

Fixed Income Insights

MONTHLY REPORT - AUGUST 2023 | JAPAN EDITION

FOR PROFESSIONAL INVESTORS ONLY

BoJ relaxes yield curve control policy as inflation persists above target

The BoJ retained its policy rate at -0.1%, but effectively lifted the 10 year yield ceiling to 1% as part of its yield curve control (YCC). The 10s/2s curve steepened, and yen rallied, but rate differentials remain sizeable. The lower unemployment rate in July indicates a tightening labour market, which may help boost wage growth.

Macro and policy backdrop – Services remain robust. The BoJ retained near-zero policy rates despite a YCC tweak

Services PMI stayed elevated, despite a slowdown in July. A YCC tweak spurs optimism in currency and inflation. (pages 2-3)

Yields, curves and spreads – Curve inversions remain, except in Japan, where rapid steepening follows BoJ move

Deep curve inversion and negative carry remain, reflecting re-investment risk, as tightening cycles near end. (pages 4-5)

Sovereign and climate bonds – “Greenium” stabilises after duration and country weight changes squeezed it in 2022

Increased country weights for longer duration sovereign bond markets, notably Japan and UK, key to spread moves. (page 6)

Performance – Gilts rallied in July. 12M returns dominated by euro driven gains in long euro govts and EM bonds

EM inflation and Euro govt bonds led 12M gains of 11-35% in yen terms. Gilts rallied after better inflation data. (pages 7-8)

Appendix (from page 10)

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

Chart 1: More flexible curve control contributed to nominal and real yields rising in JGBs in July, while breakevens also rose modestly.

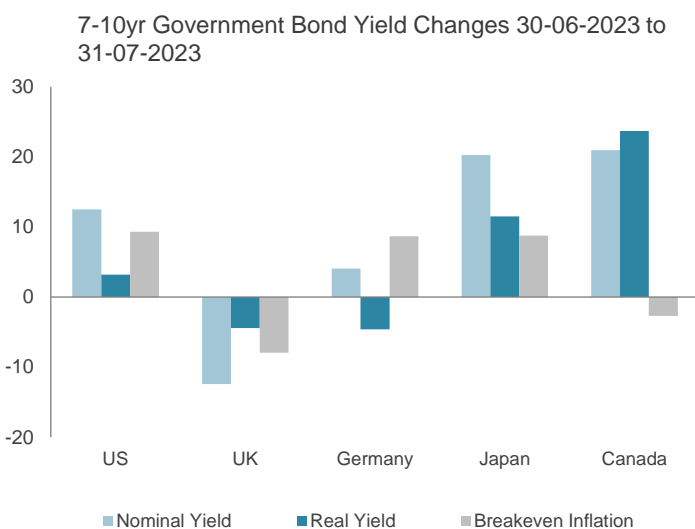


Chart 2: Japan’s manufacturing PMI declined further to 49.6, but services continue to grow robustly, boosted by tourism.



Source: FTSE Russell. All data as of July 31, 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

Divergence in G7 growth and inflation continues, but growth has generally held up well. Europe is most at risk of a hard landing. China’s policy of domestic-led growth continues. A higher share of fixed rate mortgages has shielded G7 consumers from higher short rates. Lower inflation may be more elusive in Q3, due to base effects. Service sectors benefited from stronger demand, post-lockdowns, particularly Japan, where tourism has been boosted by the weak yen.

Although growth slowed sharply, no G7 economy is in recession. The US avoided one, buoyed by services, and resilient consumers (Chart 1), though interest rate sensitive sectors, like real estate, are weaker. The IMF increased its US forecasts again in late-July, for 2023, and Japan’s service sector and tourism rebound may lead to growth forecast upgrades.

Japan’s core inflation rose 3.3% y/y in June, driven by food, furniture, and household utensils, as higher costs were passed on to consumers by companies. Japan’s CPI inflation now exceeds the US and Canada (Chart 2). Prices excluding fresh food and energy rose 4.2% y/y in June, easing moderately from a 42-year high of 4.3% in May.

Japan’s total cash earnings increased 2.9% y/y in May, but real wage growth declined as inflation outpaced nominal wage growth. The unemployment rate fell to 2.5% in June, indicating a tightening labour market in Japan (Chart 3).

The Bank of Japan kept the short rate target unchanged at -0.1%, but will maintain YCC with ‘greater flexibility’, referring to the previous JGB 10 year yield band of -0.5% to 0.5% as reference, rather than rigid limits. The central bank aims to enhance the sustainability of monetary easing, before a price stability of 2% firms (Chart 4).

Chart 1: North American and Asian forecasts show no recessions, helped by the recovery in services, and Asian policy support. Eurozone and UK risks of a hard landing are higher.

Latest Consensus Real GDP Forecasts (% , July 2023)			
	2022	2023	2024
US	2.1	1.5	0.7
UK	4.1	0.2	0.7
Eurozone	3.3	0.5	1.0
Japan	1.6	1.1	1.1
China	3.0	5.5	4.8
Canada	3.5	1.3	1.0

Chart 2: Inflation in Japan converged those in the US and Canada, where prices have fallen substantially recently. Japanese inflation (3.3% in June) has stayed above the BoJ’s target for over a year.

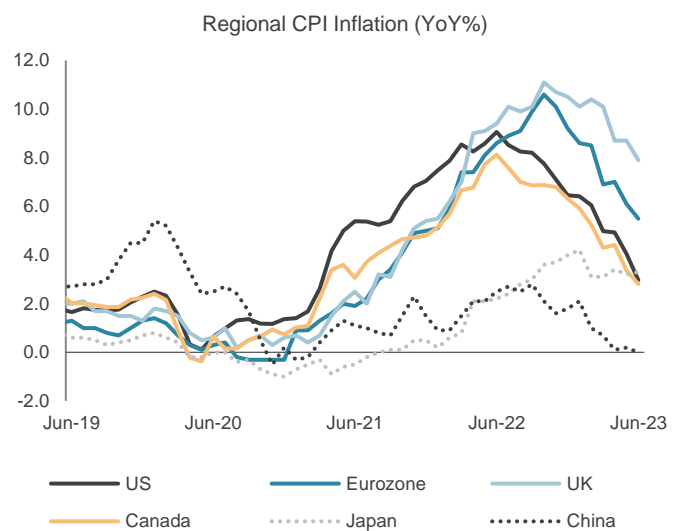


Chart 3: A tightening labour market boosts optimism in a post-Covid recovery and higher inflation. But more time is required for labour market reforms to work and real wages are still falling.

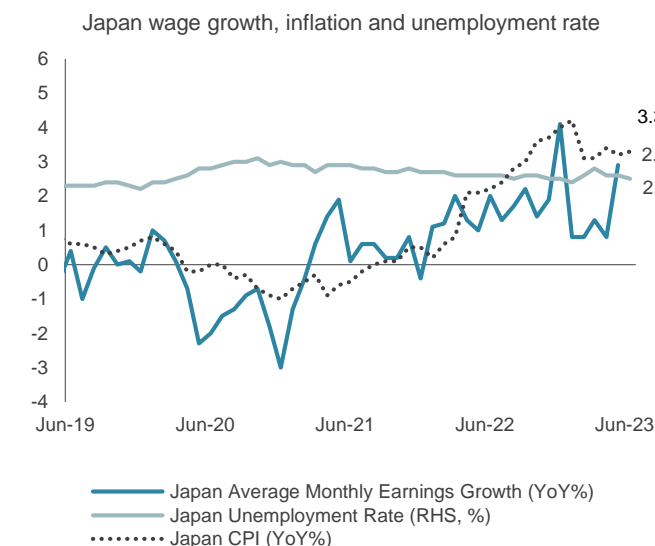
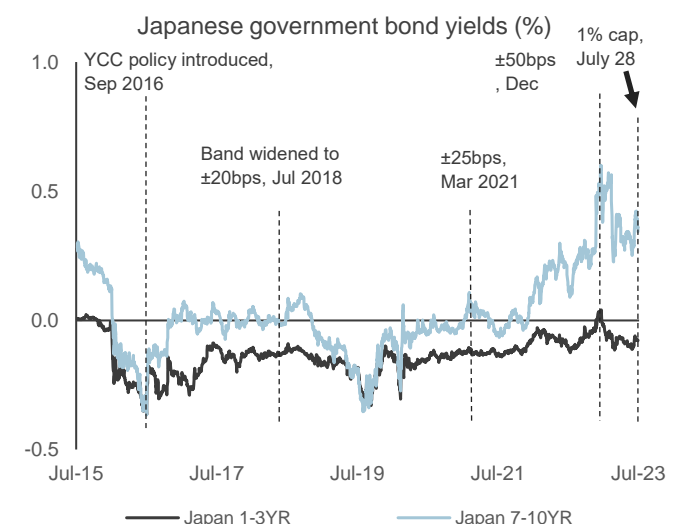


Chart 4: The BoJ decided to continue with monetary easing by conducting YCC, but with greater flexibility. The ceiling for 10-year yields has effectively been increased, from 0.5% to 1%.



Source: FTSE Russell and Refinitiv. Data available as of July 31, 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.

Financial Conditions and Monetary Policy Settings

Financial conditions remain mixed, and eased a little in July, notably in the US. The FOMC left its options open, after the 25bp increase in rates, despite sharply lower US inflation. The BoJ signaled the beginning of the end of yield curve control, with the 10yr yield ceiling lifted to 1%. A harder landing for Europe unfolds, and may limit ECB tightening, as inflation falls.

The BoJ kept the short rate unchanged at -0.1% in its July meeting, while the Fed, ECB and BoC all raised rates by a further 25bp (Chart 1). The BoJ's move to effectively raise the 10 year yield ceiling to 1%, and to "conduct YCC with greater flexibility" allows it to continue monetary easing, but with less stimulus than when yields were capped at 0.5%. Much will depend also on how actively the BoJ intervenes to buy JGBs; early indications suggest the BoJ will not allow yields to rise quickly to 1%.

The Bank of Japan remains an outlier on balance sheet run-downs, holding almost 583 trillion yen in JGBs by end-July (Chart 2), and not contracting its balance sheet. The retention of yield curve control, albeit with a higher ceiling of 1%, suggests the BoJ's holding of JGBs may yet grow further.

Japan's financial conditions remain accommodative, as the positively sloped yield curve, stabilisation in money growth (Chart 3) and retention of a negative short rate target show. This is in stark contrast to tightening financial conditions in the US, UK, and Eurozone.

Exchange rates reflect disparate economic performance and policy settings in the post-Covid era (Chart 4). The BoJ decision to make yield curve control more flexible drove a modest yen rally at the end of July, and tightening rate differentials have weighed on the dollar since the high in Q4 2022. However, rate differentials against the yen remain substantial (also see Chart 1).

Chart 1: IMF suggests preparing for monetary tightening by the BoJ, which held target short-term rate at -0.1%. Neither the Fed nor ECB ruled out further tightening after July increases of 25bps.

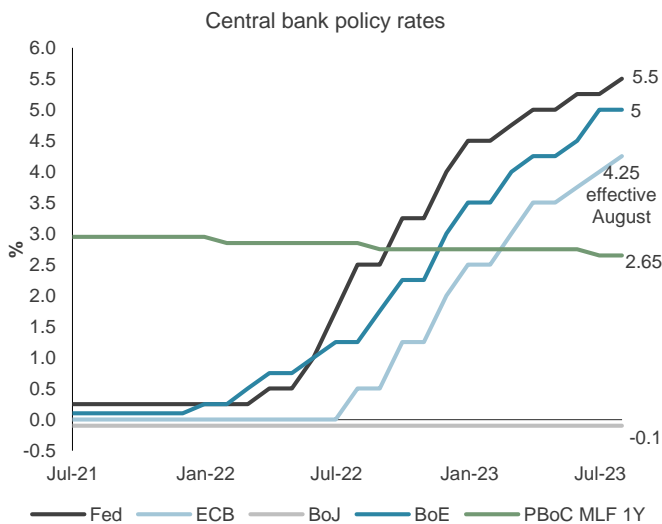


Chart 2: BoJ's holding of JGBs stays elevated in July, at about 583 trillion yen, in an effort to maintain the YCC. It's likely to increase further with the YCC in place, although allowing greater flexibility.

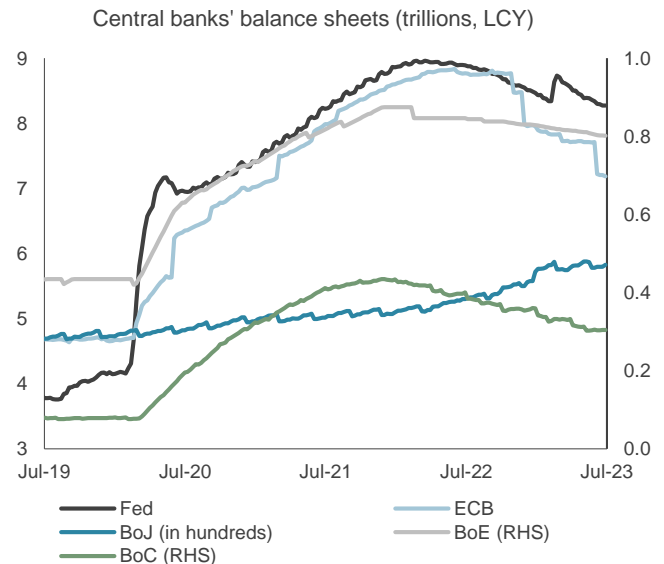


Chart 3: Japan M2 growth has stabilised at around 2.6% levels, closely tracking the inflation target by the central bank. This stable growth is in stark contrast to growth contractions in other G7.

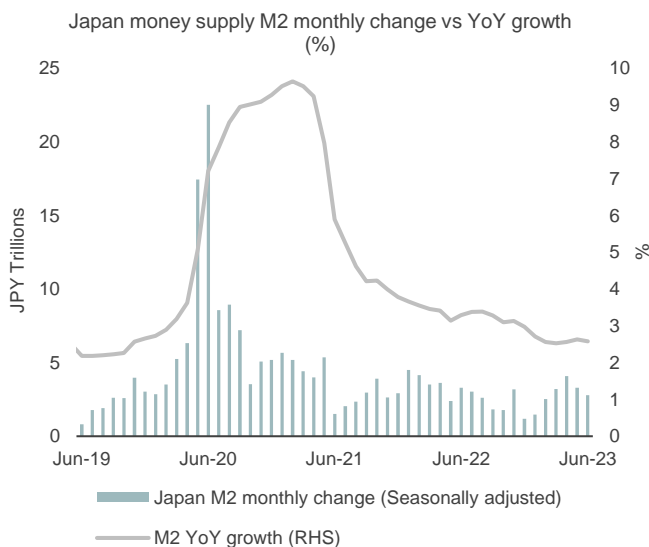
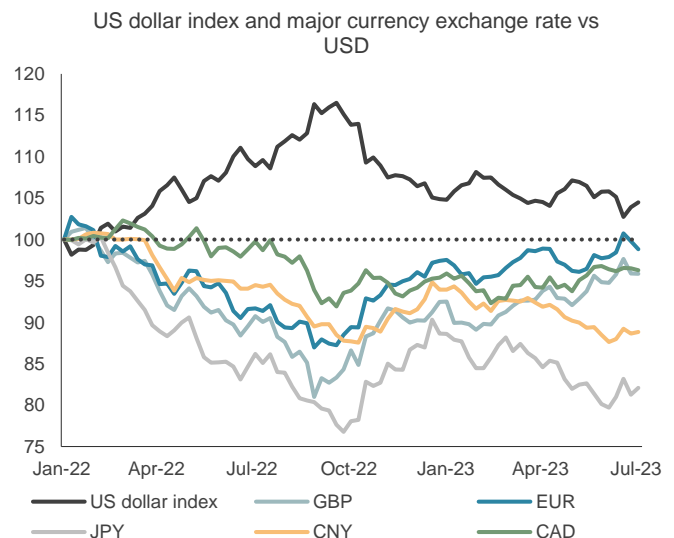


Chart 4: The yen recovered sharply after the BoJ made yield curve control more flexible. Tightening rate differentials and recovered risk appetite have weighed on the dollar since the Q4 2022 peak.



Source: FTSE Russell and Refinitiv. Data available as of July 31, 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.

Global Yields, Curves and Spread Analysis

Chart 1: G7 7-10 year yields remain rangebound, including Treasuries, reflecting the combination of lower inflation but positive growth. Gilts have rallied after better UK inflation.

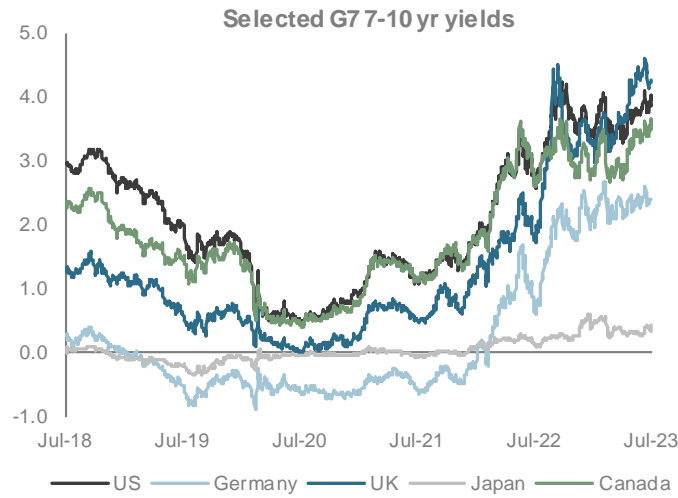


Chart 2: Real yields have tracked nominal yields in July, apart from Japan, where the combination of higher inflation accruals and zero rates helped demand for JGB inflation linked bonds.

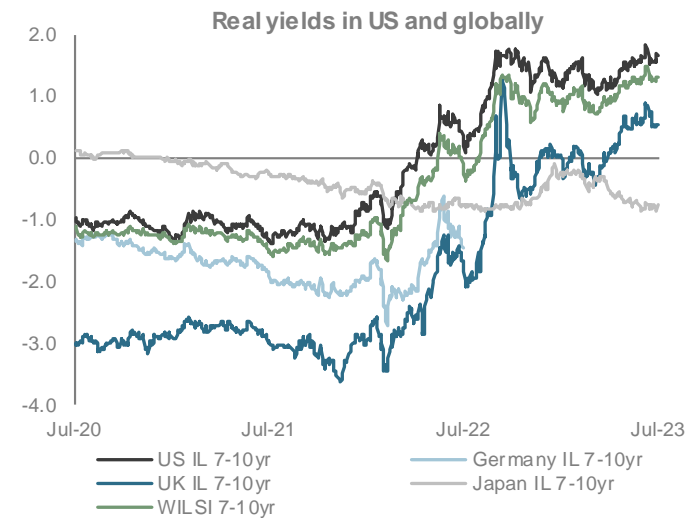


Chart 3: Yield curve inversion remains near cyclical lows, exc. Japan, after further rate increases by the Fed and ECB. Japanese curve steepened in response to BoJ's tweak in YCC on July 28th.

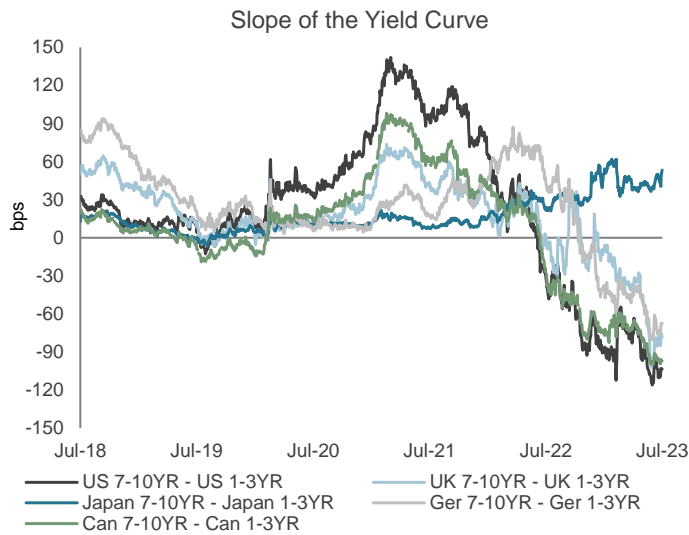


Chart 4: It is a similar story with inversion in long maturities, with Japan the exception. With yields near 15-year highs, investor concern over re-investment risks may be keeping curves inverted.

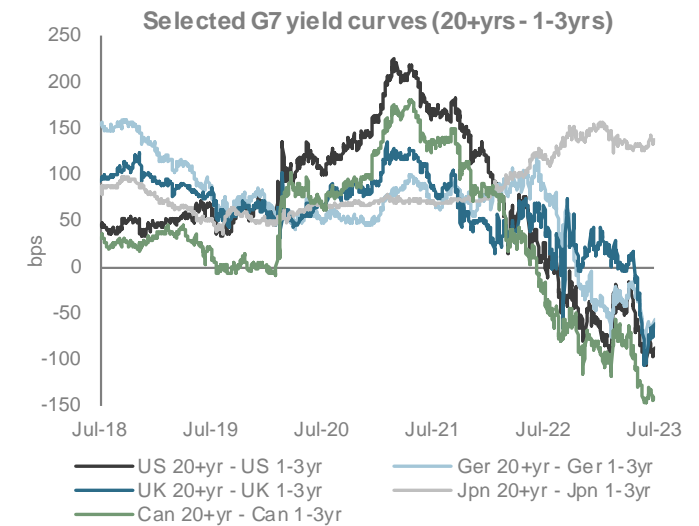


Chart 5: Persistent inflation above 2% targets in the UK and Japan is impacting breakevens, which rose versus other G7 members. More flexibility in curve control has not reduced JGB breakevens.

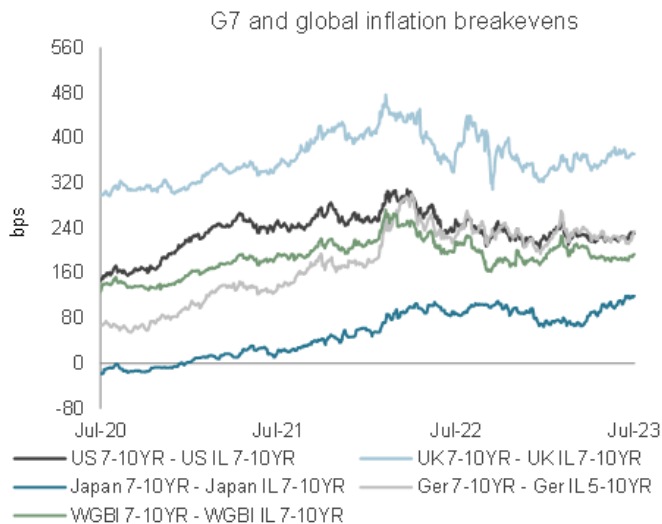


Chart 6: Global inflation breakevens of all tenors have converged near 2%, after a period of higher short-dated breakevens. There is little evidence of inflation expectations de-stabilizing globally.



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Yield Spread and Credit Spread Analysis

Chart 1: US 7-10 year spreads remain stable awaiting clearer Fed signals that the tightening cycle is over. The sharp break lower versus the UK, after higher gilt yields remains a feature.

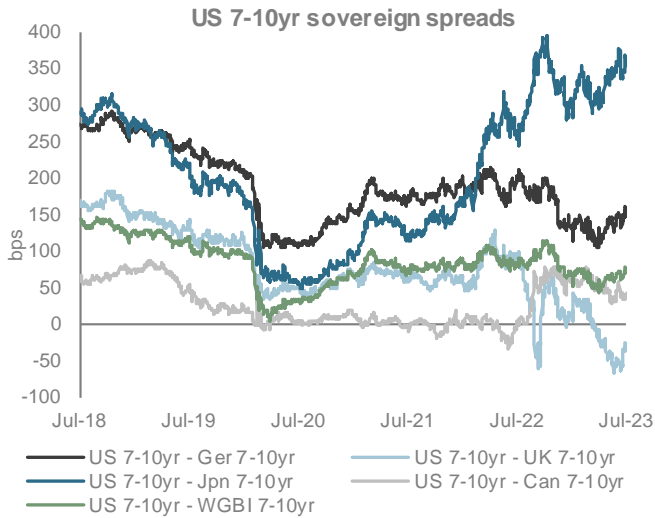


Chart 2: Italian spreads stabilised in July, though the risk rally drove them tighter since Q4 2022, supported by the ECB's transmission protection instrument (designed to prevent peripheral spreads).

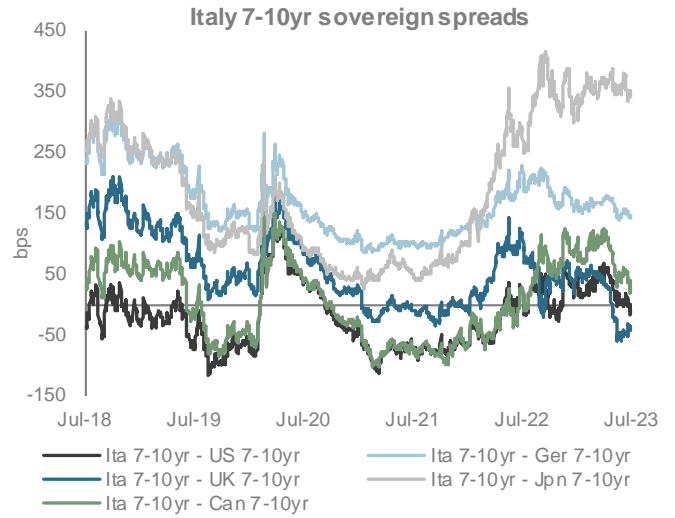


Chart 3: Despite predictions, an EM crisis failed to materialize after both Covid and Ukraine shocks and G7 tightening in 2022-23. Spreads are consolidating near cycle lows, apart from versus JGBs.

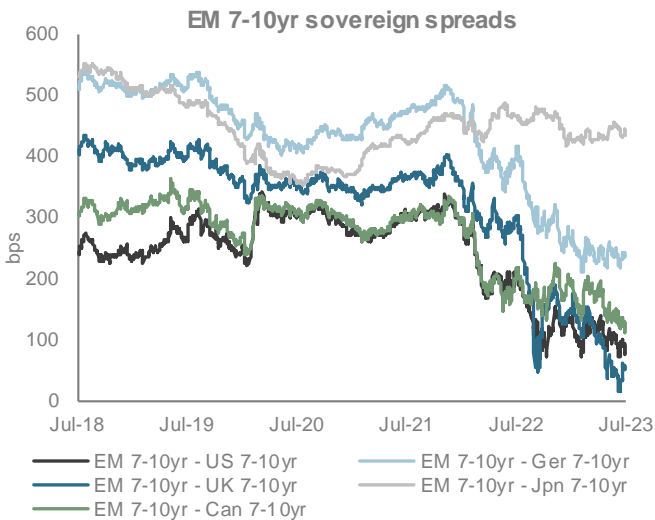


Chart 4: Low correlation of China with the G7 economic and policy cycle continues after different Covid policies and lockdown timings. Yield spreads have traded in wide ranges since Covid outbreak.

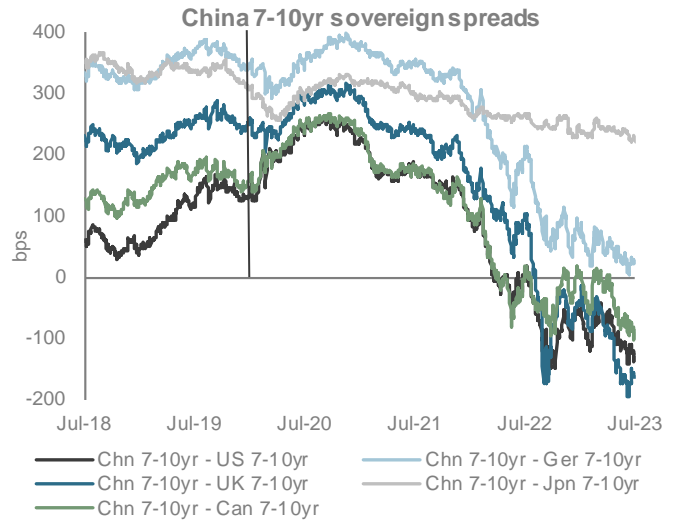


Chart 5: Although credit spreads are well above cycle lows, there is little sign of major stress, particularly in US high yield, which has mean-reverted to pre-Covid levels. Eurozone spreads remain wider.

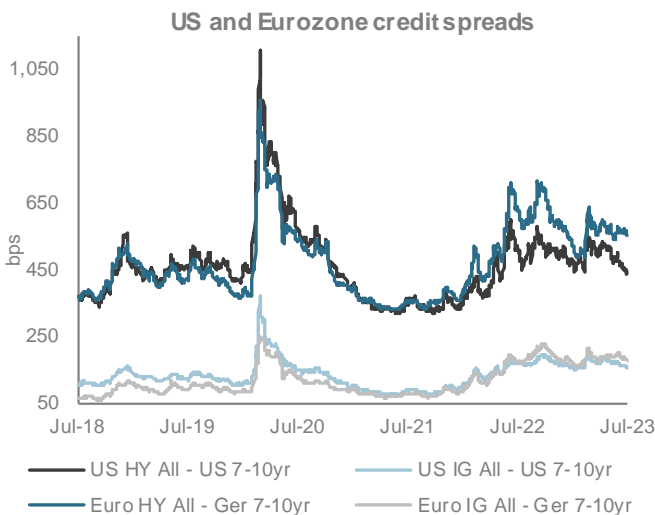


Chart 6: Chinese \$ HY spreads widened above 8000bps in July, after Evergrande delayed its financial results and debt restructuring. US HY spreads narrowed, benefiting from the risk rally.



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Sovereign and Climate Bonds Analysis

Chart 1: Climate WGBI outperformed WGBI during the years of very low yields, helped by extra duration, but this reversed in 2022, when rates and yields rose sharply. This has stabilized in 2023.

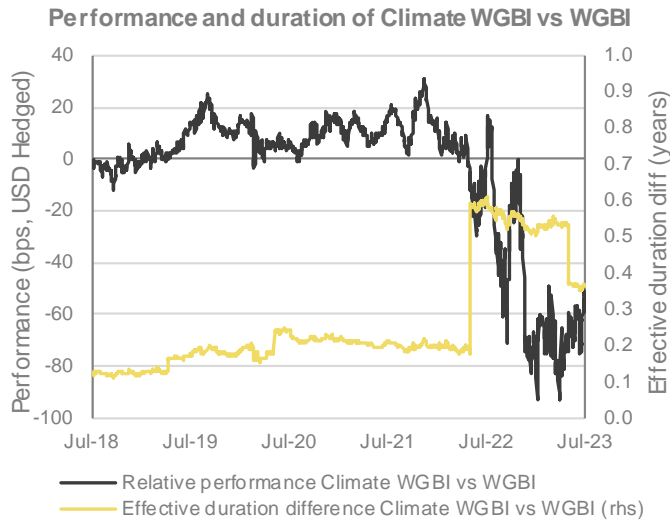


Chart 2: The US underweight in the climate WGBI fell in the July re-weighting, reducing the duration difference versus WGBI. UK's weight increased after more green gilt issuance.

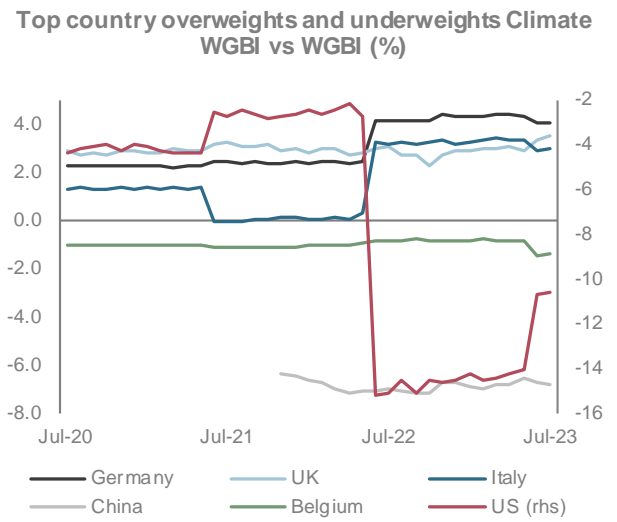


Chart 3: The increase in Japan's country weight in 2022 caused the yield on climate WGBI to drop sharply relative to WGBI. But this has fallen away with UK gilt yields rising sharply another factor in this.

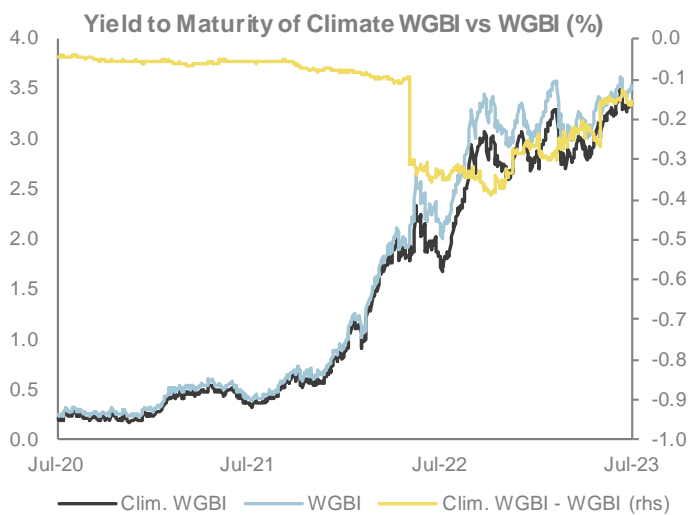


Chart 4: Climate WGBI's higher weighting in the Eurozone gives the index higher AAA weight, with Bunds rated AAA, but the lower US weighting in climate WGBI means the AA weight is notably lower.

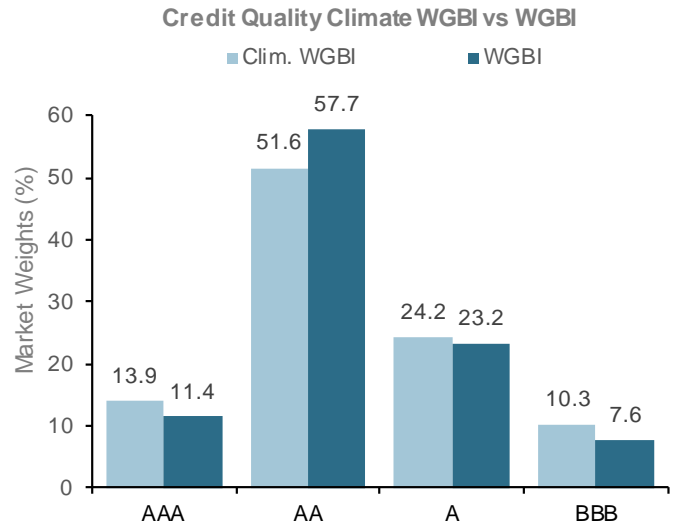


Chart 5: Yield curve flattening has caused yields to converge in the medium to long maturities at around 3% in both WGBI and climate WGBI in 2023, eliminating most of the "greenium" in climate WGBI.

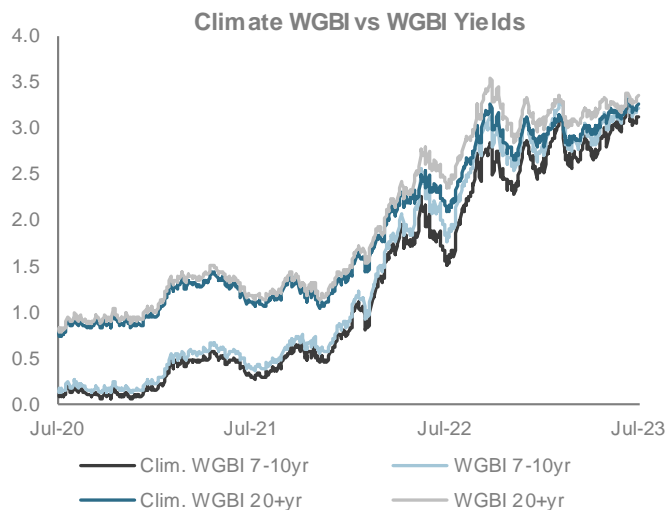
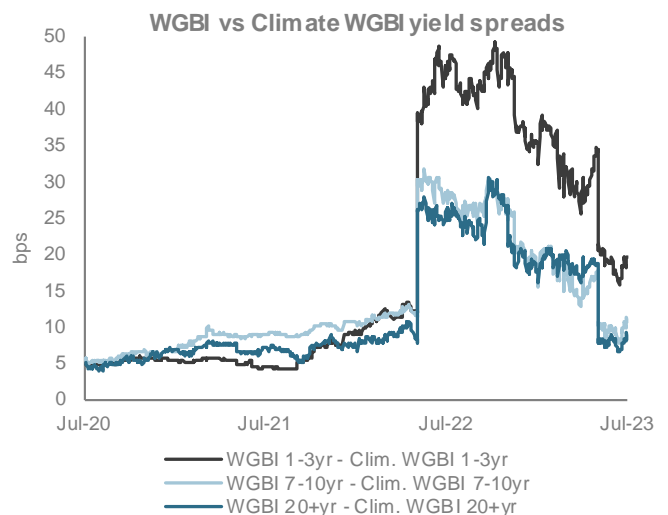


Chart 6: The "greenium" or yield discount on climate-WGBI versus WGBI has normalized in longer maturities, after increasing sharply when Japan's sovereign weight increased, and the US fell, in 2022.



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Global Sovereign Bond Returns – 1M and YTD % (JPY & LCY, TR) as of July 31, 2023

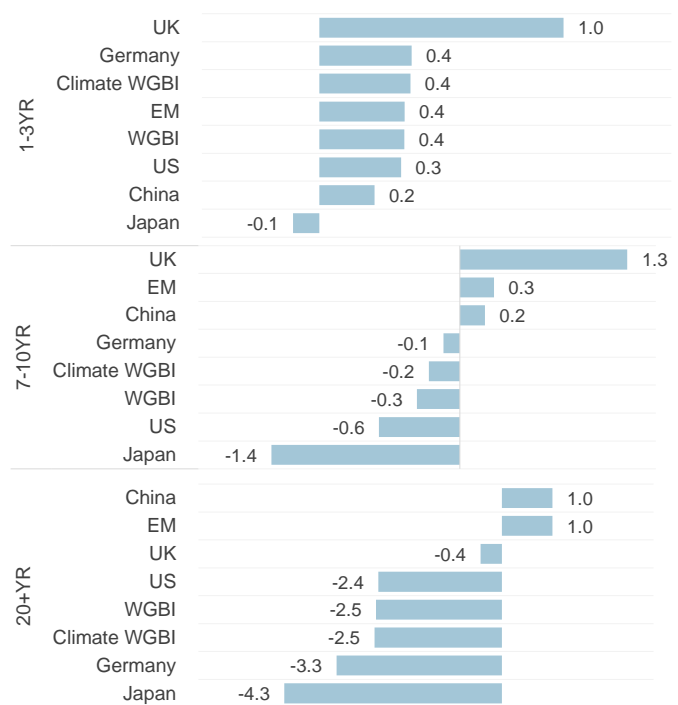
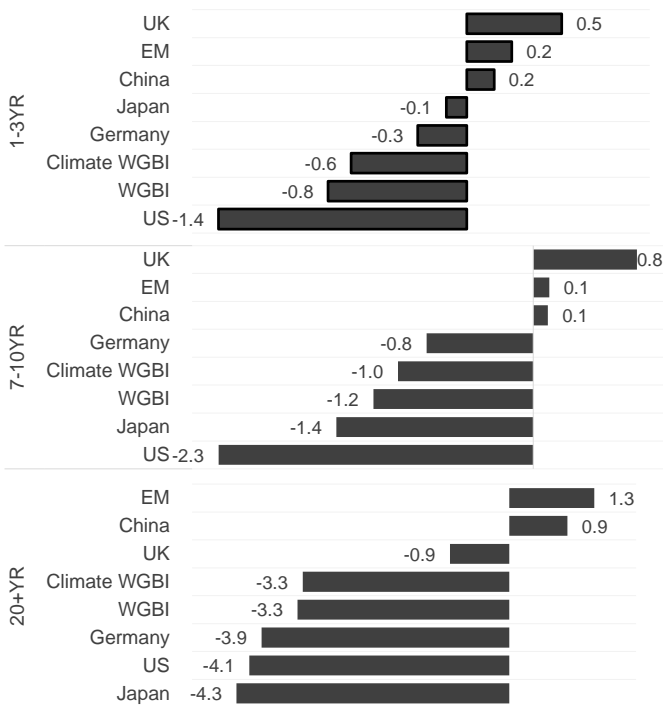
Government bonds mostly traded in a narrow range in July. Gilts recovered after better inflation data, with gains of 1%, and signs curve control may be ending boosted the yen. YTD, the strong euro and sterling meant Bunds and short gilts offered the best returns of 12-15% in yen. Longer JGBs lost most in July on fears of higher yields after the YCC change.

July central bank moves were well discounted, though the BoJ surprised markets in signaling curve control may end soon. Bonds range-traded as lower inflation was offset by higher policy rates, and currency moves dominated, notably the yen's end-month rally. As a result, overseas bond returns in yen terms were reduced by currency effects.

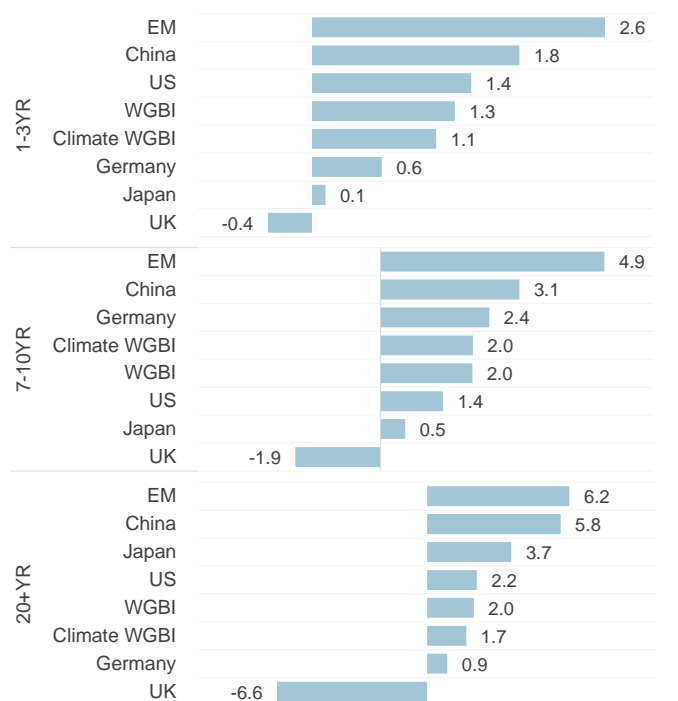
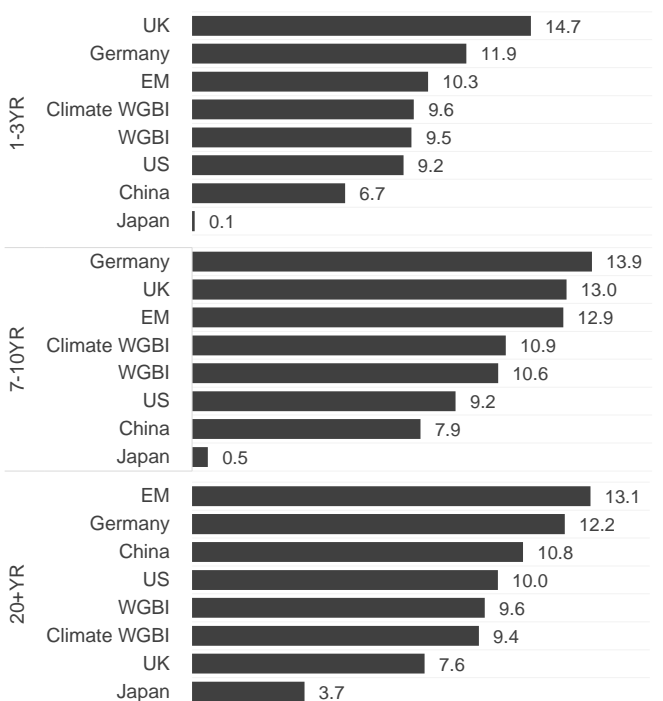
YTD, G7 yields have fallen modestly, as curves inverted and inflation fell. But moves have been small compared to the brutal increases in yields in 2022, and FX moves drove the bulk of returns, notably yen weakness until July, and sterling and euro strength.

CONVENTIONAL GOVT BONDS

1M JPY | 1M LCY



YTD JPY | YTD LCY



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Top and Bottom Bond Returns – 1M & 12M % (JPY, TR) as of July 31, 2023

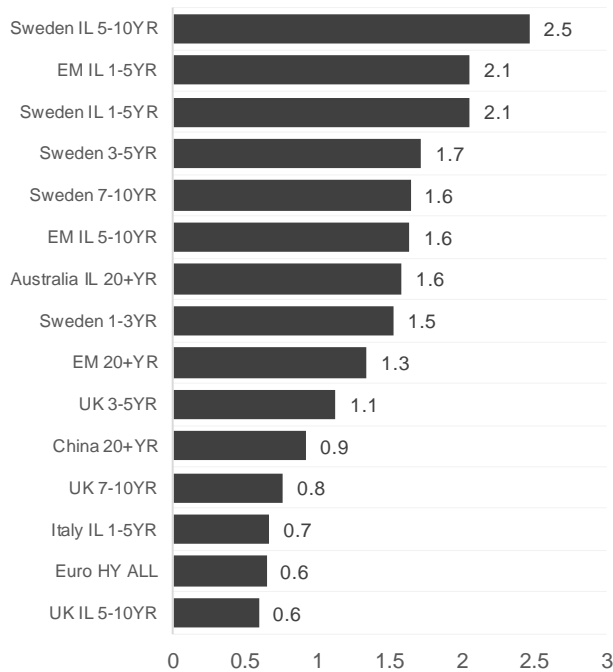
Shorter and medium dated Swedish govt bonds and EM bonds were the strongest performers in July, in yen terms, returning about 2-3%. Longer Canadian, US and Eurozone bonds all lost 3-5%, after policy rate increases, and a yen rally. 12M returns were led by robust EM bonds, with returns of 27-35%, and helped by stronger currencies.

The stronger Swedish krone helped drive Swedish government bond gains in July, while lower yields boosted longer gilts and UK index linked bonds.

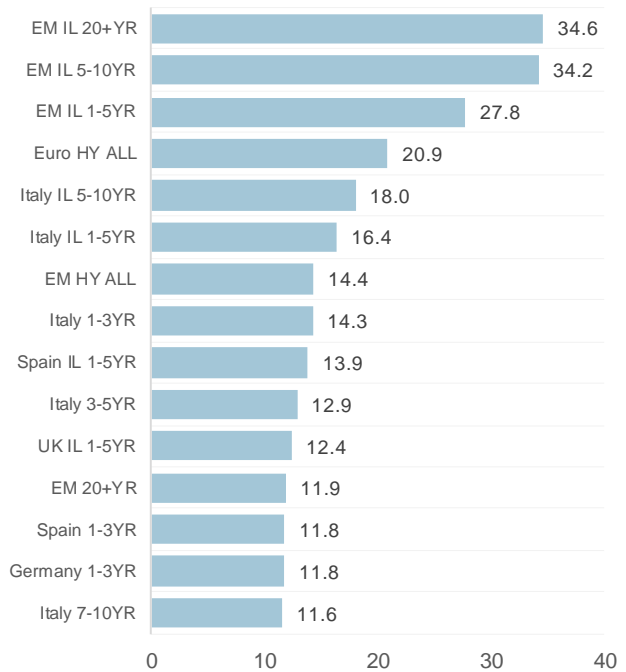
On 12M, EM inflation linked returned 27-35%, continuing the outperformance in 2022-23. Eurozone government bonds benefited from the stronger euro, returning 11-18%, despite higher ECB rates. Longer UK conventional and inflation-linked bonds lost most.

1M JPY 12M JPY

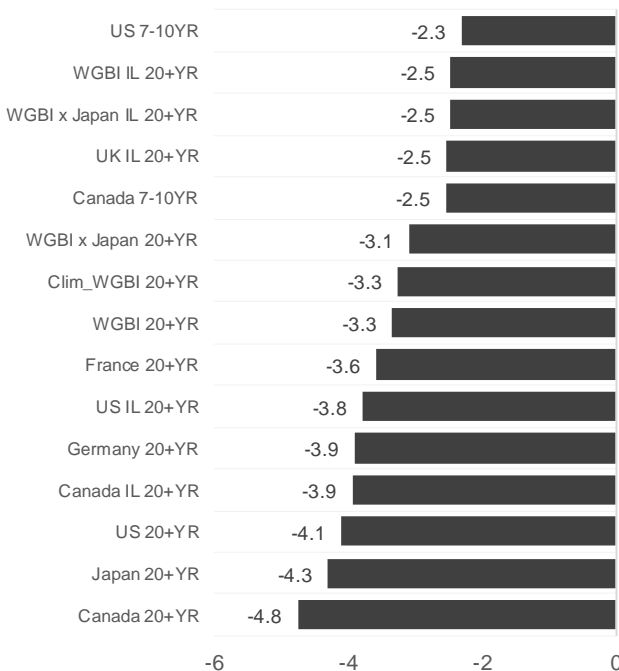
Top 15



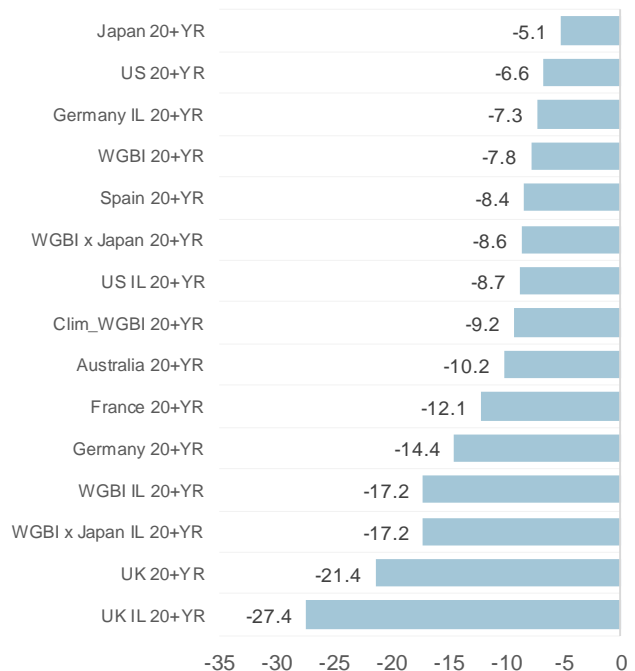
Top 15



Bottom 15



Bottom 15



Source: FTSE Russell. All data as of July 31, 2023. This analysis is taken from 100+ 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.

Appendix – Global Bond Market Returns % (JPY & LC, TR) – July 31, 2023

Government Bond Returns

Top 15% Bottom 15%

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

		3M		6M		YTD		12M	
		Local	JPY	Local	JPY	Local	JPY	Local	JPY
WGBI	1-3YR	-0.18	3.88	0.64	9.55	1.25	9.54	-0.28	7.54
	7-10YR	-1.54	2.39	-0.63	7.97	2.02	10.64	-6.23	1.72
	20+YR	-3.55	-0.10	-2.67	4.91	2.04	9.59	-13.93	-7.80
WGBI x Japan	1-3YR	-0.98	3.33	-0.06	9.61	1.44	10.66	-2.84	6.02
	7-10YR	-1.59	2.86	-0.84	8.92	2.29	12.12	-7.12	1.99
	20+YR	-3.44	0.99	-4.61	4.99	1.53	11.25	-16.40	-8.59
US	1-3YR	-0.47	3.85	0.64	9.95	1.40	9.19	0.16	6.48
	7-10YR	-3.29	0.91	-2.10	6.96	1.38	9.16	-6.52	-0.63
	20+YR	-5.15	-1.03	-5.06	3.72	2.17	10.02	-12.19	-6.65
	IG All	-0.75	3.56	-0.43	8.79	3.71	11.67	-1.18	5.06
	HY All	2.33	6.78	3.12	12.66	7.12	15.35	4.22	10.79
UK	1-3YR	-0.73	6.03	-1.01	13.03	-0.39	14.73	-2.14	10.00
	7-10YR	-3.45	3.13	-4.83	8.67	-1.87	13.03	-14.26	-3.63
	20+YR	-5.52	0.92	-10.47	2.23	-6.56	7.62	-30.03	-21.36
EUR	IG All	0.78	5.01	1.09	12.12	3.36	14.98	-3.32	11.13
	HY All	2.51	7.12	2.69	14.27	6.14	18.52	5.40	20.90
Japan	1-3YR	-0.08	-0.08	0.01	0.01	0.12	0.12	-0.12	-0.12
	7-10YR	-1.25	-1.25	0.78	0.78	0.55	0.55	-2.18	-2.18
	20+YR	-4.12	-4.12	4.38	4.38	3.68	3.68	-5.14	-5.14
China	1-3YR	1.01	2.17	1.68	5.03	1.82	6.65	2.55	2.77
	7-10YR	1.56	2.73	2.97	6.36	3.05	7.94	3.79	4.01
	20+YR	3.17	4.35	6.43	9.93	5.83	10.85	7.97	8.20
EM	1-3YR	1.42	4.22	2.25	8.31	2.57	10.26	3.97	8.56
	7-10YR	2.05	5.26	3.37	10.14	4.92	12.91	6.29	10.75
	20+YR	2.97	5.82	5.50	11.10	6.22	13.06	8.57	11.91
	IG All	0.36	4.72	1.14	10.50	3.73	11.70	2.37	8.83
	HY All	1.41	5.81	-1.38	7.75	2.30	10.16	7.58	14.37
Germany	1-3YR	-0.05	4.15	0.39	11.35	0.61	11.92	-2.74	11.80
	7-10YR	-0.62	3.56	-0.31	10.57	2.39	13.90	-10.83	2.50
	20+YR	-2.67	1.42	-5.26	5.08	0.88	12.22	-25.58	-14.45
Italy	1-3YR	0.47	4.70	1.01	12.04	1.67	13.10	-0.57	14.29
	7-10YR	1.94	6.23	2.90	14.13	6.99	19.02	-2.93	11.59
	20+YR	2.73	7.05	1.40	12.47	9.10	21.36	-11.84	1.35
France	1-3YR	-0.06	4.14	0.41	11.37	0.92	12.27	-3.00	11.51
	7-10YR	-0.48	3.70	-0.49	10.37	2.44	13.96	-10.51	2.87
	20+YR	-1.61	2.53	-5.32	5.02	0.78	12.11	-23.57	-12.14
Australia	1-3YR	-1.00	5.34	-0.12	4.35	0.72	7.77	0.19	2.85
	7-10YR	-4.46	1.65	-2.07	2.32	2.22	9.38	-3.98	-1.43
	20+YR	-7.85	-1.95	-5.69	-1.47	1.92	9.05	-12.51	-10.18
NZ	1-3YR	-0.29	4.83	0.58	5.83	1.58	7.63	0.01	5.52
	7-10YR	-3.48	1.48	-2.29	2.80	0.82	6.83	-5.96	-0.77

Source: FTSE Russell. All data as of July 31, 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 July 31, 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	5.01	4.33	3.97	4.11	2.44	1.72	1.80	5.50	8.36
	3M Ago	4.24	3.62	3.41	3.75	1.68	1.23	1.58	5.15	8.50
	6M Ago	4.35	3.74	3.46	3.71	1.85	1.32	1.54	5.01	8.23
	12M Ago	2.93	2.78	2.66	3.19	-0.23	0.06	0.87	4.39	7.63
UK	Current	5.04	4.69	4.25	4.39	1.86	0.65	1.00		
	3M Ago	4.05	3.77	3.64	4.02	0.39	0.14	0.63		
	6M Ago	3.42	3.26	3.33	3.70	0.31	0.00	0.30		
	12M Ago	1.78	1.76	1.83	2.25	-3.27	-2.17	-1.01		
Japan	Current	-0.04	0.08	0.50	1.40	-1.70	-0.74			
	3M Ago	-0.07	0.02	0.30	1.20	-1.31	-0.63			
	6M Ago	-0.02	0.11	0.52	1.55	-1.33	-0.34			
	12M Ago	-0.11	-0.05	0.12	1.02	-1.06	-0.73			
China	Current	2.08	2.34	2.66	3.04					
	3M Ago	2.28	2.51	2.78	3.17					
	6M Ago	2.30	2.57	2.87	3.31					
	12M Ago	2.05	2.30	2.68	3.22					
EM	Current	3.58	4.17	4.80	4.41	3.05	4.07	4.88	5.93	
	3M Ago	3.74	4.37	4.66	4.46	3.84	4.04	5.15	5.61	
	6M Ago	3.59	4.30	4.76	4.57	3.11	3.37	5.25	5.52	
	12M Ago	3.45	4.13	4.71	4.63	2.31	3.43	5.12	4.99	
Germany	Current	3.09	2.60	2.41	2.53	0.60	0.07	0.01		
	3M Ago	2.72	2.35	2.25	2.37	0.16	-0.06	-0.11		
	6M Ago	2.59	2.31	2.21	2.22	0.38	0.13	-0.09		
	12M Ago	0.20	1.03	1.25	1.52	-2.09	-1.34	-0.84		
Italy	Current	3.60	3.55	3.86	4.35	1.30	1.64	1.69		
	3M Ago	3.36	3.49	3.97	4.45	0.80	1.65	1.83		
	6M Ago	3.17	3.42	3.92	4.29	1.18	1.87	1.85		
	12M Ago	1.37	2.85	3.62	4.03	-1.72	1.17	1.80		
France	Current	3.15	2.90	2.90	3.35	0.58	0.37	0.60		
	3M Ago	2.84	2.66	2.73	3.23	-0.06	0.17	0.58		
	6M Ago	2.71	2.58	2.64	3.01	0.24	0.30	0.52		
	12M Ago	0.40	1.46	1.87	2.52	-1.44	-0.53	0.15		
Sweden	Current	3.33	2.83	2.57		0.96	0.74			
	3M Ago	2.89	2.59	2.31		0.71	0.73			
	6M Ago	2.50	2.27	2.05		-0.17	0.14			
	12M Ago	1.71	2.27	2.01		-1.11	-0.83			
Australia	Current	4.02	3.86	4.03	4.40	1.03	1.47	1.79		
	3M Ago	3.13	3.05	3.30	3.88	0.09	0.84	1.50		
	6M Ago	3.17	3.24	3.51	3.96	0.23	0.92	1.37		
	12M Ago	2.56	3.45	3.65	3.98	0.76	1.31	1.88		
NZ	Current	5.21	4.80	4.70	4.87	1.94	2.39			
	3M Ago	4.89	4.15	4.08	4.23	0.95	1.61			
	6M Ago	4.67	4.18	4.11	4.41	1.28	1.79			
	12M Ago	3.28	4.14	4.15	4.45	1.07	2.10			
Canada	Current	4.55		3.58	3.34			1.78	5.49	
	3M Ago	3.55		2.83	2.94			1.26	4.84	
	6M Ago	3.68		2.91	3.00			1.20	4.83	
	12M Ago	2.87		2.60	2.77			0.80	4.44	

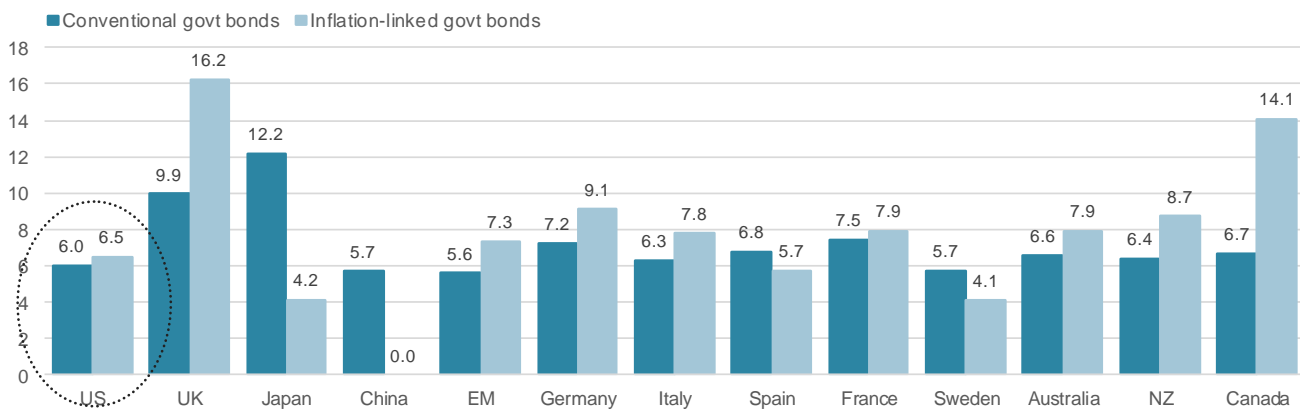
Source: FTSE Russell. All data as of July 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Duration and Market Value (USD, Bn) as of July 31, 2023

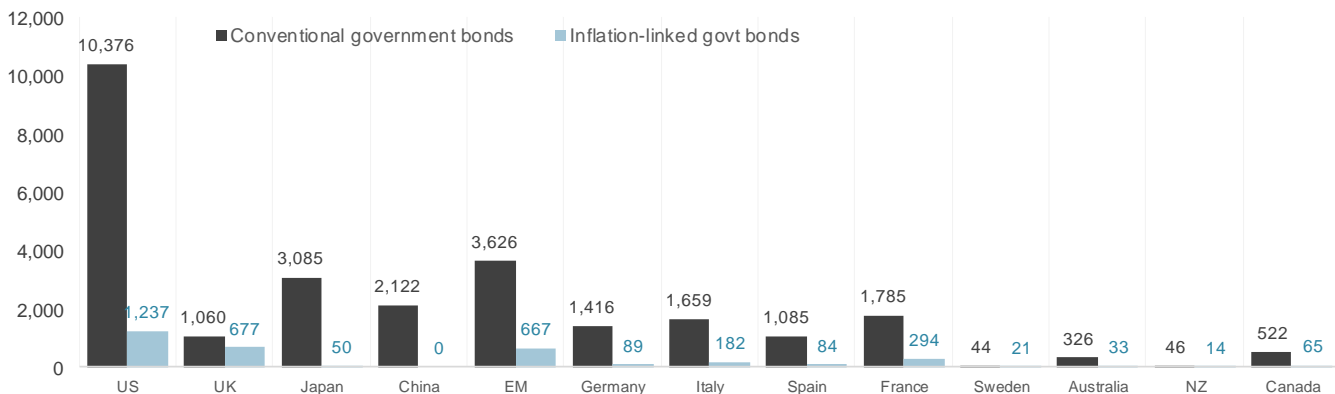
	Conventional government bonds								Inflation-linked government bonds					
	Duration				Market Value				Duration			Market Value		
	3-5YR	7-10YR	20+YR	Overall	3-5YR	7-10YR	20+YR	Total	5-10YR	20+YR	Overall	5-10YR	20+YR	Total
US	3.7	7.4	17.2	6.0	2,305.7	1,077.6	1,277.3	10,376.1	7.0	21.5	6.5	401.5	121.7	1237.2
UK	3.5	7.4	18.6	9.9	147.2	158.9	300.9	1,060.0	6.6	27.9	16.2	132.3	256.2	676.7
Japan	4.0	8.1	23.9	12.2	353.4	357.0	677.2	3,085.2	7.1		4.2	17.7		50.2
China	3.7	7.5	17.6	5.7	474.9	329.7	252.5	2,121.6						
EM	3.5	6.9	15.9	5.6	769.04	652.75	352.49	3,625.6	5.5	13.9	7.3	141.7	172.8	666.9
Germany	3.8	7.6	20.5	7.2	297.75	236.82	160.96	1,415.6	7.3	21.9	9.1	43.3	19.4	88.6
Italy	3.7	7.3	16.2	6.3	286.43	262.92	155.58	1,659.3	8.0	26.4	7.8	56.5	5.8	181.8
Spain	3.7	7.4	17.2	6.8	205.12	192.14	108.46	1,085.1	6.8		5.7	23.0		84.2
France	3.8	7.7	20.2	7.5	314.09	305.27	210.14	1,785.4	6.8	24.6	7.9	105.2	22.0	293.8
Sweden	3.8	7.7		5.7	13.79	8.90		43.7	5.8		4.1	9.9		21.1
Australia	3.6	7.7	17.5	6.6	51.70	88.87	15.24	326.4	7.2	22.5	7.9	9.7	2.7	33.5
NZ	3.9	7.6	17.0	6.4	9.67	10.85	2.36	46.4	6.3		8.7	3.2		13.9
Canada		7.1	18.6	6.7		188.40	85.90	522.0		14.1	14.1		65.1	65.1

	Investment grade bonds					High Yield						
	Duration					Market Value			Duration	MktVal		
	AAA	AA	A	BBB	Overall	AAA	AA	A	BBB	Overall		
US	10.9	8.6	7.3	6.7	7.1	73.4	453.7	2,630.7	3,284.4	6,442.3	4.0	1,176.1
Euro	6.3	4.9	4.7	4.3	4.5	9.7	187.7	1,205.3	1,457.2	2,859.9	3.1	426.3
EM		5.9	4.9	5.1	5.1		44.61	221.28	326.8	592.7	3.3	190.1

Average Duration



Total Market Value (USD Billions)

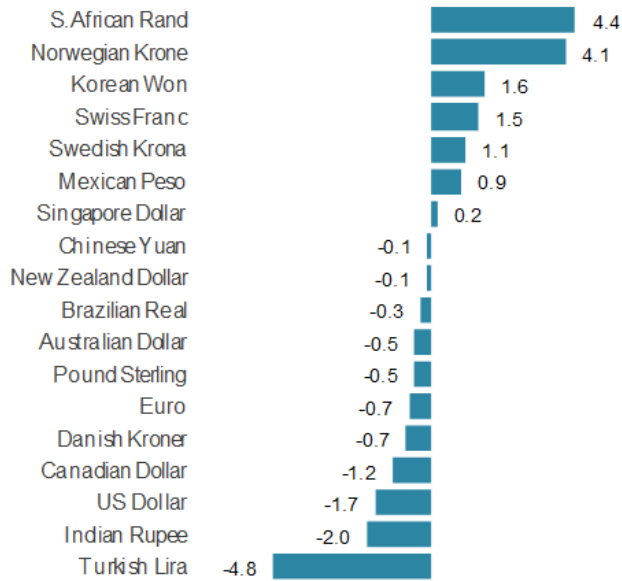


Data as of 2023-07-31

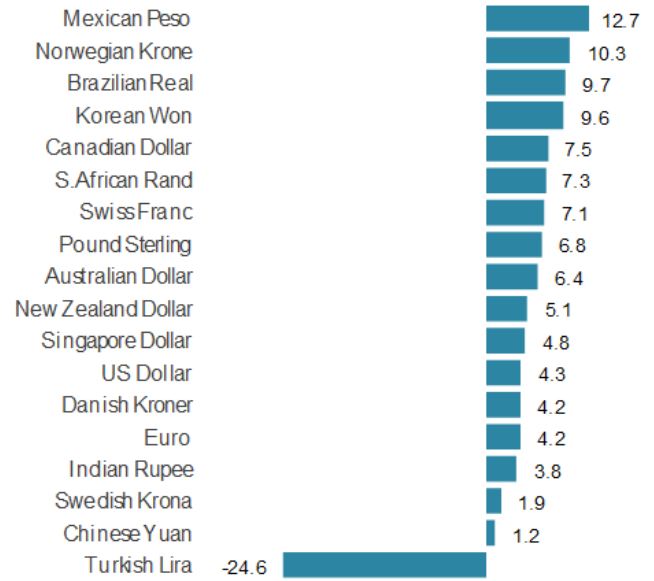
Source: FTSE Russell. All data as of July 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors only.

Appendix – Foreign Exchange Returns % as of July 31, 2023

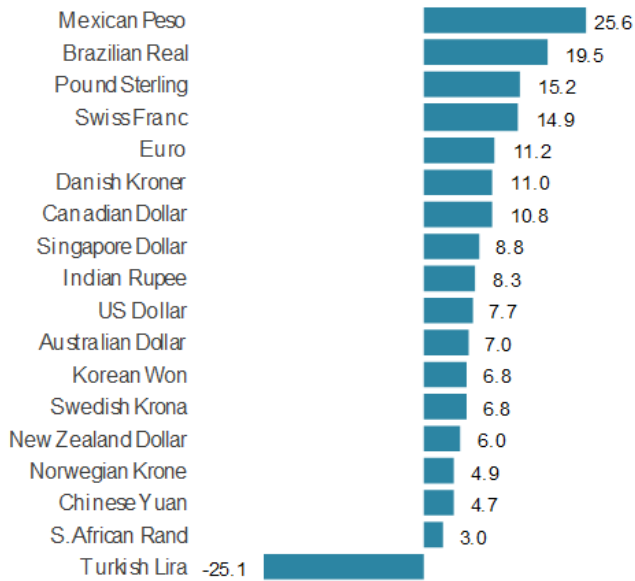
FX Moves vs JPY - 1M



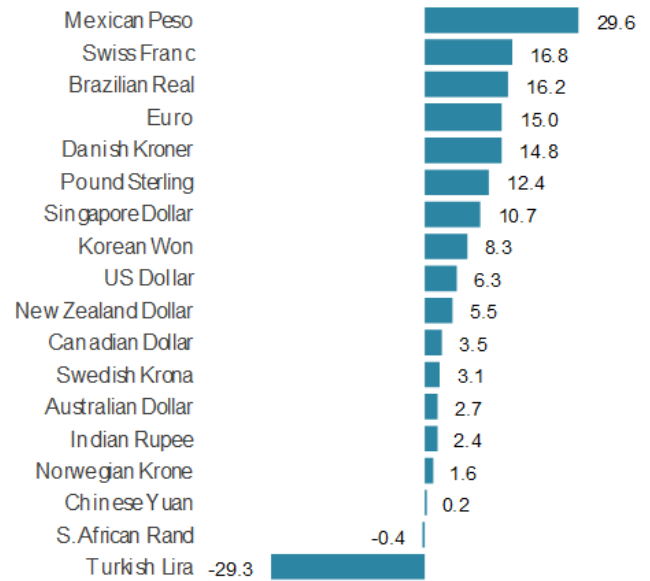
FX Moves vs JPY - 3M



FX Moves vs JPY - YTD



FX Moves vs JPY - 12M



Source: FTSE Russell and Refinitiv. All data as of July 31, 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 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 Government Bond Index (EMGBI) for the emerging markets government bond market. Please note that over 50% of this index is invested in China

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

FTSE ESG World Government Bond Index for the global government bond markets with an ESG tilt

FTSE Climate Risk-Adjusted World Government Bond Index (Climate WGBI) and FTSE Advanced Climate Risk-Adjusted World Government Bond Index (Advanced Climate WGBI) for each country's relative exposure to climate risk, with respect to resilience and preparedness to the risks of climate change

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



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