Fixed Income Insights

MONTHLY REPORT – **AUGUST 2023 | US EDITION**

FOR PROFESSIONAL INVESTORS ONLY

Rapid US disinflation but Fed caution continues

G7 economies have withstood policy tightening to date, apart from a mild Eurozone recession. Fed tightening may be nearly complete, but sticky core inflation makes early easing unlikely. Treasuries are rangebound awaiting signs tightening is complete. IG credits are relatively cheap, after recent high yield outperformance.

Macro and policy backdrop – Service sectors stay robust, as lower inflation eases pressure on central banks

Disinflation gives central banks room to pause policy, even if July FOMC suggests Fed risk-averse about inflation. (pages 2-3)

Yields, curves and spreads – Curve inversions remain, except in Japan, where 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" stabilizes 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, but 12M returns dominated by euro-driven gains in long euro govts & EM bonds

Long euro govt and inflation (IL) bonds, and EM IL gained 11-22% on 12M. 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: G7 yield moves G7 remain less synchronised than previous cycles, reflecting differing inflation performance and policy responses.

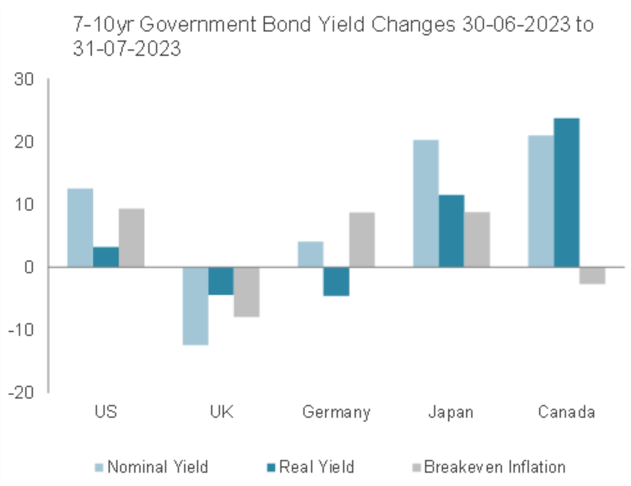
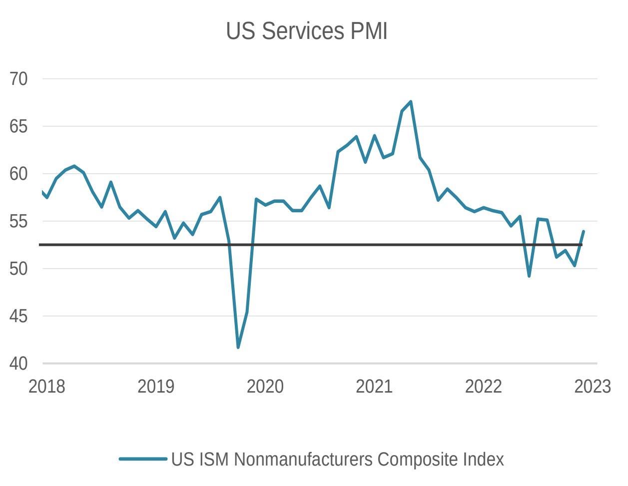


Chart 2:The US service sector ended Q2 strongly, despite Fed tightening, helped by consumer demand switching away from goods.



Source: FTSE Russell. Data available 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, after inflation fell sharply in Q2. Service sectors benefited from stronger demand, post-lockdowns, as consumers spend Covid windfalls.

Although growth slowed sharply, no G7 economy is in recession. The US avoided one, buoyed by services, and resilient consumers (Chart 1), even if 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.

Inflation fell further in June, with the headline US CPI increasing at 3.0% y/y (v 9.1% in June 2022), core CPI 4.8% y/y and the Fed's target PCE deflator measure at 4.0% y/y. Shelter inflation is still 7.8% y/y, but super-core services inflation (ex shelter) is back to pre-Covid levels. Base effects are less helpful in Q3, as the big increases in inflation in Q2 2022 drop out of indices. Chart 2 shows the UK and China remain global inflation outliers, though even UK inflation dropped below 8.0% y/y in June.

Chart 3 shows oil and gold prices diverged since the Ukraine shock in February 2022, as energy prices first rose sharply, but then fell on the weak growth outlook, despite OPEC production cuts. Lower US inflation and the prospect of US rates peaking have helped the gold price recover in 2023, after Fed tightening and higher dollar interest rates drove it lower in 2022.

The US labor market shows evidence of labor hoarding and shortages, although there was some evidence of cooling in July, and average earnings stabilized at 4.4% y/y (Chart 4). Service sector inflation is highly sensitive to wage inflation, because of the high proportion of labor costs in services, as Fed Chairman Powell has noted. US wage growth has generally been below CPI inflation throughout the cycle, which is evidence the inflation regime has not changed, reinforced by stable US inflation breakevens.

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, after a bigger energy shock.

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: Favorable base effects and lower energy prices drove inflation lower in 2022-23, led by the US and Canada. Core inflation fell less and is much stickier. China and the UK remain global inflation outliers.

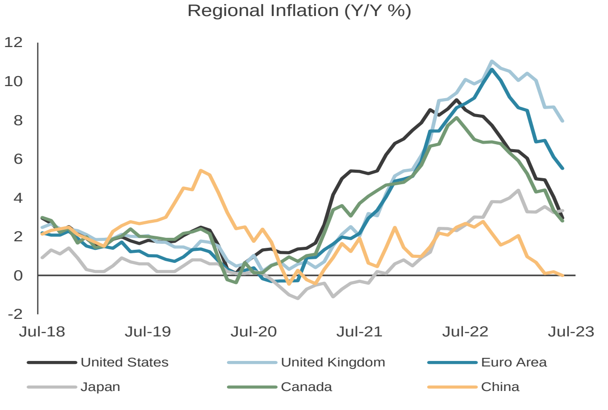


Chart 3: Gold has recovered since the Fed tightening began, as lower inflation drives expectations of lower rates in 2023-24. Oil prices fell on the weaker growth outlook, despite OPEC production cuts.

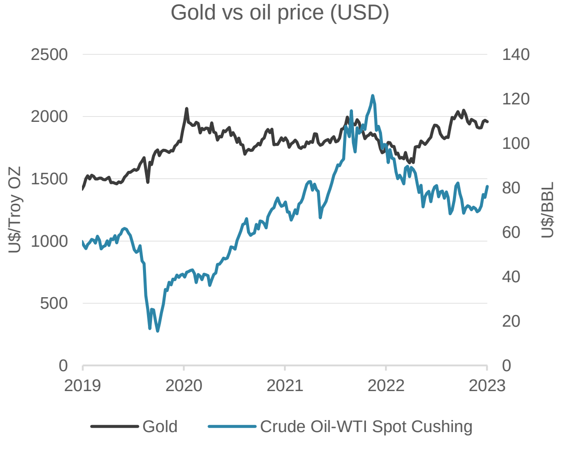
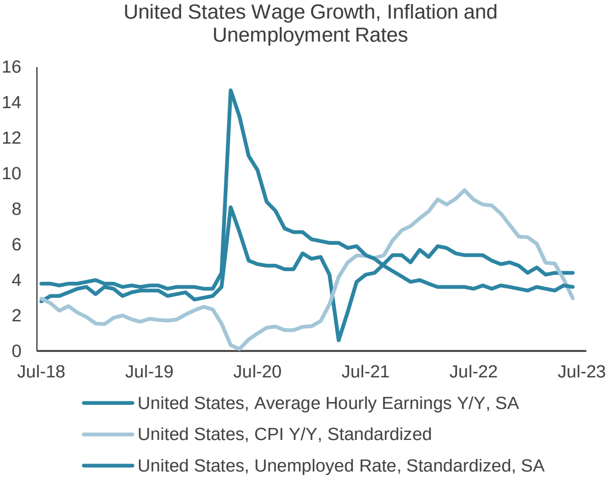


Chart 4: Wage inflation has not adapted to higher inflation rates, even if above pre-Covid levels, at 4.4% y/y, and despite evidence of labor hoarding. Lower wage inflation is an important factor in Fed easing.



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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 10-year yield ceiling lifted to 1%. A harder landing for Europe unfolds and may limit ECB tightening.

Tightening in financial conditions is signaled in US M2 growth stalling (see Chart 1), higher policy rates, tighter US loan conditions, and yield curve inversion (see Chart 3, page 4). But distress is not evident in US equities, high yield credit spreads, or mortgage and credit card delinquencies, so the picture is mixed, and bank deposit flight has stabilized.

Exchange rates reflect disparate economic performance and policy settings in the post-Covid era (Chart 2). The BoJ decision to make yield curve control more flexible drove a strong yen rally at the end of July, and tightening rate differentials have weighed on the dollar since the high in Q4 2022. Sterling draws support from higher UK rates, but stagflation may limit gains.

Monetary policy diverges materially, both within the G7 and China, reflecting inflation dispersion, as Chart 3 shows. But the BoJ signaled greater "flexibility" in yield curve control, and that the end of zero rate policy may be near, after effectively lifting the 10-year yield ceiling to 1%. The Fed left its options open, after raising rates 25bp at the July FOMC, but the ECB hinted at a pause in September, after the move to 4.25%. Markets expect a further 25bp increase in UK rates on August 4th.

The Fed's balance sheet has fallen to $8.27 trillion, unwinding the banking crisis impact (Chart 4), versus a peak of $8.97trn in April 2022, but the contraction slowed sharply and is mainly through Treasury run-offs. The Fed's MBS holdings fell much less, due to the collapse in mortgage refinancings, after the Fed's 525bp of tightening. On a relative basis, the ECB and BoC shrunk balance sheets most in 2022-23. BoJ balance sheet expansion may be coming to an end, after curve control was made more flexible.

Chart 1: US M2 growth has steadily contracted since the Fed began raising rates in March 2022. The tightening in bank loan conditions has helped drive that slowdown, suggesting inflation may fall further.

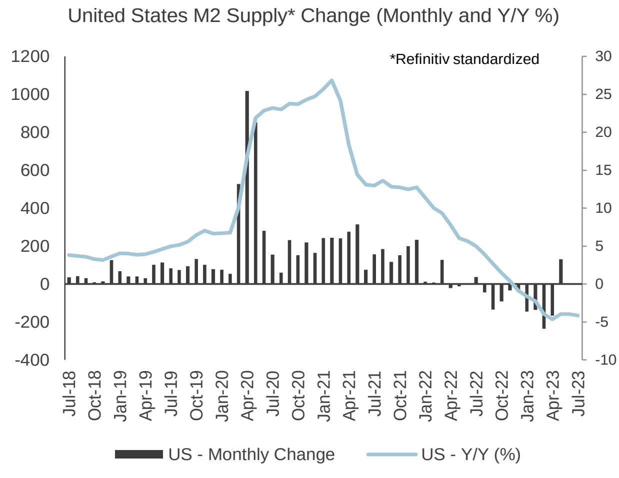


Chart 2: The yen recovered sharply after the BoJ made yield curve control more flexible. Tightening rate differentials, and a recovery in risk appetite, have weighed on the dollar since the Q4 2022 peak.

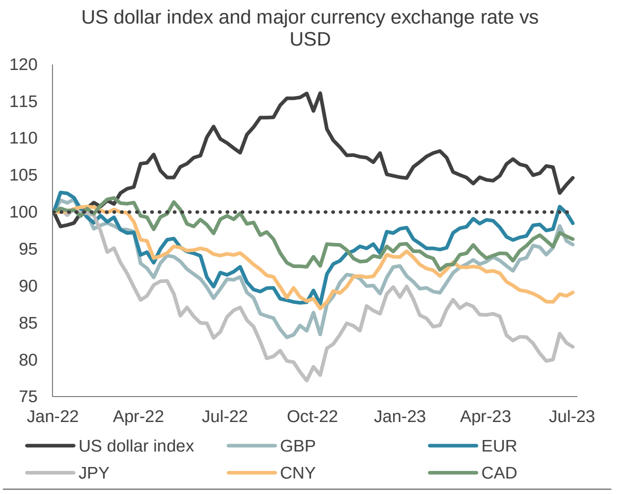


Chart 3: The Fed and ECB left options open after 25bp increases in July, though the ECB hinted at a pause. BoJ's flexible curve control suggests zero rates may end soon. A 25bp BoE move is expected on August 4th.

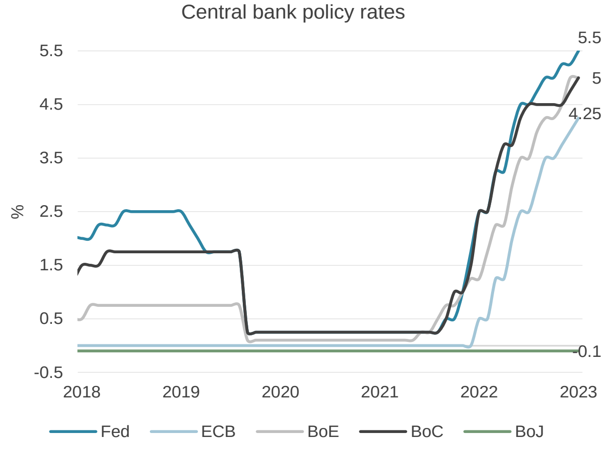
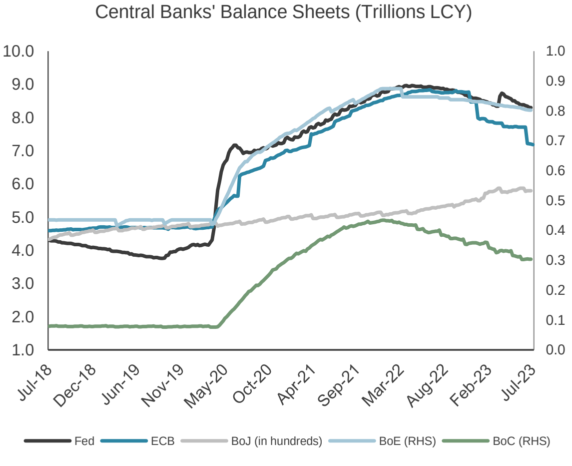


Chart 4: The Fed's balance sheet is below March levels, but the pace of QT slowed sharply since March. BoJ balance sheet expansion may be ending, after curve control was relaxed.



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Global Yields, Curves and Spread Analysis

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

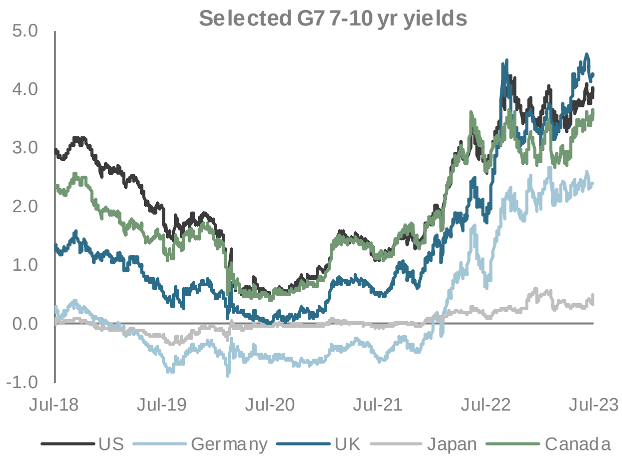

Chart 2: Real yields have tracked nominal yields in July, apart from Japan, where the combination of higher inflation accruals and zero rates have helped demand for JGB inflation linked bonds.

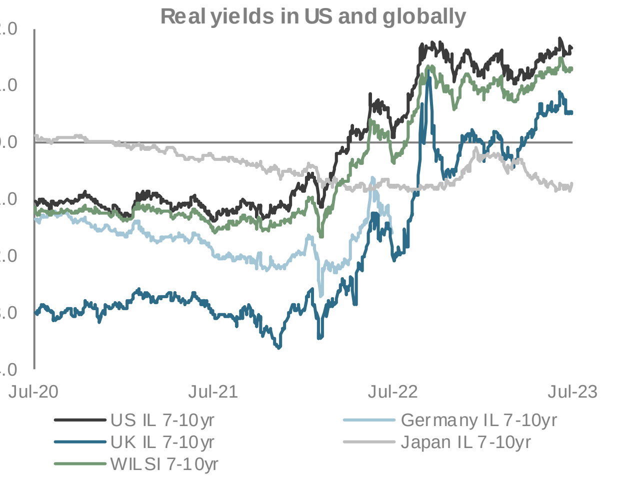

Chart 3: Yield curve inversion remains near cyclical lows, ex Japan, after further rate increases by the Fed and ECB. Canadian curve inversion deepened after the BoC's rate increases in June and July.

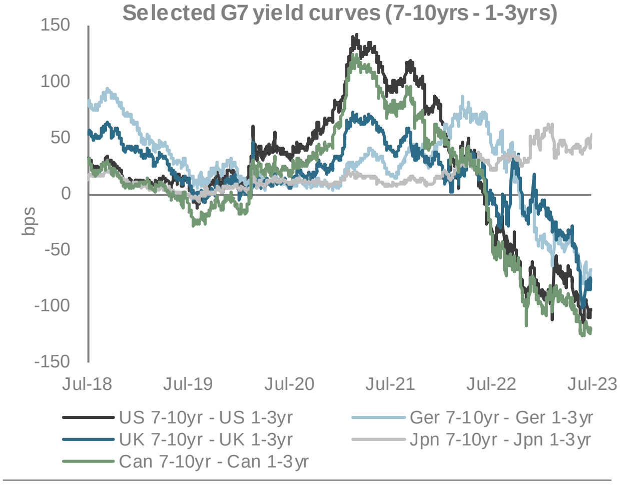

Chart 4: It is a similar story with inversion in long maturities, with Japan the exception. With yields near 15-year highs, investor concern over re-investment risks may be keeping curves inverted.

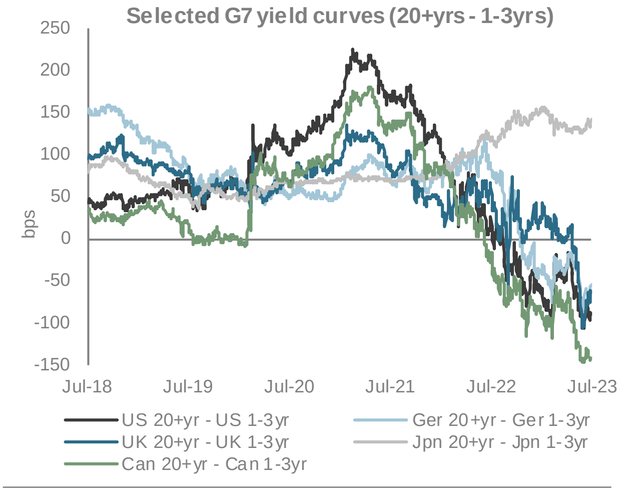

Chart 5: Persistent inflation above the 2% targets in the UK and Japan is impacting breakevens, which rose versus other G7 members. More flexibility in curve control has not reduced JGB breakevens.

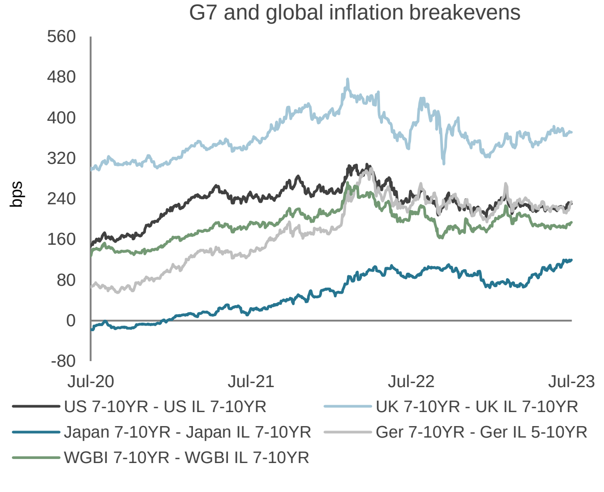

Chart 6: Global inflation breakevens of all tenors have converged near 2%, after a period of much higher short-dated breakevens. There is little evidence of inflation expectations de-stabilizing.

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Yield Spread and Credit Spread Analysis

Chart 1: US 7-10 year sovereign spreads remain stable awaiting clearer Fed signals that the tightening cycle is over. The sharp break lower versus the UK, after gilt yields spiked in Q2 remains a feature.

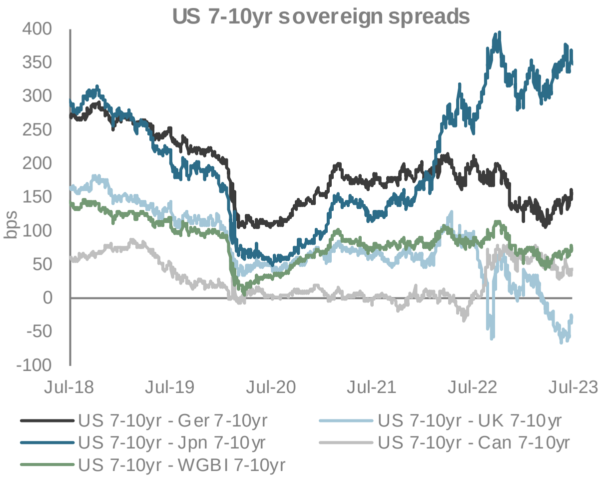

Chart 2: Italian spreads stabilized in July, though the risk rally drove them tighter since Q4 2022, supported by the ECB's transmission protection instrument (designed to protect peripheral spreads).

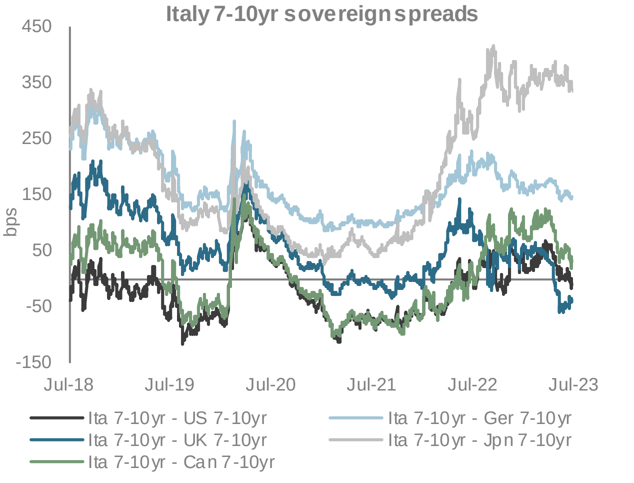

Chart 3: Despite predictions, an EM crisis failed to materialize after both Covid and Ukraine shocks and G7 tightening in 2022-23. Spreads are consolidating near cycle lows, apart from versus JGBs.

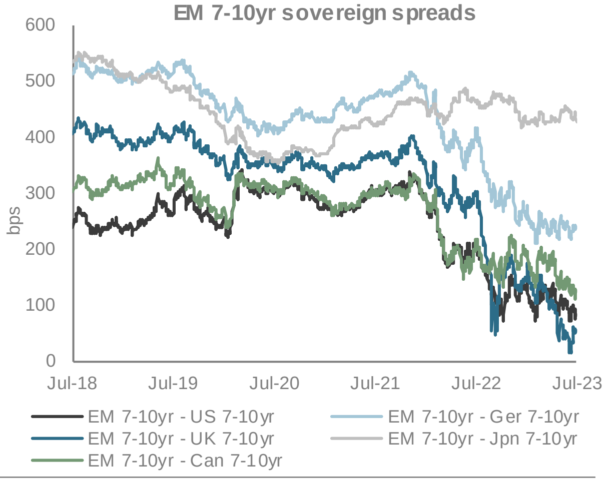

Chart 4: Low correlation of China with the G7 economic and policy cycle continues after different Covid policies and lockdown timings. Yield spreads have traded in wide ranges since the 2020 pandemic.

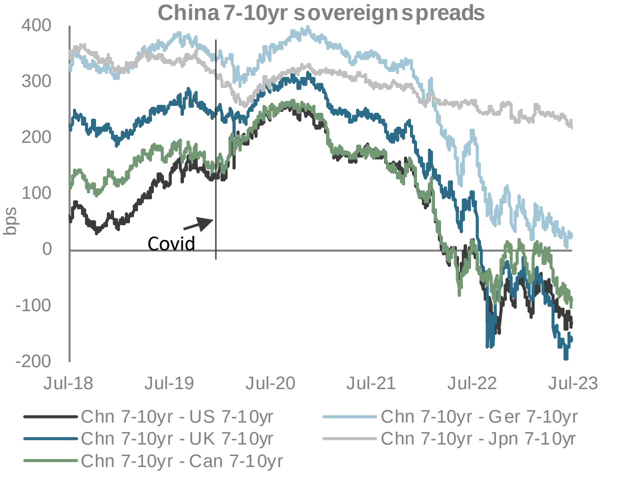

Chart 5: Although credit spreads are well above cycle lows, there is little sign of major stress, particularly in US high yield, which has mean-reverted to pre-Covid levels. Eurozone spreads remain wider.

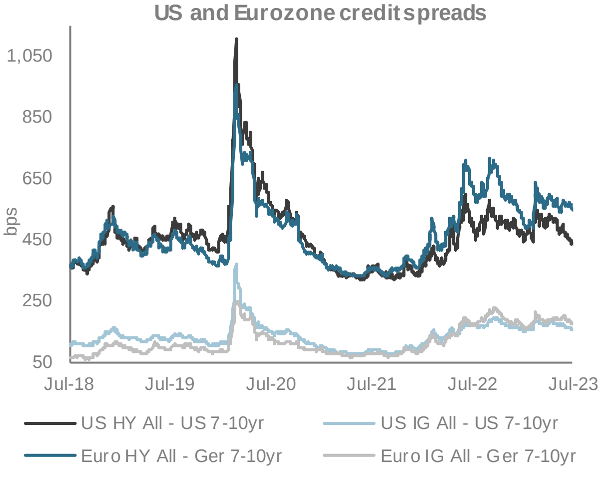

Chart 6: Chinese $ HY spreads widened above 8000bps in July, after Evergrande delayed its financial results and debt restructuring. US HY spreads narrowed, benefiting from the risk rally.

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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.

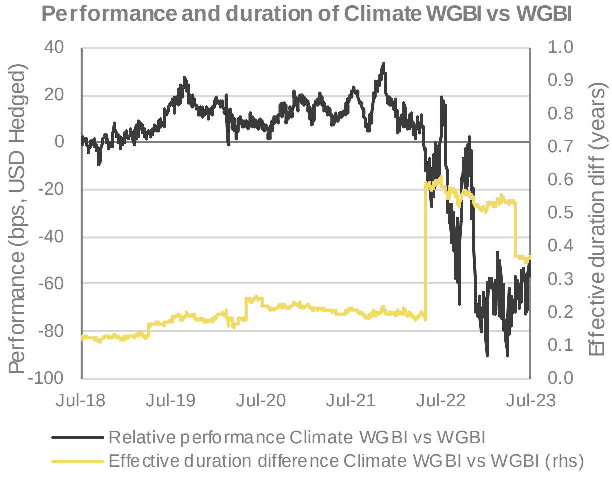


Chart 2: The US underweight in the climate WGBI fell sharply in the July re-weighting, which reduced the duration difference versus WGBI. The UK's weighting increased after more green gilt issuance.

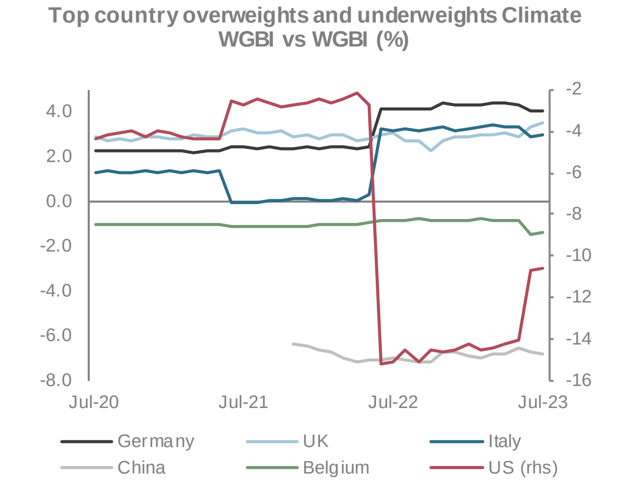


Chart 3: The increase in Japan's country weight in 2022 caused the yield on climate WGBI to drop sharply relative to WGBI. But this has fallen away with UK gilt yields rising sharply another factor in this.

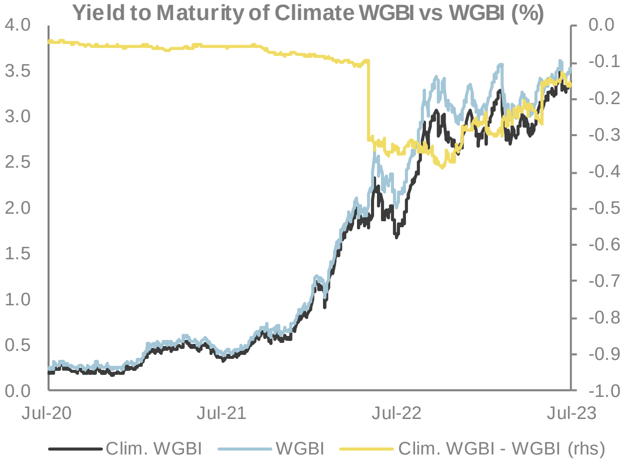


Chart 4: Climate WGBI's higher weighting in the Eurozone gives the index higher AAA weight, with Bunds rated AAA, but the lower US weighting in climate WGBI means the AA weight is notably lower.

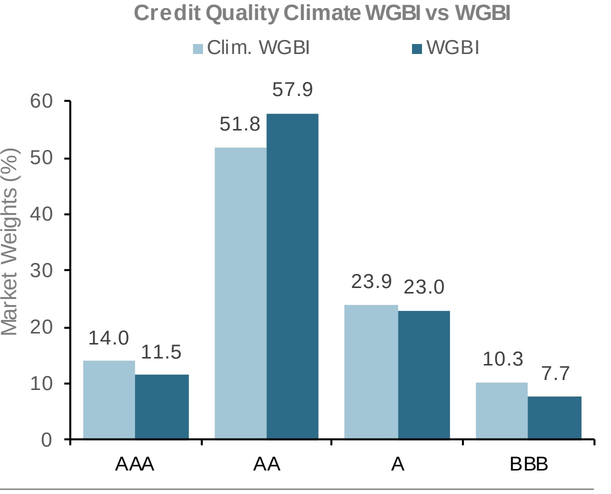


Chart 5: Yield curve flattening has caused yields to converge in the medium to long maturities at around 3% in both WGBI and climate WGBI in 2023, eliminating most of the "greenium" in climate WGBI.

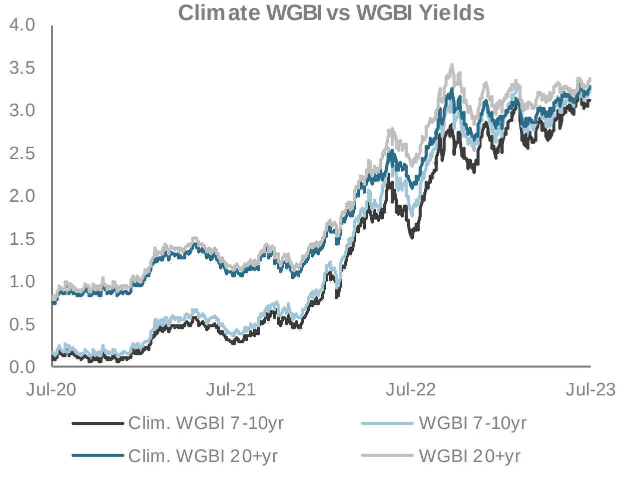
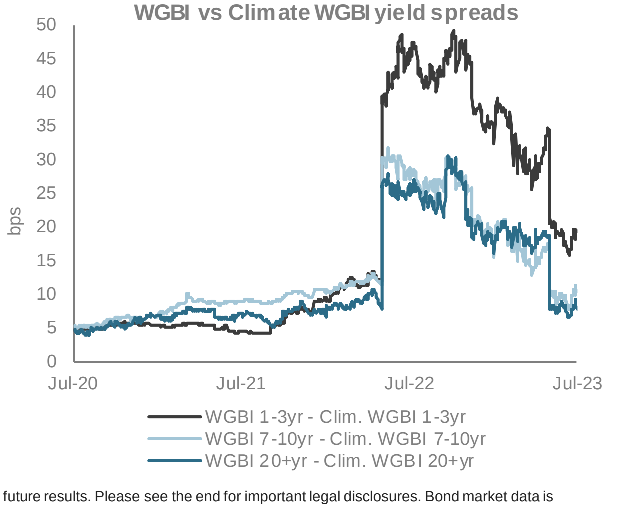


Chart 6: The "greenium" or yield discount on climate-WGBI versus WGBI has normalized in longer maturities, after increasing sharply when Japan's sovereign weight increased, and the US fell, in 2022.



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Global Sovereign Bond Returns – 1M and YTD % (USD & LC, TR)

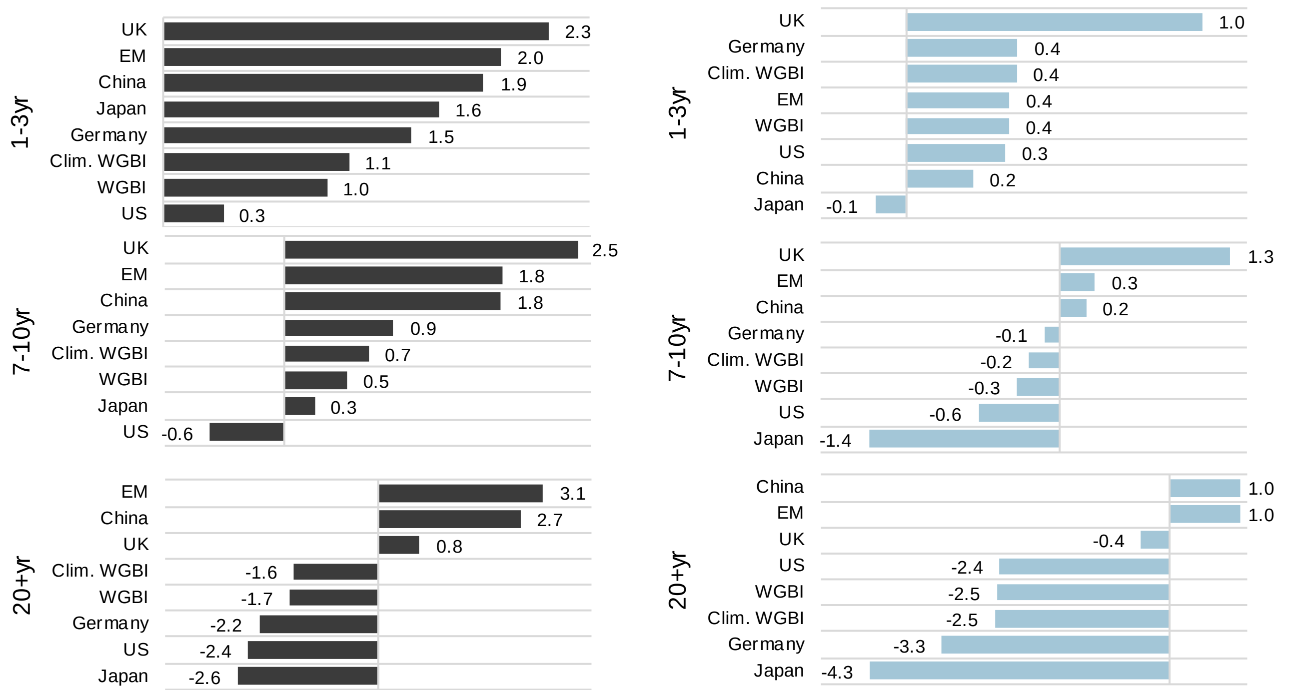
Government bonds mostly traded in narrow ranges in July, although gilts recovered after better inflation data, with gains of up to 3% in dollar terms, and signs curve control may be ending boosted the yen. YTD, the strong euro and sterling meant Bunds and short gilts offered the best returns in dollars of 4-7%. EM bonds performed well but JGBs lost up to 7%.

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.

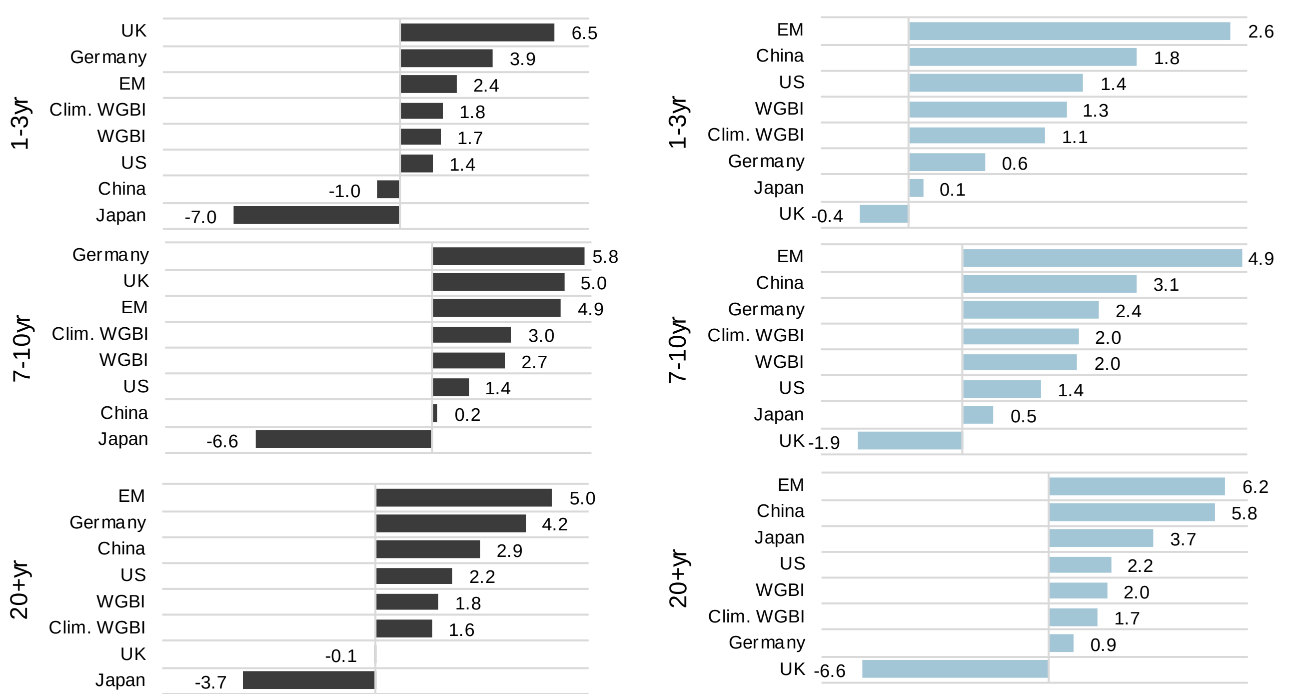
YTD, G7 yields have fallen modestly, as curves inverted and inflation fell, with gilts, Bunds, EM bonds and US Treasuries up 4-7%. But moves have been small compared to the brutal increases in yields in 2022, and FX moves often drove the bulk of returns, notably yen weakness and sterling and euro strength.

CONVENTIONAL GOVT BONDS

1M USD | 1M LCY



YTD USD | YTD LCY



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Global Inflation-Linked Bond Returns − 1M & YTD % (USD, LC, TR)

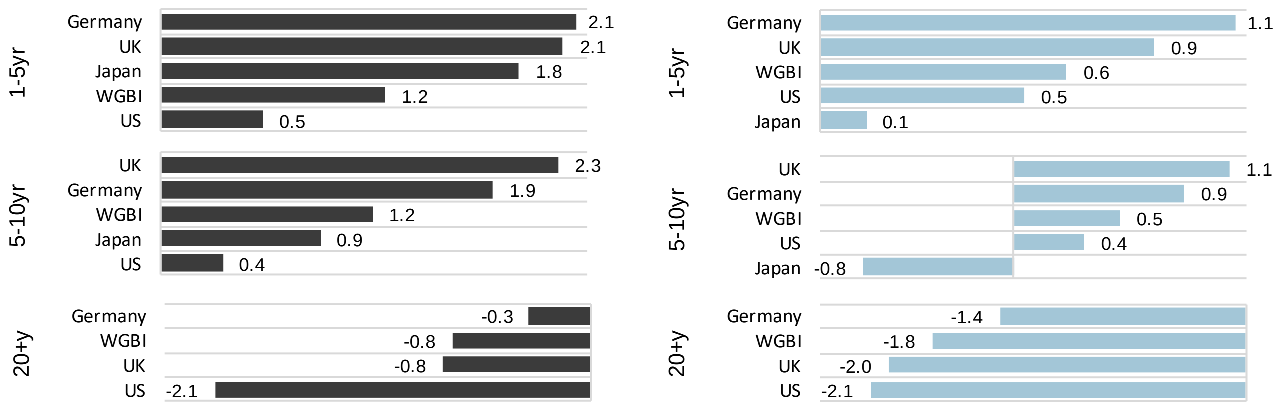
Inflation linked bonds rallied modestly in July, led by longer UK linkers, after lower UK inflation data eased rate expectations. Euro strength also boosted euro credit returns, in dollar terms. YTD, Bund, UK linkers and US Tips returned 3-9%, for a dollar investor, while credit gained 2-10%, led by euro HY.

After a difficult Q2 of underperformance, medium dated UK linkers rallied a little in July, as yields fell, with returns of 2% in dollar terms. Euro and yen gains also helped Bund and JGB linkers gain on the month, while long Tips fell back 2.1%.

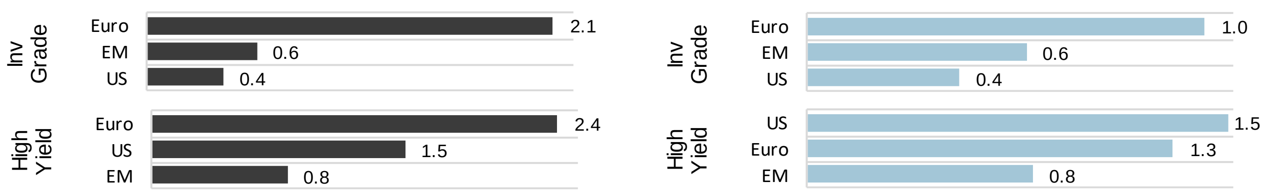
YTD, credit performed well, with HY outperforming, thanks to the correlation of HY credit to equity market performance. Euro IG credits also gained by up to 7% in US dollars, boosted by Euro gains, as interest rate differentials improved versus the US dollar.

INFLATION LINKED BONDS

1M USD | 1M LCY

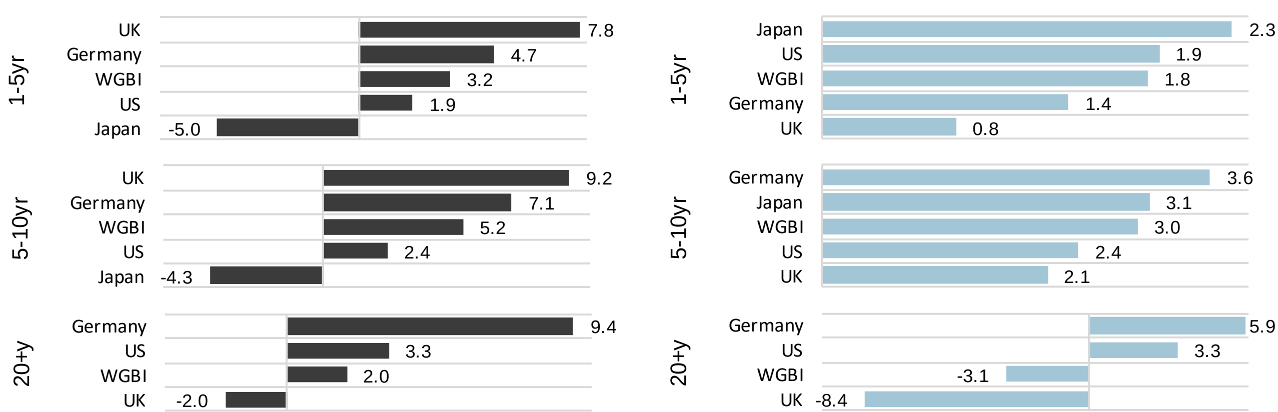


CORPORATE BONDS

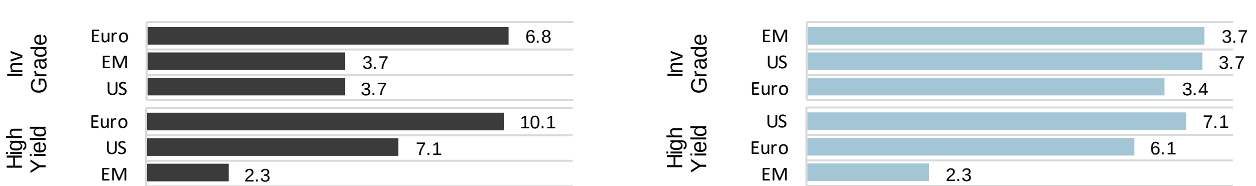


INFLATION LINKED BONDS

YTD USD | YTD LCY



CORPORATE BONDS



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Top and Bottom Bond Returns − 1M & 12M % (USD, TR)

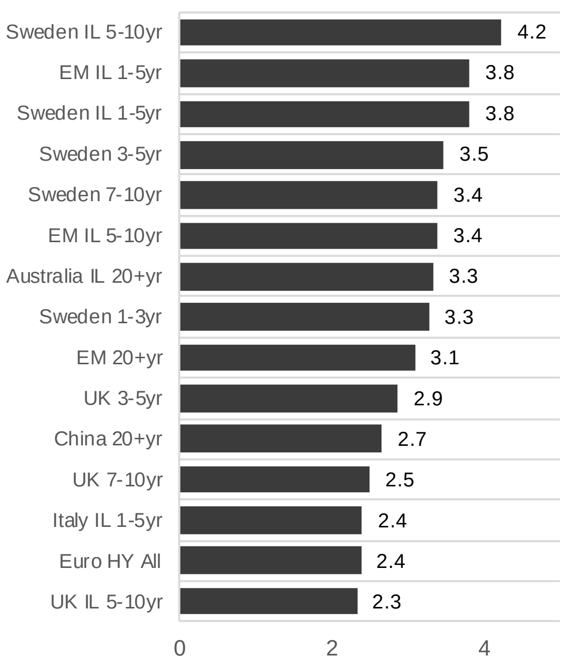
Shorter dated Swedish govt bonds, gilts and EM bonds were the strongest performers on 1M, in USD terms, returning 3-4%, helped by currencies. Longer Canadian, US and Eurozone bonds lost 2-4%, after policy rate increases. 12M returns were led by EM bonds, and euro FX gains in Italian and Spanish linkers, but most long govts showed sizeable losses.

The stronger Swedish krone helped drive Swedish government bond gains in July, while short to medium gilts and UK Index linked (IL) bonds rallied on better inflation data.

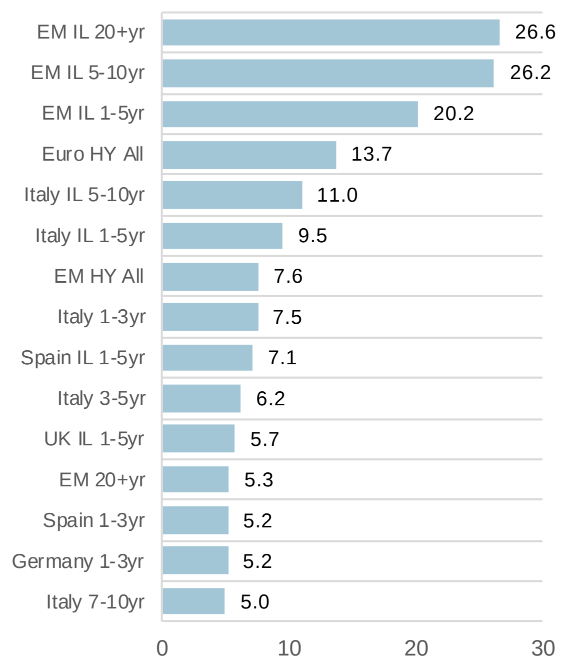
On 12M, shorter Italian and Spanish govts gained from spread convergence as risk rallied, and a stronger euro. EM inflation linked bonds returned up to 27%, continuing to outperform. But long duration govt bonds lost 13-32%, led by gilts, Bunds and WILSI.

1M USD | 12M USD

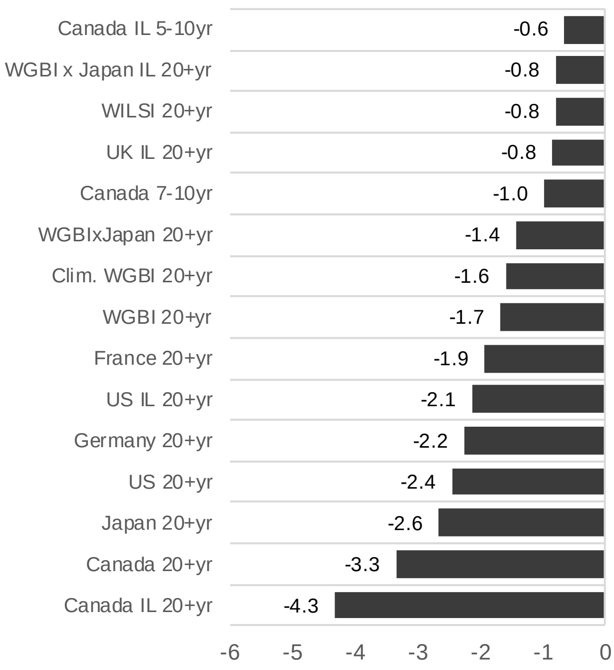
Top 15



Top 15



Bottom 15



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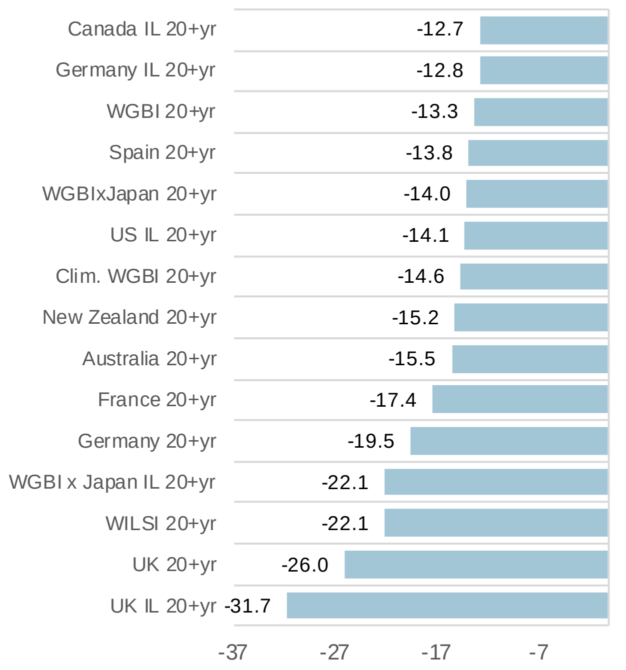

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Appendix − Global Bond Market Returns % (USD & LC, TR) – July 31, 2023

Government Bond Returns

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

		3M		6M		YTD		12M	
		Local	USD	Local	USD	Local	USD	Local	USD
US	1-3yr	-0.47	-0.47	0.64	0.64	1.40	1.40	0.16	0.16
	7-10yr	-3.29	-3.29	-2.10	-2.10	1.38	1.38	-6.52	-6.52
	20+yr	-5.15	-5.15	-5.06	-5.06	2.17	2.17	-12.19	-12.19
	IG All	-0.75	-0.75	-0.43	-0.43	3.71	3.71	-1.18	-1.18
	HY All	2.33	2.33	3.12	3.12	7.12	7.12	4.22	4.22
UK	1-3yr	-0.73	1.62	-1.01	3.45	-0.39	6.55	-2.14	3.47
	7-10yr	-3.45	-1.17	-4.83	-0.53	-1.87	4.96	-14.26	-9.35
	20+yr	-5.52	-3.29	-10.47	-6.43	-6.56	-0.05	-30.03	-26.02
Euro	IG All	0.78	0.64	1.09	2.62	3.36	6.78	-3.32	4.54
	HY All	2.51	2.66	2.69	4.59	6.14	10.06	5.40	13.73
Japan	1-3yr	-0.08	-4.24	0.01	-8.46	0.12	-7.03	-0.12	-6.05
	7-10yr	-1.25	-5.37	0.78	-7.76	0.55	-6.63	-2.18	-7.98
	20+yr	-4.12	-8.11	4.38	-4.46	3.68	-3.72	-5.14	-10.77
China	1-3yr	1.01	-2.08	1.68	-3.86	1.82	-0.96	2.55	-3.33
	7-10yr	1.56	-1.54	2.97	-2.65	3.05	0.24	3.79	-2.16
	20+yr	3.17	0.01	6.43	0.62	5.83	2.94	7.97	1.78
EM	1-3yr	0.36	0.36	0.62	0.62	2.58	2.58	4.31	4.31
	7-10yr	0.75	0.75	0.06	0.06	3.01	3.01	2.68	2.68
	IG All	0.36	0.36	1.14	1.14	3.73	3.73	2.37	2.37
	HY All	1.41	1.41	-1.38	-1.38	2.30	2.30	7.58	7.58
Germany	1-3yr	-0.05	-0.19	0.39	1.92	0.61	3.94	-2.74	5.16
	7-10yr	-0.62	-0.75	-0.31	1.21	2.39	5.78	-10.83	-3.58
	20+yr	-2.67	-2.80	-5.26	-3.83	0.88	4.21	-25.58	-19.53
Italy	1-3yr	0.47	0.34	1.01	2.55	1.67	5.03	-0.57	7.51
	7-10yr	1.94	1.81	2.90	4.47	6.99	10.53	-2.93	4.97
	20+yr	2.73	2.59	1.40	2.94	9.10	12.70	-11.84	-4.67
Spain	1-3yr	0.02	-0.11	0.52	2.04	0.94	4.28	-2.72	5.19
	7-10yr	-0.13	-0.26	0.27	1.79	3.05	6.46	-9.35	-1.98
	20+yr	-0.11	-0.24	-2.67	-1.19	2.84	6.24	-20.28	-13.80
France	1-3yr	-0.06	-0.19	0.41	1.93	0.92	4.26	-3.00	4.89
	7-10yr	-0.48	-0.61	-0.49	1.03	2.44	5.83	-10.51	-3.24
	20+yr	-1.61	-1.74	-5.32	-3.88	0.78	4.11	-23.57	-17.36
Sweden	1-3yr	-0.03	-2.42	-0.17	-0.52	0.71	-0.13	-0.48	-3.44
	7-10yr	-1.44	-3.79	-2.91	-3.26	-0.19	-1.03	-7.43	-10.18
Australia	1-3yr	-1.00	0.95	-0.12	-4.49	0.72	0.08	0.19	-3.25
	7-10yr	-4.46	-2.58	-2.07	-6.35	2.22	1.57	-3.98	-7.28
	20+yr	-7.85	-6.04	-5.69	-9.81	1.92	1.27	-12.51	-15.51
New Zealand	1-3yr	-0.29	0.47	0.58	-3.14	1.58	-0.04	0.01	-0.74
	7-10yr	-3.48	-2.75	-2.29	-5.90	0.82	-0.79	-5.96	-6.66
	20+yr	-9.57	-8.88	-5.70	-9.18	-3.15	-4.69	-14.52	-15.16
Canada	1-3yr	-0.82	2.20	0.14	1.52	0.75	3.71	0.36	-2.30
	7-10yr	-4.80	-1.90	-3.45	-2.12	-0.36	2.57	-4.30	-6.84
	20+yr	-6.99	-4.16	-5.03	-3.72	0.51	3.47	-7.58	-10.03

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

Inflation-Linked Bond Returns

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

		3M		6M		YTD		12M	
		Local	USD	Local	USD	Local	USD	Local	USD
US	1-5yr	-0.67	-0.67	1.06	1.06	1.90	1.90	-2.15	-2.15
	5-10yr	-1.92	-1.92	-0.16	-0.16	2.41	2.41	-6.31	-6.31
	20+yr	-3.21	-3.21	-2.82	-2.82	3.34	3.34	-14.15	-14.15
UK	1-5yr	0.05	2.42	1.23	5.80	0.76	7.77	0.01	5.75
	5-10yr	-0.38	1.98	0.39	4.92	2.11	9.22	-6.92	-1.59
	20+yr	-6.94	-4.74	-13.88	-9.99	-8.41	-2.04	-35.37	-31.67
Japan	1-5yr	1.39	-2.83	1.81	-6.81	2.31	-4.99	3.48	-2.66
	5-10yr	1.71	-2.52	4.24	-4.59	3.07	-4.28	2.78	-3.31
EM	1-5yr	5.32	5.47	7.94	8.91	8.89	13.10	17.15	20.19
	5-10yr	4.91	7.17	8.74	12.27	8.50	15.05	19.59	26.23
	20+yr	5.77	11.42	10.71	18.52	10.16	21.97	14.10	26.63
Germany	1-5yr	0.40	0.27	1.33	2.87	1.39	4.74	-4.44	3.33
	5-10yr	0.65	0.52	2.11	3.66	3.64	7.07	-6.59	1.00
	20+yr	-1.07	-1.20	-0.42	1.09	5.91	9.41	-19.32	-12.76
Italy	1-5yr	1.26	1.13	2.51	4.07	2.76	6.16	1.28	9.51
	5-10yr	3.33	3.19	5.46	7.06	8.07	11.64	2.67	11.02
	20+yr	6.13	5.99	7.30	8.93	17.65	21.54	-5.04	2.68
Spain	1-5yr	0.55	0.42	1.65	3.19	1.76	5.13	-0.92	7.13
	5-10yr	1.25	1.12	2.71	4.27	3.81	7.24	-4.33	3.45
France	1-5yr	0.03	-0.10	1.30	2.84	1.32	4.67	-3.54	4.30
	5-10yr	0.26	0.12	2.02	3.57	3.37	6.79	-6.31	1.31
	20+yr	1.13	1.00	-0.08	1.44	6.41	9.93	-17.32	-10.59
Sweden	1-5yr	0.95	-1.45	0.37	0.01	1.53	0.68	1.59	-1.43
	5-10yr	1.61	-0.81	-0.27	-0.63	1.70	0.85	-4.97	-7.80
Australia	1-5yr	-0.80	1.15	1.46	-2.98	3.52	2.86	3.40	-0.15
	5-10yr	-2.55	-0.63	-0.01	-4.38	4.99	4.33	2.29	-1.22
	20+yr	-4.43	-2.55	-5.28	-9.42	7.61	6.93	-3.87	-7.17
New Zealand	5-10yr	-2.95	-2.21	0.45	-3.27	3.23	1.58	-0.64	-1.39
Canada	20+yr	-5.68	-2.81	-8.29	-7.03	-7.75	-5.04	-10.34	-12.72

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 − Global Bond Market Returns % (USD & LC, TR) – July 31, 2023

Global Bond Yields

Green highlight indicates highest 15%, red indicates lowest 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	1.66	1.79	2.39	-3.22	-2.08	-0.92		
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	-0.07	0.11	1.09	-1.17	-0.80			
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	2.42	2.78	3.30					
EM	Current	8.62	6.78	6.47		3.05	4.07	4.88	5.93	11.51
	3M Ago	8.03	6.85	6.44		3.84	4.04	5.15	5.61	11.71
	6M Ago	7.54	6.61	6.18		3.11	3.37	5.25	5.52	10.25
	12M Ago	7.67	6.97	6.16		3.54	3.65	5.21	4.99	12.42
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	0.36	0.67	1.04	-2.37	-1.60	-1.16		
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	2.00	2.80	3.35	-2.34	0.45	1.23		
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	0.67	1.13	1.95	-3.30	-1.52	-0.38		
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	1.57	1.39		-1.66	-1.45			
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	2.76	3.03	3.44	-0.75	0.40	1.24		
New Zealand	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	3.28	3.40	3.75	0.07	1.03			
Canada	Current	4.76	4.02	3.56	3.33	2.11	1.80	1.69		
	3M Ago	3.81	3.09	2.82	2.93	1.12	1.06	1.32		
	6M Ago	3.92	3.14	2.91	3.00	1.29	1.13	1.16		
	12M Ago	2.96	2.71	2.61	2.79	0.48	0.51	0.97		

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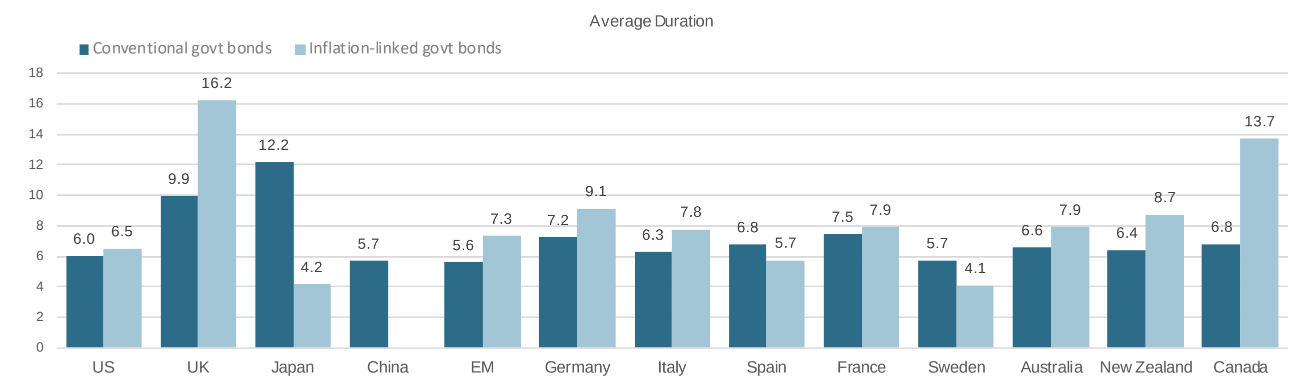
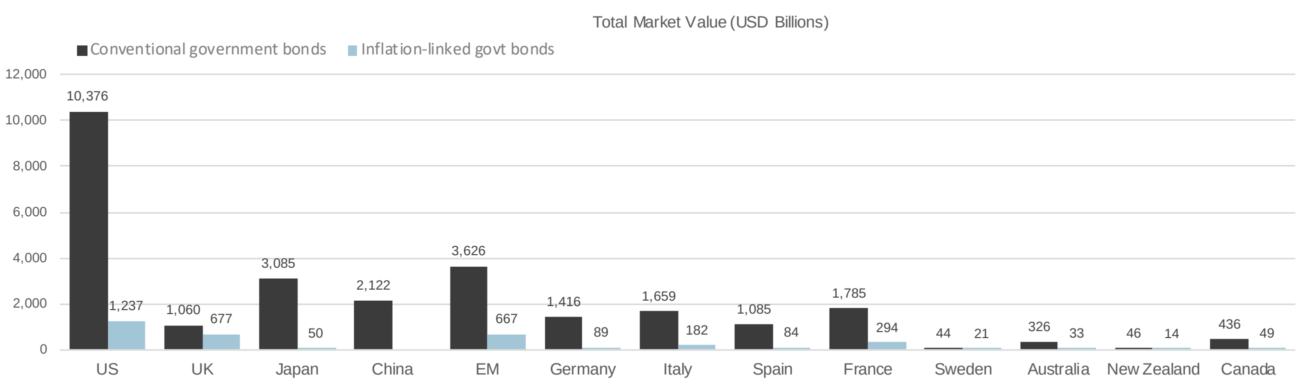
Appendix − Duration and Market Value (USD, Bn) as of July 31, 2023

	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	**1,237.2**
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**	769.0	652.8	352.5	**3,625.6**	5.5	13.9	**7.3**	141.7	172.8	**666.9**
Germany	3.8	7.6	20.5	**7.2**	297.7	236.8	161.0	**1,415.6**	7.3	21.9	**9.1**	43.3	19.4	**88.6**
Italy	3.7	7.3	16.2	**6.3**	286.4	262.9	155.6	**1,659.3**	8.0	26.4	**7.8**	56.5	5.8	**181.8**
Spain	3.7	7.4	17.2	**6.8**	205.1	192.1	108.5	**1,085.1**	6.8		**5.7**	23.0		**84.2**
France	3.8	7.7	20.2	**7.5**	314.1	305.3	210.1	**1,785.4**	6.8	24.6	**7.9**	105.2	22.0	**293.8**
Sweden	3.8	7.7		**5.7**	13.8	8.9		**43.7**	5.8		**4.1**	9.9		**21.1**
Australia	3.6	7.7	17.5	**6.6**	51.7	88.9	15.2	**326.4**	7.2	22.5	**7.9**	9.7	2.7	**33.5**
New Zealand	3.9	7.6	17.0	**6.4**	9.7	10.9	2.4	**46.4**	6.3		**8.7**	3.2		**13.9**
Canada	3.7	7.7	19.9	**6.8**	57.1	113.4	62.5	**436.1**	7.0	20.8	**13.7**	8.3	20.1	**49.4**

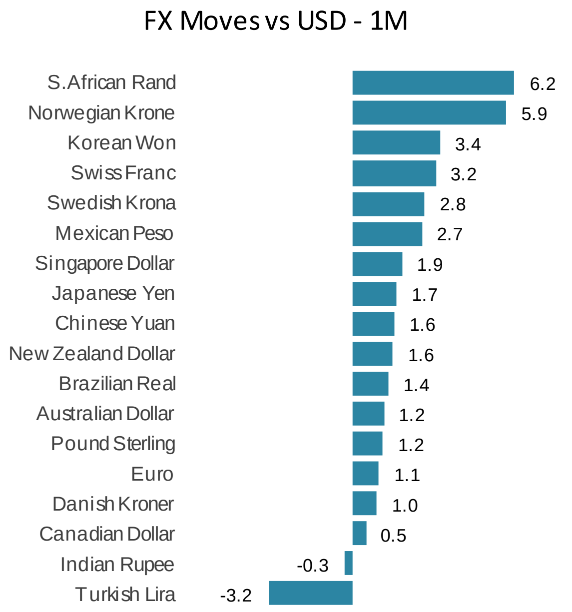
	Investment grade bonds										High Yield	
	Duration					Market Value					Duration	MktVal
	AAA	AA	A	BBB	Overall	AAA	AA	A	BBB	Overall		
US	10.9	8.6	7.3	6.7	7.1	73.4	453.7	2630.7	3284.4	6442.3	4.0	1036.7
Europe	6.3	4.9	4.7	4.3	4.5	9.7	187.7	1205.3	1457.2	2859.9		
EM		5.9	4.9	5.1	5.1		44.6	221.3	326.8	592.7	3.3	190.1

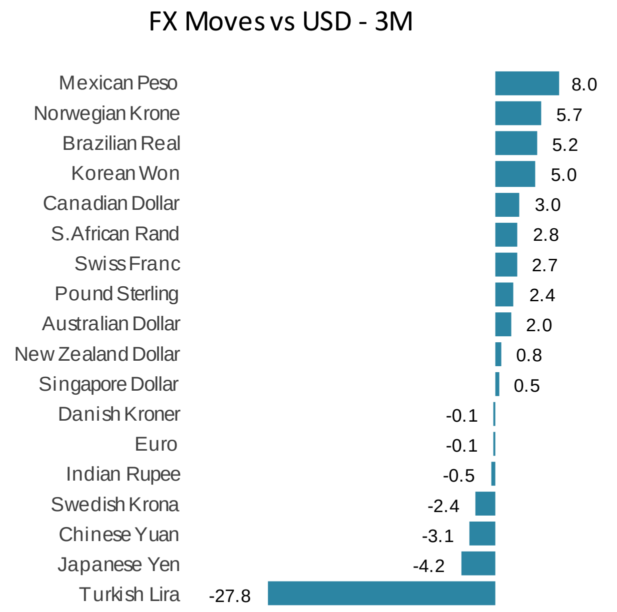


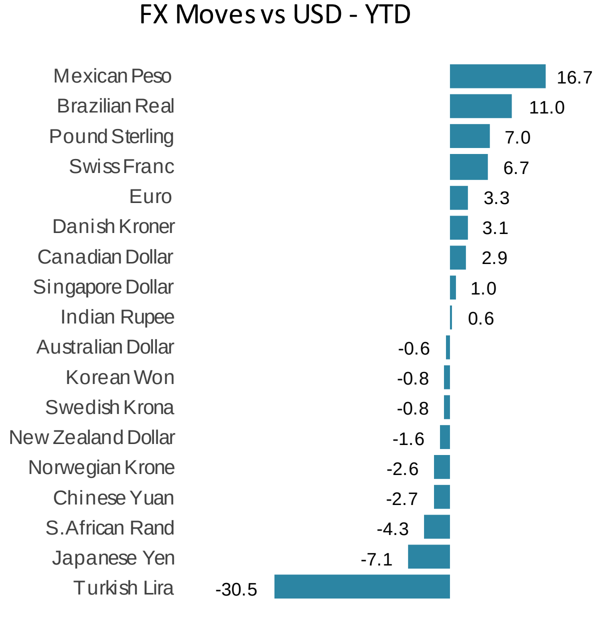


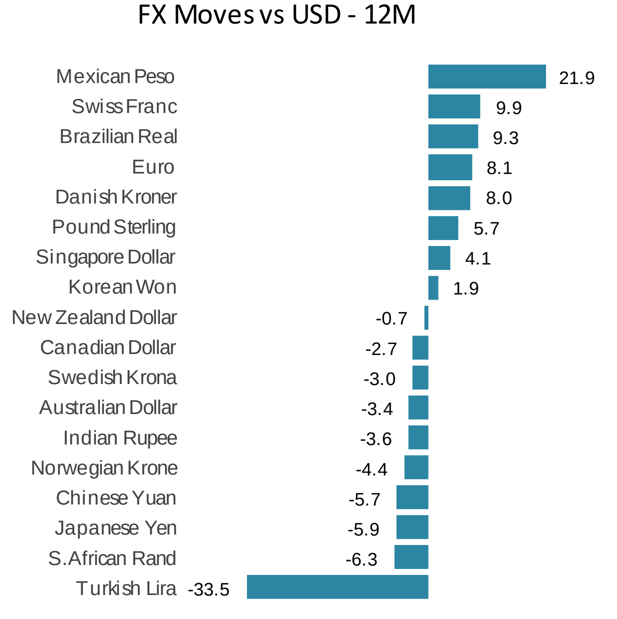
Source: FTSE Russell. All data as of July 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors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

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









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 - 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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