49
	7-10YR	-2.12	-2.53	-0.07	-3.87	0.23	-0.25	-8.67	-14.91
	20+YR	-3.38	-3.79	-2.36	-6.08	1.60	1.11	-16.39	-22.11
Inflation-Linked	20+YR	-1.68	-2.09	-0.63	-4.41	-1.01	-1.49	-8.99	-15.21
Corporate	1-3YR	1.09	0.66	1.90	-1.98	1.07	0.59	-1.91	-8.62
	7-10YR	-0.25	-0.67	1.73	-2.14	1.17	0.68	-5.49	-11.95
	20+YR	-0.68	-1.10	0.32	-3.50	2.35	1.86	-9.58	-15.77
AAA/AA	1-3YR	0.93	0.50	1.52	-2.34	0.89	0.41	-1.63	-8.36
	7-10YR	-0.05	-0.47	1.38	-2.48	1.00	0.51	-6.10	-12.52
	20+YR	-0.92	-1.34	-0.86	-4.64	2.98	2.49	-12.80	-18.77
	All	0.76	0.33	1.52	-2.35	1.06	0.58	-2.59	-9.25
A	1-3YR	1.12	0.69	1.92	-1.96	1.08	0.59	-2.23	-8.92
	7-10YR	-0.20	-0.62	1.44	-2.42	1.09	0.61	-6.26	-12.67
	20+YR	-0.85	-1.27	-0.15	-3.95	2.29	1.81	-10.53	-16.65
	All	0.41	-0.01	1.22	-2.63	1.46	0.97	-5.54	-12.00
BBB	1-3YR	1.08	0.65	1.97	-1.91	1.11	0.63	-1.66	-8.39
	7-10YR	-0.28	-0.70	1.94	-1.94	1.24	0.76	-5.05	-11.54
	20+YR	-0.43	-0.85	1.01	-2.84	2.42	1.93	-8.18	-14.46
	All	0.31	-0.11	1.71	-2.16	1.47	0.99	-4.51	-11.04
Sectors	Comm	-0.01	-0.43	1.95	-1.93	1.57	1.08	-4.14	-10.70
	Energy	-0.38	-0.81	1.16	-2.70	1.44	0.96	-6.19	-12.61
	Fin	1.19	0.76	1.89	-1.99	1.27	0.78	-2.95	-9.59
	Indus	0.47	0.04	1.84	-2.04	1.52	1.03	-4.30	-10.84
	Infra	-0.75	-1.17	0.10	-3.71	1.75	1.26	-8.82	-15.06
	RE	0.98	0.55	1.78	-2.10	1.41	0.93	-3.45	-10.05
	Secur	1.19	0.77	1.84	-2.04	1.14	0.66	-2.58	-9.24
Provinces (All)	1-3YR	0.18	-0.24	1.11	-2.74	0.46	-0.02	-2.40	-9.08
	7-10YR	-0.99	-1.41	1.21	-2.64	0.77	0.29	-6.32	-12.73
	20+YR	-1.57	-1.98	-0.28	-4.08	2.09	1.61	-13.13	-19.07
	All	-1.00	-1.42	0.45	-3.38	1.34	0.85	-8.91	-15.14
Ontario	1-3YR	0.21	-0.22	1.12	-2.74	0.45	-0.03	-2.26	-8.95
	7-10YR	-0.93	-1.35	1.30	-2.56	0.80	0.32	-6.17	-12.59
	20+YR	-1.51	-1.92	-0.15	-3.95	2.10	1.61	-12.95	-18.90
	All	-0.90	-1.32	0.58	-3.25	1.29	0.81	-8.31	-14.58
Alberta	1-3YR	0.13	-0.29	1.09	-2.76	0.46	-0.02	-2.56	-9.23
	7-10YR	-1.04	-1.46	1.06	-2.79	0.74	0.26	-6.36	-12.77
	20+YR	-2.05	-2.46	-1.19	-4.96	1.92	1.44	-14.61	-20.45
	All	-1.18	-1.60	0.08	-3.73	1.19	0.70	-9.36	-15.55
Quebec	1-3YR	0.19	-0.24	1.15	-2.70	0.47	-0.01	-2.59	-9.25
	7-10YR	-1.06	-1.48	1.15	-2.70	0.75	0.27	-6.72	-13.10
	20+YR	-1.52	-1.94	-0.21	-4.01	2.15	1.66	-12.92	-18.88
	All	-1.08	-1.50	0.43	-3.40	1.42	0.94	-9.47	-15.66
BC	1-3YR	0.02	-0.40	0.87	-2.97	0.44	-0.04	-2.47	-9.14
	7-10YR	-1.02	-1.44	1.17	-2.69	0.80	0.32	-6.32	-12.72
	20+YR	-1.62	-2.03	-0.35	-4.15	2.11	1.62	-13.55	-19.46
	All	-1.15	-1.57	0.32	-3.50	1.39	0.90	-9.52	-15.71

Indices used: FTSE Canada Non-Agency Bond Index (Short, Mid, Long), FTSE Canada RRB Canada Index, FTSE Canada Corporate Bond Index (Short, Mid, Long, AAA/AA, A, BBB), FTSE Canada Provincial Bond Index, FTSE Canada High Yield Bond Index.

Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Global Bond Market Returns % (CAD vs LC, TR)

Government bond returns

Top 15% Bottom 15%

Green highlight indicates highest 15%, red indicates lowest 15%.

		1M		3M		YTD		12M	
		Local	CAD	Local	CAD	Local	CAD	Local	CAD
US	1-3YR	-0.73	1.29	0.17	0.60	0.02	0.50	-2.71	4.43
	7-10YR	-3.21	-1.24	-1.23	-0.81	0.23	0.71	-12.66	-6.25
	20+YR	-4.88	-2.95	-0.25	0.17	2.37	2.86	-25.34	-19.86
	IG All	-3.10	-1.14	0.45	0.88	0.92	1.40	-10.33	-3.75
	HY All	-1.30	0.71	1.75	2.19	2.53	3.02	-5.15	1.81
UK	1-3YR	-0.71	-0.38	-0.16	1.92	-0.09	1.04	-2.39	-5.46
	7-10YR	-2.71	-2.39	-3.15	-1.13	0.31	1.44	-14.70	-17.39
	20+YR	-6.56	-6.25	-11.69	-9.84	-2.48	-1.38	-38.17	-40.11
EUR	IG All	-1.12	-1.48	-0.75	2.66	1.11	0.95	-9.55	-8.33
	HY All	0.13	-0.17	2.72	6.11	3.49	3.46	-3.75	-2.89
Japan	1-3YR	0.04	-2.56	0.03	2.91	0.14	-2.53	0.01	-9.23
	7-10YR	0.08	-2.51	-1.70	1.13	-0.15	-2.81	-2.60	-11.60
	20+YR	4.91	2.19	1.87	4.80	4.21	1.43	-10.53	-18.79
China	1-3YR	0.06	-0.60	0.40	3.79	0.20	0.85	2.16	-0.27
	7-10YR	0.26	-0.39	0.90	4.30	0.35	1.01	2.58	0.14
	20+YR	0.10	-0.55	1.21	4.62	-0.46	0.20	4.98	2.49
EM	1-3YR	0.04	-0.47	0.78	3.94	0.36	1.24	1.06	0.43
	7-10YR	-0.36	-0.85	1.84	4.12	1.13	1.56	-1.03	-2.31
	20+YR	-0.33	-1.02	1.80	4.19	0.36	0.64	3.79	2.77
	IG All	-1.56	0.43	2.13	2.56	0.96	1.44	-8.37	-1.65
	HY All	-2.26	-0.27	4.87	5.32	1.39	1.87	-7.74	-0.97
Germany	1-3YR	-0.65	-1.02	-1.17	2.23	-0.43	-0.59	-4.86	-3.57
	7-10YR	-2.69	-3.05	-4.61	-1.34	-0.06	-0.22	-17.00	-15.88
	20+YR	-6.83	-7.18	-14.37	-11.43	-0.79	-0.95	-36.61	-35.76
Italy	1-3YR	-0.57	-0.94	-0.75	2.66	0.07	-0.08	-3.89	-2.60
	7-10YR	-1.57	-1.94	-2.93	0.41	2.34	2.18	-14.86	-13.71
	20+YR	-3.67	-4.02	-9.82	-6.73	3.64	3.48	-29.34	-28.39
Spain	1-3YR	-0.57	-0.94	-1.07	2.32	-0.15	-0.31	-4.73	-3.44
	7-10YR	-2.30	-2.66	-4.45	-1.17	0.41	0.25	-15.56	-14.42
	20+YR	-5.22	-5.57	-11.68	-8.65	0.14	-0.01	-31.29	-30.36
France	1-3YR	-0.63	-1.00	-1.13	2.26	-0.12	-0.28	-5.03	-3.75
	7-10YR	-2.64	-3.00	-4.93	-1.67	0.22	0.07	-16.16	-15.03
	20+YR	-6.98	-7.33	-14.33	-11.39	-0.99	-1.15	-36.51	-35.66
Sweden	1-3YR	-1.22	1.18	-0.92	1.74	-0.36	0.03	-3.69	-6.44
	7-10YR	-4.55	-2.23	-5.57	-3.03	-1.88	-1.50	-14.78	-17.22
	20+YR					0.00	0.00	0.00	0.00
Australia	1-3YR	-0.66	-3.01	-0.19	0.93	0.17	0.09	-1.62	-1.86
	7-10YR	-2.18	-4.49	-1.65	-0.55	2.10	2.02	-9.37	-9.60
	20+YR	-3.85	-6.12	-3.91	-2.83	3.91	3.82	-22.37	-22.56
NZ	1-3YR	-0.29	-2.47	0.54	0.72	0.70	-0.88	-0.74	-2.46
	7-10YR	-3.21	-5.32	-2.48	-2.31	-0.13	-1.70	-9.40	-10.97
Canada	1-3YR	-0.72	-0.72	0.09	0.09	0.24	0.24	-2.85	-2.85
	7-10YR	-2.93	-2.93	-2.12	-2.12	0.23	0.23	-8.67	-8.67
	20+YR	-4.17	-4.17	-3.38	-3.38	1.60	1.60	-16.39	-16.39

Indices used: FTSE Canada Non-Agency Bond Index (Short, Mid, Long).

Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Global Bond Market Returns % (CAD vs LC, TR)

Inflation-Linked Bond Returns

Top 15% Bottom 15%

Green highlight indicates top 15%, red indicates bottom 15%.

		1M		3M		YTD		12M	
		Local	CAD	Local	CAD	Local	CAD	Local	CAD
US	1-5YR	-0.62	1.40	-0.17	0.25	0.20	0.68	-4.23	2.80
	5-10YR	-2.09	-0.10	-1.05	-0.63	0.42	0.90	-10.81	-4.27
	20+YR	-2.55	-0.58	-0.96	-0.54	3.62	4.12	-27.20	-21.85
UK	1-5YR	0.04	0.37	-0.77	1.30	-0.44	0.69	0.76	-2.41
	5-10YR	-0.78	-0.45	-1.82	0.23	0.92	2.05	-10.20	-13.02
	20+YR	-9.69	-9.39	-12.16	-10.32	-3.96	-2.88	-49.13	-50.74
EUxUK	1-5YR	0.17	-0.20	-1.55	1.83	0.23	0.07	-2.36	-1.04
	5-10YR	-0.03	-0.40	-2.44	0.91	1.46	1.30	-7.99	-6.75
	20+YR	-3.05	-3.41	-11.38	-8.34	3.12	2.96	-27.77	-26.79
Japan	1-5YR	0.11	-2.49	0.46	3.35	0.60	-2.09	4.12	-5.50
	5-10YR	0.38	-2.22	-1.85	0.98	-0.75	-3.40	2.01	-7.41
EM	1-5YR	3.82	4.12	5.68	7.18	4.74	6.49	22.04	23.72
	5-10YR	3.49	4.52	4.91	6.92	3.26	5.48	23.27	25.02
	20+YR	-0.39	0.03	-0.95	1.30	-0.88	1.38	3.74	11.14
Germany	1-5YR	0.17	-0.20	-1.55	1.83	0.23	0.07	-2.36	-1.04
	5-10YR	-0.03	-0.40	-2.44	0.91	1.46	1.30	-7.99	-6.75
	20+YR	-3.05	-3.41	-11.38	-8.34	3.12	2.96	-27.77	-26.79
Italy	1-5YR	0.45	0.08	-0.55	2.86	0.70	0.54	2.08	3.45
	5-10YR	0.95	0.58	-1.09	2.30	3.45	3.29	-4.06	-2.77
	20+YR	-1.44	-1.80	-12.49	-9.48	8.07	7.90	-24.63	-23.61
Spain	1-5YR	0.51	0.14	-0.23	3.20	0.62	0.47	2.40	3.78
	5-10YR	0.41	0.03	-1.99	1.38	1.48	1.32	-4.54	-3.26
France	1-5YR	0.35	-0.02	-1.38	2.01	0.36	0.21	-1.53	-0.20
	5-10YR	0.18	-0.19	-3.09	0.23	1.50	1.35	-6.69	-5.43
	20+YR	-4.59	-4.94	-13.20	-10.22	1.61	1.45	-27.78	-26.81
Sweden	1-5YR	-0.51	1.91	0.67	3.38	0.64	1.04	1.39	-1.50
	5-10YR	-1.81	0.58	-2.88	-0.26	0.13	0.52	-7.14	-9.79
Australia	1-5YR	-0.40	-2.75	1.03	2.17	1.62	1.53	1.15	0.90
	5-10YR	-1.95	-4.26	0.65	1.78	2.95	2.87	-3.52	-3.76
	20+YR	-8.40	-10.56	-5.81	-4.75	4.07	3.98	-21.30	-21.50
NZ	5-10YR	-1.17	-3.33	1.68	1.86	1.57	-0.03	-2.48	-4.17
	20+YR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canada	20+YR	-2.70	-2.70	-1.68	-1.68	-1.01	-1.01	-8.99	-8.99

Indices used: FTSE Canada RRB Canada Bond Index.

Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Canadian Historical Bond Yields % as of February 28, 2023

Canadian Bond Yields

Top 15% Bottom 15%

Green highlight indicates top 15%, red indicates bottom 15%.

		1-3YR	7-10YR	20+YR	All Mat
Canada	Current	4.04	3.35	3.26	
	3M Ago	3.70	2.96	3.02	
	6M Ago	3.56	3.14	3.06	
	12M Ago	1.44	1.79	2.12	
IL	Current			1.34	
	3M Ago			1.20	
	6M Ago			1.23	
	12M Ago			0.07	
Provincial	Current	4.12	3.95	4.23	4.12
	3M Ago	3.84	3.66	4.05	3.90
	6M Ago	3.80	3.83	4.08	3.94
	12M Ago	1.80	2.35	3.05	2.58
Ontario	Current	4.16	3.95	4.23	4.13
	3M Ago	3.86	3.66	4.06	3.90
	6M Ago	3.81	3.84	4.09	3.95
	12M Ago	1.80	2.35	3.06	2.53
Quebec	Current	4.07	3.94	4.19	4.10
	3M Ago	3.80	3.65	4.02	3.87
	6M Ago	3.80	3.80	4.04	3.93
	12M Ago	1.79	2.34	3.01	2.62
Alberta	Current	4.08	3.94	4.22	4.10
	3M Ago	3.81	3.64	4.03	3.86
	6M Ago	3.77	3.81	4.02	3.89
	12M Ago	1.85	2.34	3.04	2.56
BC	Current	4.05	3.93	4.19	4.08
	3M Ago	3.89	3.64	4.02	3.87
	6M Ago	3.78	3.82	4.04	3.92
	12M Ago	1.78	2.35	3.02	2.58
Municipal	Current	4.16	4.03	4.47	4.27
	3M Ago	3.92	3.73	4.30	4.04
	6M Ago	3.85	3.90	4.32	4.07
	12M Ago	1.85	2.41	3.19	2.63
Corporate	Current	5.15	5.14	5.20	5.16
	3M Ago	5.15	4.88	5.04	5.07
	6M Ago	4.92	5.01	5.01	4.96
	12M Ago	2.57	3.31	3.94	3.13
High Yield	Current				7.19
	3M Ago				7.37
	6M Ago				6.97
	12M Ago				4.93

		1-5YR	5-10YR	20+YR	All Mat
AAA/AA	Current	4.84	4.66	4.64	4.80
	3M Ago	4.83	4.42	4.52	4.74
	6M Ago	4.54	4.48	4.45	4.52
	12M Ago	2.04	2.68	3.57	2.20
A	Current	5.04	4.86	4.94	4.99
	3M Ago	5.05	4.62	4.78	4.91
	6M Ago	4.85	4.70	4.73	4.79
	12M Ago	2.56	2.97	3.66	3.01
BBB	Current	5.42	5.34	5.60	5.44
	3M Ago	1.76	1.40	1.59	5.31
	6M Ago	0.87	0.75	1.14	5.23
	12M Ago	-2.21	-1.07	-0.10	3.45
Comm	Current	5.12	5.62	5.28	5.33
	3M Ago	4.82	5.50	5.10	5.15
	6M Ago	5.02	5.55	4.89	5.20
	12M Ago	3.46	4.62	2.67	3.59
Energy	Current	5.28	5.35	5.32	5.32
	3M Ago	5.10	5.02	5.13	5.10
	6M Ago	4.89	5.22	5.13	5.09
	12M Ago	2.67	3.57	4.07	3.60
Financial	Current	5.11	5.04	5.21	5.11
	3M Ago	5.16	4.93	5.20	5.14
	6M Ago	4.91	4.95	4.99	4.92
	12M Ago	2.50	3.06	3.77	2.63
Industrial	Current	5.14	5.08	5.28	5.16
	3M Ago	5.14	4.75	5.18	5.04
	6M Ago	4.88	4.87	5.18	4.96
	12M Ago	2.66	3.13	4.10	3.18
Infrastructure	Current	4.81	4.82	4.98	4.93
	3M Ago	4.65	4.47	4.81	4.72
	6M Ago	4.42	4.58	4.75	4.68
	12M Ago	2.27	2.93	3.68	3.41
Securitization	Current	5.08			5.08
	3M Ago	5.10			5.10
	6M Ago	4.80			4.80
	12M Ago	2.24			2.24

Indices used: FTSE Canada Non-Agency Bond Index (Short, Mid, Long), FTSE Canada RRB Canada Index, FTSE Canada Corporate Bond Index (Short, Mid, Long, AAA/AA, A, BBB), FTSE Canada Provincial Bond Index, FTSE Canada High Yield Bond Index.

Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Historical Bond Yields % as of February 28, 2023

Global Bond Yields

Top 15% Bottom 15%

Green highlight indicates top 15%, red indicates bottom 15%.

		Conventional government bonds				Inflation-linked bonds			Inv Grade	High Yld
		1-3YR	3-5YR	7-10YR	20+YR	1-5YR	5-10YR	20+YR	All Mat	All Mat
US	Current	4.90	4.34	3.93	4.01	1.82	1.57	1.65	5.55	8.62
	3M Ago	4.47	3.97	3.64	3.95	1.76	1.40	1.59	5.38	8.81
	6M Ago	3.49	3.44	3.19	3.46	0.87	0.75	1.14	4.86	8.37
	12M Ago	1.38	1.71	1.82	2.26	-2.12	-1.01	-0.09	3.13	5.77
UK	Current	3.95	3.79	3.72	4.07	0.45	0.18	0.67		
	3M Ago	3.36	3.26	3.20	3.39	-1.95	-0.58	0.10		
	6M Ago	3.04	2.82	2.77	3.06	-3.47	-1.62	-0.45		
	12M Ago	1.02	1.01	1.11	1.41	-4.71	-3.55	-2.18		
Japan	Current	-0.04	0.11	0.53	1.35	-1.25	-0.36			
	3M Ago	-0.04	0.05	0.28	1.40	-1.44	-0.76			
	6M Ago	-0.10	-0.04	0.20	1.10	-1.23	-0.83			
	12M Ago	-0.04	0.00	0.11	0.80	-1.11	-0.83			
China	Current	2.38	2.62	2.86	3.32					
	3M Ago	2.26	2.54	2.87	3.34					
	6M Ago	1.96	2.30	2.68	3.16					
	12M Ago	2.18	2.49	2.86	3.45					
EM	Current	3.71	4.48	4.88	4.57	1.46	3.33	5.35	5.95	10.85
	3M Ago	3.72	4.51	4.89	4.89	2.45	3.14	5.10	6.08	12.18
	6M Ago	3.49	4.16	4.76	4.65	2.45	3.50	5.09	5.25	11.65
	12M Ago	3.39	4.03	4.58	4.90	2.17	3.01	4.91	4.00	10.39
Germany	Current	3.09	2.78	2.59	2.57	0.22	0.08	0.03		
	3M Ago	2.04	1.95	1.91	1.81	-0.59	-0.41	-0.54		
	6M Ago	0.97	1.25	1.41	1.62	-1.62	-0.97	-0.68		
	12M Ago	-0.57	0.23	0.48	0.60	-4.13	-2.15	-1.83		
Italy	Current	3.65	3.81	4.18	4.55	0.84	1.69	1.90		
	3M Ago	2.73	3.09	3.59	3.86	0.12	1.32	1.35		
	6M Ago	2.11	2.78	3.53	3.93	-1.97	1.08	1.73		
	12M Ago	-0.01	1.12	1.87	2.52	-3.56	-0.84	0.26		
France	Current	3.18	3.03	3.01	3.37	-0.05	0.24	0.69		
	3M Ago	2.25	2.19	2.27	2.59	-0.94	-0.39	0.09		
	6M Ago	1.21	1.53	1.88	2.52	-1.84	-0.60	0.15		
	12M Ago	-0.46	0.61	1.01	1.62	-3.85	-2.03	-0.92		
Sweden	Current	3.18	2.96	2.65		0.64	0.72			
	3M Ago	2.52	2.21	1.93		-0.29	-0.26			
	6M Ago	2.24	2.22	1.96		-1.11	-0.90			
	12M Ago	-0.05	1.26	1.45		-2.05	-1.61			
Australia	Current	3.66	3.65	3.83	4.19	0.50	1.26	1.78		
	3M Ago	3.12	3.22	3.49	3.92	-0.08	0.90	1.43		
	6M Ago	3.11	3.30	3.56	3.84	-0.19	0.81	1.56		
	12M Ago	1.05	2.60	3.00	3.50	-0.46	0.31	1.01		
NZ	Current	5.06	4.68	4.57	4.67	1.40	2.07			
	3M Ago	4.67	4.39	4.12	4.28	1.49	1.97			
	6M Ago	3.85	3.87	3.97	4.33	0.72	1.84			
	12M Ago	2.16	3.43	3.57	3.81	0.32	1.13			
Canada	Current	4.04		3.35	3.26			1.34	5.16	7.19
	3M Ago	3.70		2.96	3.02			1.20	5.07	7.37
	6M Ago	3.56		3.14	3.06			1.23	4.96	6.97
	12M Ago	1.44		1.79	2.12			0.07	3.13	4.93

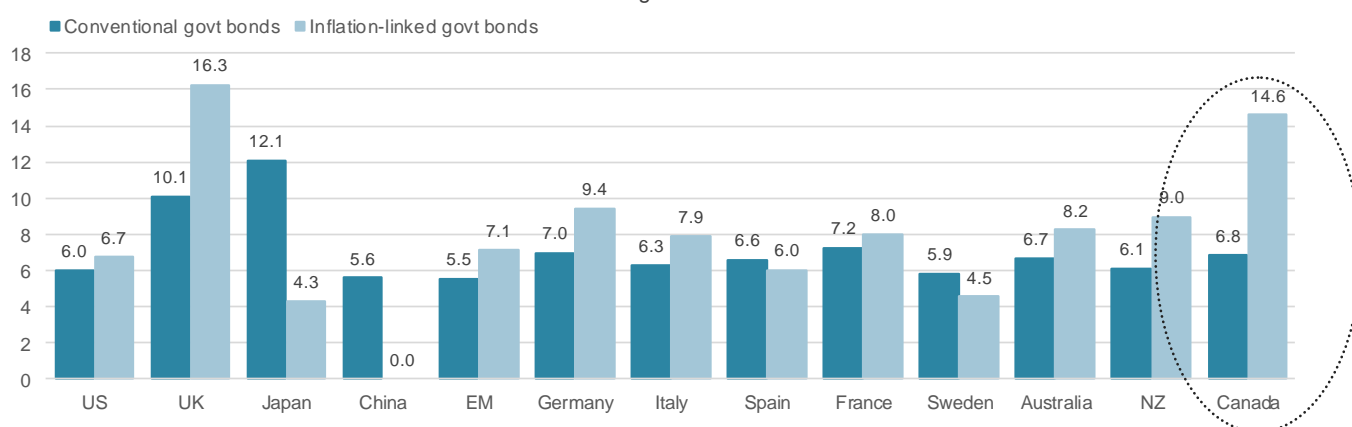
Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Duration and Market Value (USD, Bn)

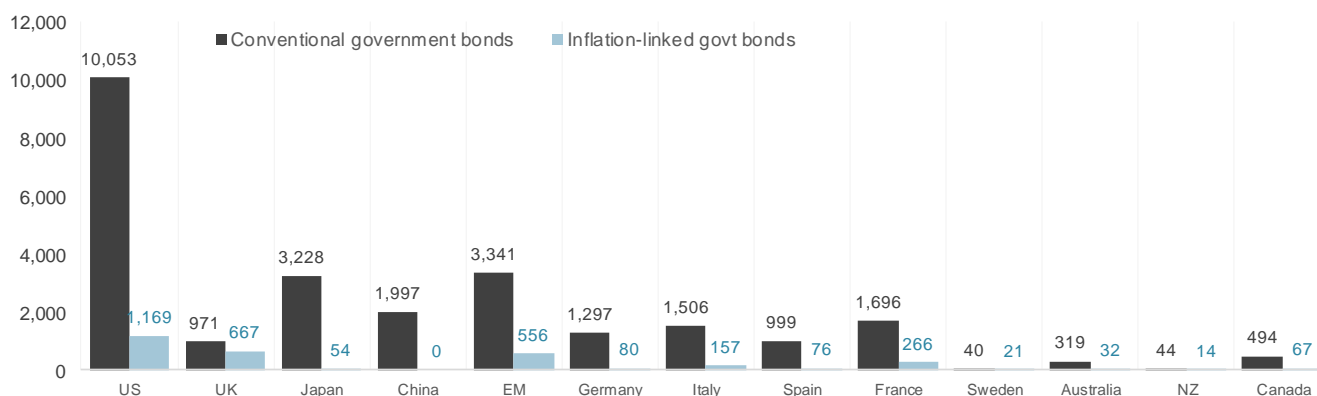
	Conventional government bonds								Inflation-linked government bonds					
	Duration				Market Value				Duration			Market Value		
	3-5YR	7-10YR	20+YR	Overall	3-5YR	7-10YR	20+YR	Total	5-10YR	20+YR	Overall	5-10YR	20+YR	Total
US	3.7	7.6	17.5	6.0	2,171.5	1,031.7	1,240.4	10,052.7	7.1	21.5	6.7	383.1	126.0	1169.4
UK	3.7	7.7	19.1	10.1	98.0	124.6	275.3	971.1	7.0	28.7	16.3	123.5	245.9	667.1
Japan	3.9	7.9	23.8	12.1	357.0	383.5	705.7	3,227.8	6.7		4.3	24.4		54.3
China	3.6	7.5	17.3	5.6	462.0	326.1	232.2	1,997.0						
EM	3.5	7.0	15.8	5.5	744.42	596.98	321.79	3,341.4	5.5	13.5	7.1	110.9	135.2	555.9
Germany	3.8	7.7	20.5	7.0	286.68	203.20	132.11	1,296.9	6.8	22.3	9.4	29.5	17.5	80.0
Italy	3.6	7.3	16.1	6.3	298.46	232.85	134.04	1,506.1	6.8	26.8	7.9	53.2	5.2	156.6
Spain	3.5	7.5	17.5	6.6	191.89	177.51	93.99	999.0	7.2		6.0	20.8		75.8
France	3.5	7.7	20.0	7.2	315.47	308.87	192.07	1,695.9	6.8	24.7	8.0	112.3	18.9	265.8
Sweden	3.5	8.0		5.9	7.52	8.85		40.1	6.3		4.5	9.7		20.8
Australia	3.6	7.8	17.8	6.7	55.19	87.10	15.39	318.6	7.6	22.8	8.2	9.3	2.7	32.2
NZ	3.4	7.8	17.3	6.1	8.46	6.37	2.17	44.4	6.6		9.0	3.1		13.6
Canada		7.2	17.3	6.8		165.90	95.40	494.2		14.6	14.6		67.3	67.3

	Investment grade bonds										High Yield	
	Duration					Market Value					Duration	MktVal
	AAA	AA	A	BBB	Overall	AAA	AA	A	BBB	Overall		
US	10.8	8.5	7.1	6.8	7.1	74.7	444.9	2,351.4	3,285.9	6,156.8	4.2	1,146.1
Euro	6.3	4.9	4.7	4.3	4.5	8.4	172.2	1,045.3	1,420.3	2,646.1	3.1	422.3
EM		5.7	4.8	5.0	5.0		36.40	217.15	351.2	604.7	3.6	203.6

Average Duration



Total Market Value (USD Billions)



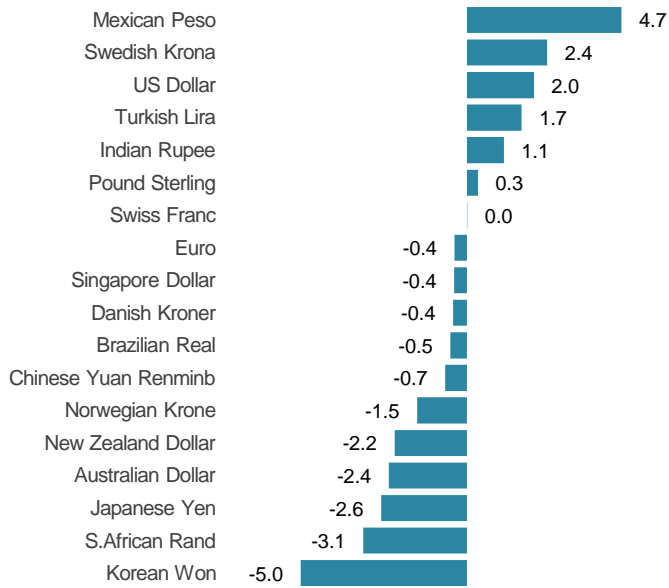
Data as of 2023-02-28

Indices used: FTSE Canada Non-Agency Bond Index (Mid, Long, Overall), FTSE Canada RRB Canada Bond Index.

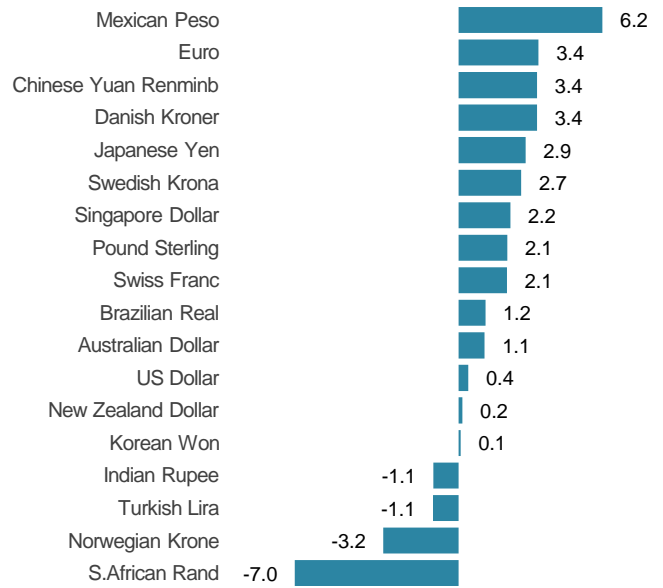
Source: FTSE Russell. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indexes used for each market. For professional investors only.

Appendix – Foreign Exchange Returns % as of February 28, 2023

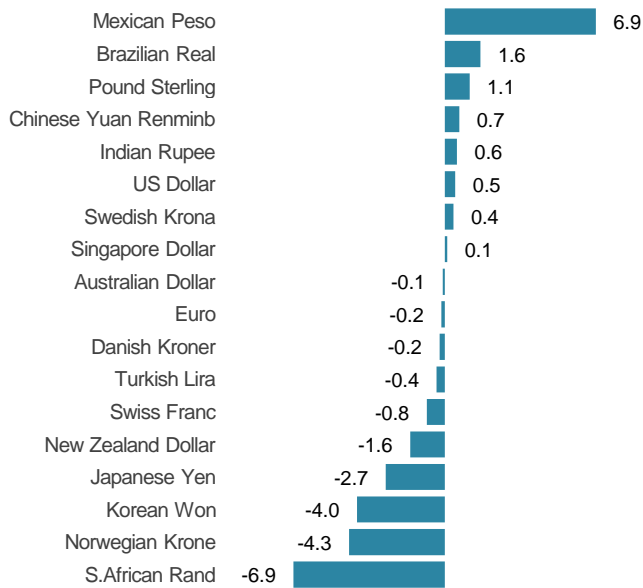
FX Moves vs CAD - 1M



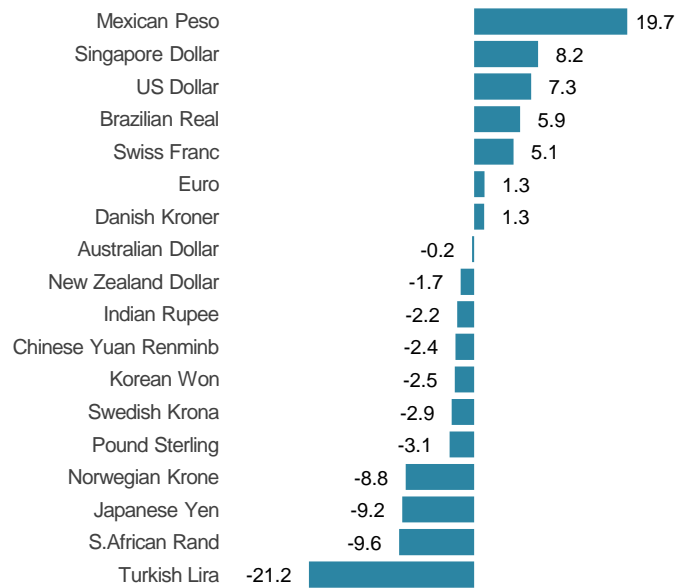
FX Moves vs CAD - 3M



FX Moves vs CAD - YTD



FX Moves vs CAD - 12M



Source: FTSE Russell and Refinitiv. All data as of February 28, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Glossary

Bond markets are based on the following indices:

FTSE Canada Universe Bond Index for all Canadian government and corporate bond markets*

FTSE Canada High Yield Bond Index for the Canadian high yield market

FTSE Canada RRB Canada Index for the Canadian inflation-linked bond market

FTSE World Government Bond Index (WGBI) for all global government bond markets

FTSE World Inflation-Linked Securities Index (WorldILSI) for all global inflation-linked bond markets

FTSE US Broad Investment-Grade Bond Index (USBIG®) for the US corporate bond market

FTSE US High-Yield Market Index for the US high yield bond market

FTSE Euro Broad Investment-Grade Bond Index (EuroBIG®) for the Euro-denominated corporate bond market

FTSE European High-Yield Market Index for the European high yield market

FTSE Chinese Government and Policy Bank Bond Index (CNGPBI) for the Chinese government bond market

FTSE Emerging Markets Inflation-Linked Securities Index (EMILSI) for the emerging markets inflation-linked bond market

FTSE Emerging Markets Broad Bond Index (EMUSDBBI) for the emerging markets corporate bond market

List of Abbreviations used in charts:

IL = Inflation-linked bonds

IG = Investment-grade bonds

HY = High-yield bonds

BPS = Basis points

EM = Emerging market

LC = Local currency

* FTSE Canada Bond Indexes

1-3YR = Short Term Bond Indices

7-10YR = Mid Term Bond Indices

20+ YR = Long Term Bond Indices

Total Returns

Growth/Inflation

Financial Conditions

Govt. Bonds

Corporate Bonds

Spreads

Inflation-Linked

Credit/Equities

Appendix



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