

Fixed Income Insights

MONTHLY REPORT - JUNE 2023 | JAPAN EDITION

FOR PROFESSIONAL INVESTORS ONLY

Markets re-focus on pace of inflation decline though US downgrade risks remain

Government bond markets re-focused on the pace of G7 inflation decline in May, and US downgrade risks. YTD overseas bond returns in yen terms were enhanced by ongoing yen weakness, after BoJ retained curve control. Gilts lagged on higher inflation, but China, EM bonds outperformed, helped by China's low inflation.

Macro and policy backdrop – BoJ remains wary of sustainably higher Japanese inflation

Japanese service sector benefits from lifting of Covid restrictions, even if inflation squeezes household incomes. (pages 2-3)

Yields, curves and spreads – Yield curve inversion resumed, but JGBs remain an outlier.

G7 10s/2s yield curves resumed their inversion in May, and have unwound much of the steepening that followed the US banking woes in March/April. JGBs remain an outlier on BoJ curve control. (pages 4-5)

Sovereign and climate bonds – HY Green spreads edged out in May, reflecting surge in issuance in Q1

HY spreads dipped below Green spreads in May but Green spreads reversed most of the 2022 widening. (page 6)

Performance – Duration became the investor's enemy again in May, with UK gilts hardest hit

Longer bonds fell back in May, led by UK gilts after poor inflation data. China and EM continue to outperform. (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: Real yields have been driving nominal yields lower in Japan, in recent three months, despite higher inflation expectations.

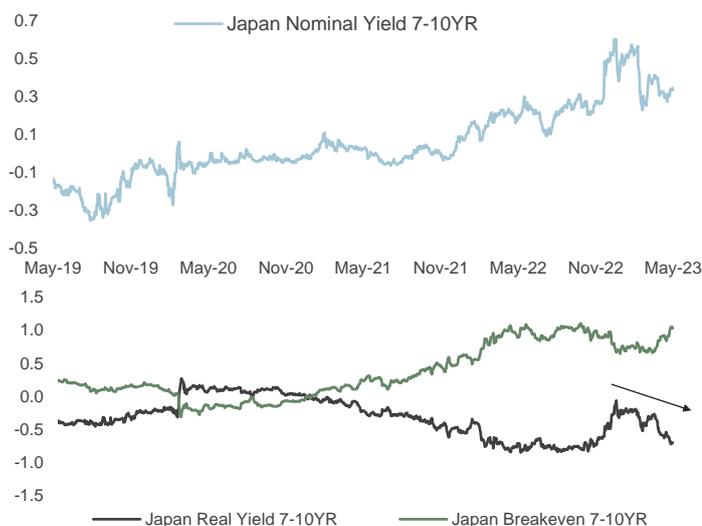
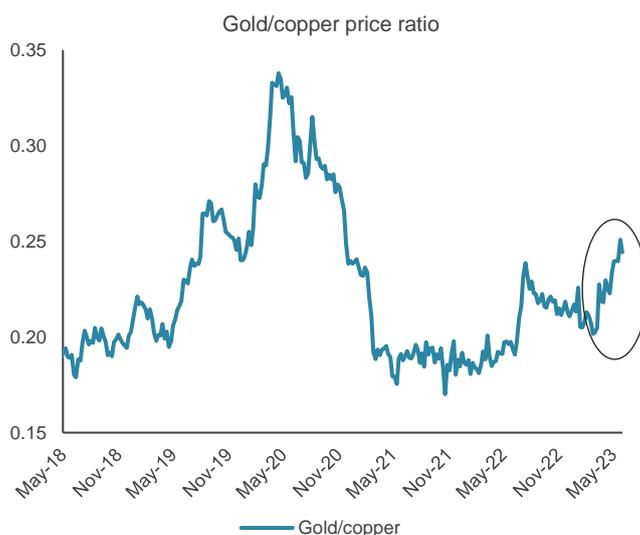


Chart 2: The gold price rallied sharply on US banking woes in March, as it did during the early risk-off stages of Covid in 2020.



Source: FTSE Russell. All data as of May 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

Further declines in energy prices eased the G7 growth squeeze, and mostly drove G7 inflation rates lower in April, though Japanese inflation rebounded on food prices. Inflation has outpaced Japanese wage growth through most of 2022-23, casting doubt on its sustainability at higher levels. The UK lags the general inflation decline, as in previous cycles.

Consensus GDP forecasts project Japanese growth at 1.1% y/y in 2023, due to the squeeze on household incomes from higher inflation (Chart 1). GDP rebounded 0.4% in Q1 2023, led by the service sector, which has benefited from the lifting of Covid restrictions. May PMI indices suggest services (at 56.3) may continue to outperform manufacturing (at 50.8).

Japanese inflation re-accelerated, up 3.5% y/y in April, from 3.2% y/y in March, driven by increases in food prices, such as meat. Consumer prices, excluding fresh food, also rose to 3.4% y/y in April, from 3.1% in February and March, after reaching a multi-year high of 4.2% in January.

Japan's inflation has outpaced wage growth since April 2022, resulting in a decline in real earnings, as reported by the labour department. The weak wage increase could complicate the task of meeting the sustainable inflation target of 2%. However, employers' need to retain workers amid an ageing population may help wage growth (Chart 3).

Whither BoJ yield curve control? Recent inflation and wage growth figures may bring the BoJ closer to a YCC tweak, but whether such improvement could be sustainable remains the key. US debt ceiling standoff and banking crisis may have won time for BoJ's actions. 7-10-year bond yields rose in late May, but have stayed lower than the 0.5% cap set in last December (Chart 4).

Chart 1: The IMF revised down its GDP forecast for Japan in April, despite the rebound in GDP in Q4. The real income squeeze from inflation is offsetting the growth benefit of lifting Covid restrictions.

Latest Consensus Real GDP Forecasts (% , May 2023)			
	2022	2023	2024
US	2.1	1.1	0.8
UK	4.1	-0.1	0.8
Eurozone	3.3	0.7	1.0
Japan	1.6	1.1	1.2
China	3.0	5.4	5.0
Canada	3.5	0.7	1.4

Chart 2: Japan is expected to meet its 2% price stability target in 2023, helped by yen weakness, higher food and energy prices. Inflation re-accelerated in April, with consumer prices up by 3.5%.

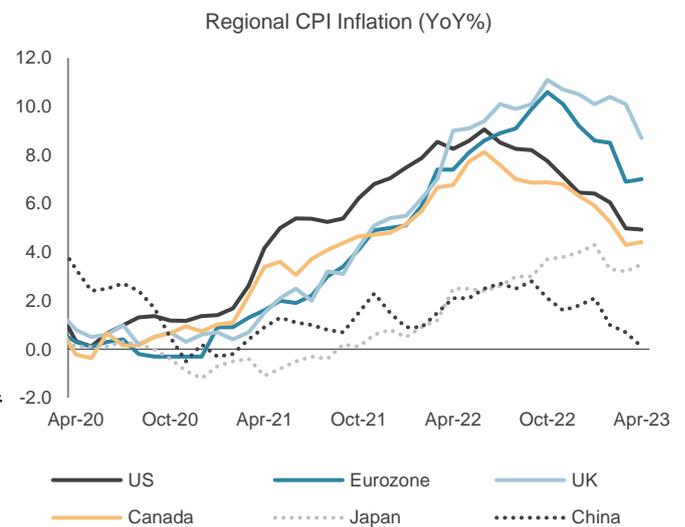
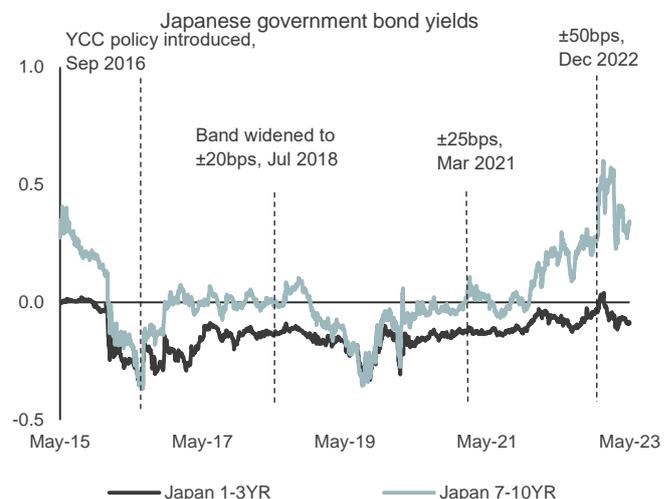
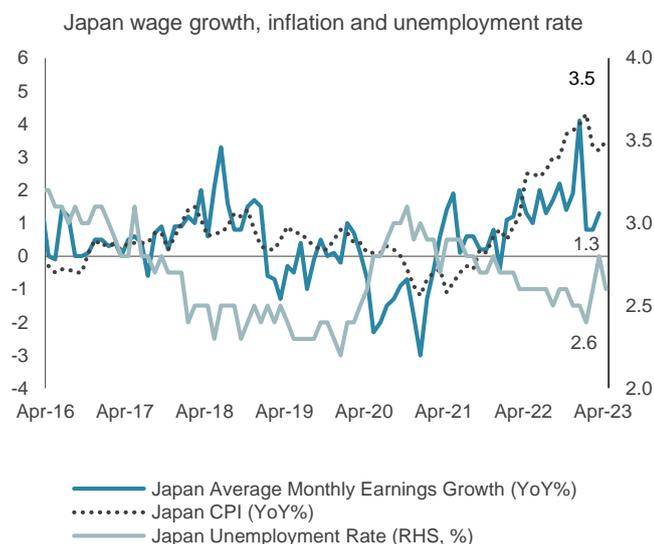


Chart 3: Japan's inflation has outpaced wage growth in 2022-23, leaving doubts about achieving a 2% inflation target sustainably. Labour shortages and an ageing population increase uncertainty.

Chart 4: More signs of sustainable inflation and wage growth are required for the BoJ to adjust its YCC policy. 7-10yr bond yields rose towards the end-May, but are below the cap of 0.5%.



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Financial Conditions and Monetary Policy Settings

The BoJ retained its yield curve control, based on a risk management approach, prompting the yen to depreciate in May, as inflation rose to 3.5% y/y in April. The BoJ's balance sheet expanded as its ownership of JGBs grew to over 50% of the total market. BoJ holdings increased, as it sought to defend the 0.50% yield cap amidst rising global rates.

Despite rising inflation, the BoJ confirmed it will maintain its ultra-loose monetary policy as it nears its 2.0% price target, despite the higher wage round, stating "the risk from a hasty policy change that could lead to missing a chance of such achievement...as more significant than the risk from a delay in policy change" (Chart 1).

The yen depreciated sharply against the US dollar as the BoJ maintained its policy of ultra-low interest rates, despite market pressure and persistent inflation. New BoJ Governor Ueda's endorsement of curve control and zero rates leaves the yen vulnerable. The US dollar rallied following Fed policy tightening in May, and the debt ceiling crisis appeared to have little impact (Chart 2).

The BoJ's balance sheet rose after it ramped up its bond buying. The yield cap came under renewed pressure from rising global interest rates (Chart 3). The ECB and BoC have been the most successful among G7 in contracting their balance sheets.

The BoJ now owns more than half of JGBs outstanding (compared to under 10% a decade ago), as a result of its QE, from fixed amount buying to the YCC policy (since September 2016). JGB market liquidity has deteriorated as a result. A breach of 50% was boosted by substantial purchases in 2023, with monetary policy tightening by major central banks except the BoJ (Chart 4).

Chart 1: The Fed, BoE and ECB have left options open for further tightening moves, despite banking woes and falling inflation. The BoC is firmly on hold, while the BoJ retains curve control.

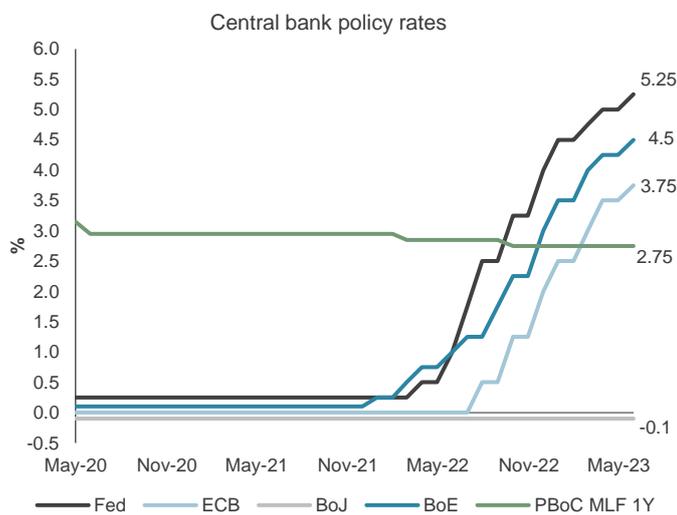


Chart 2: The threat of higher rates for longer has caused the US dollar and sterling to rebound in May. The yen and renminbi both fell back on the more accommodative monetary policy outlook.

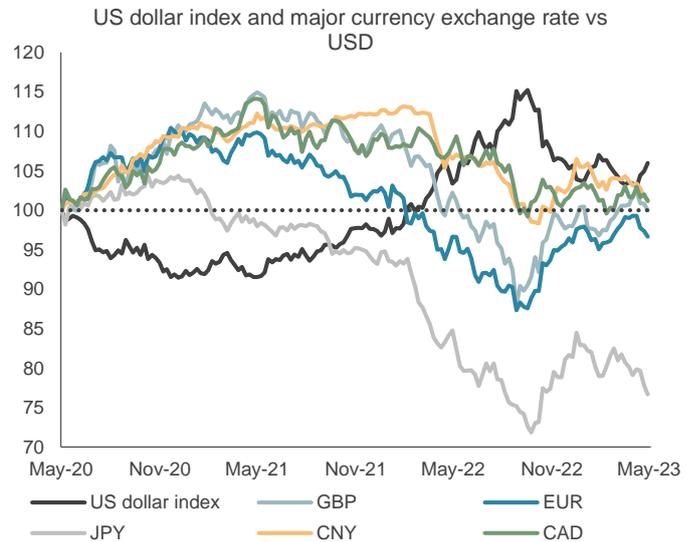


Chart 3: The BoJ's balance sheet ballooned further after the central banks added to its pool of JGBs to defend the 0.25% yield cap, following rising pressure from rising global interest rates.

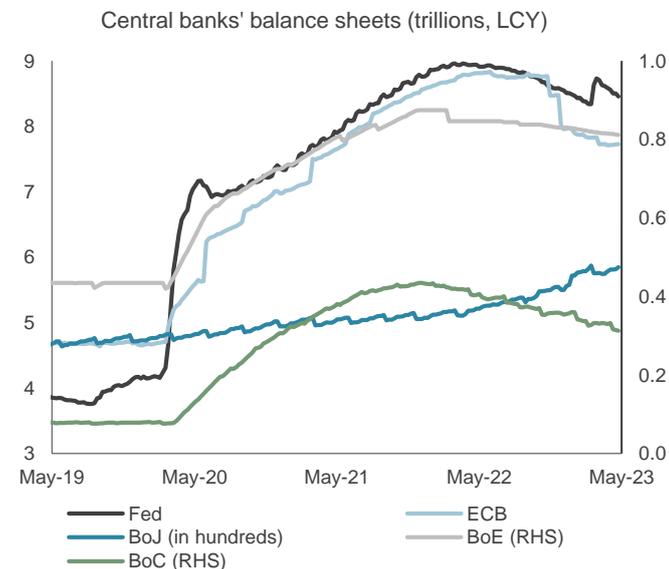
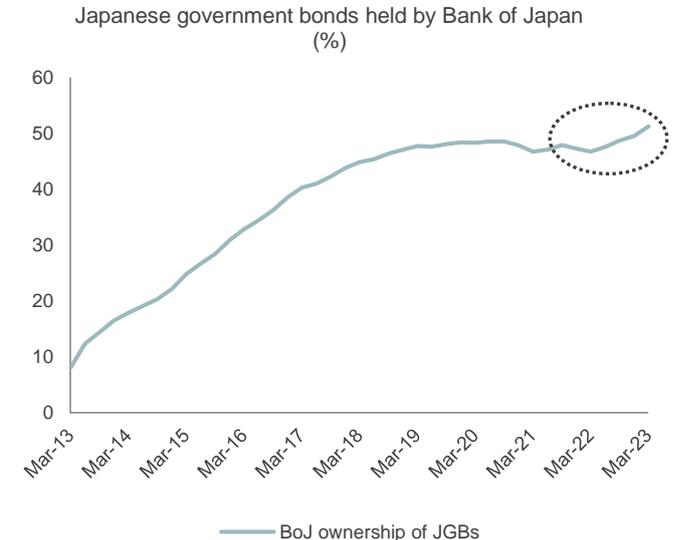


Chart 4: Bank of Japan owns 51% of JGBs by Q1 2023, boosted by the aggressive buying in the recent year amid interest rate hiking globally (except Japan). It increased fivefold since 2013.



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Global Yields, Curves and Spread Analysis

Chart 1: 7-10yr G7 yields edged higher in May, though the UK spike on higher inflation is an outlier. US yields remain below the October 2022 peak, as investors focus on relative value & re-investment risk.

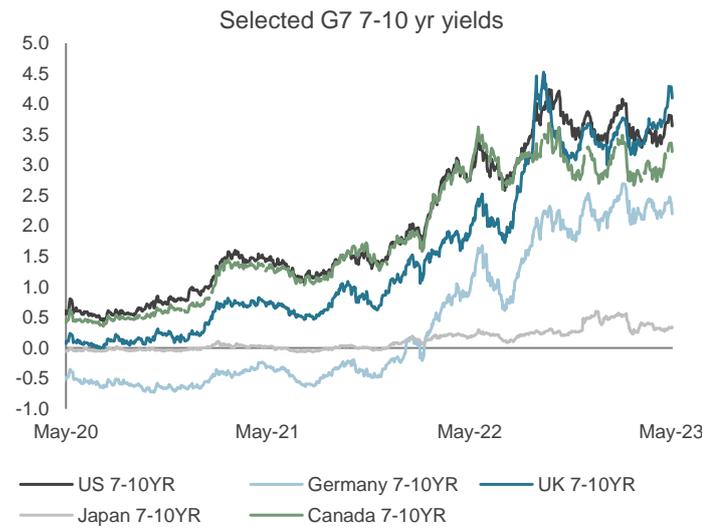


Chart 2: Real 7-10-year yields backed up in May, though JGB yields fell after the continuation of yield curve control was confirmed. UK real yields spiked after higher inflation threatened more rate hikes.



Chart 3: G7 10s/2s yield curves resumed their inversion in May, and have unwound much of the steepening that followed the US banking woes in March/April. JGBs remain an outlier on BoJ curve control.

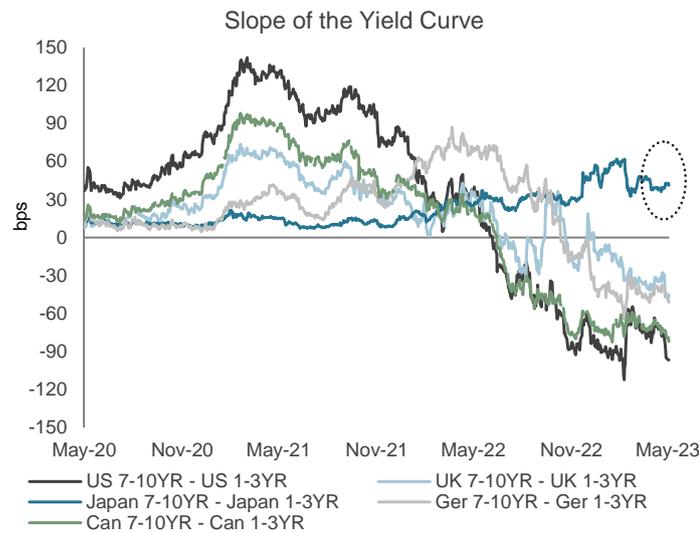


Chart 4: Like 10s/2s, the 20s+/2s yield curves extended their flattening/inversion trend in May, after the March steepening. 2-year yields were less affected by the debt ceiling crisis than US Tbills.

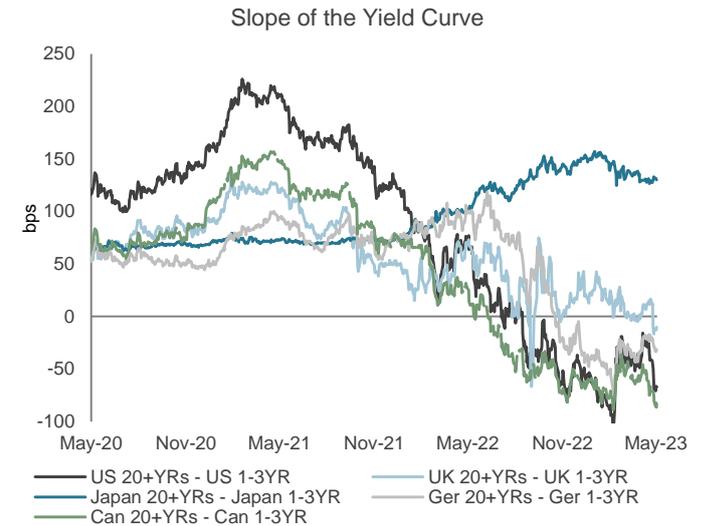


Chart 5: 7-10yr inflation breakevens remain stable near 2%, apart from the UK (due to the different inflation index for accruals) & Japan. There has been little enduring impact from March's banking woes.

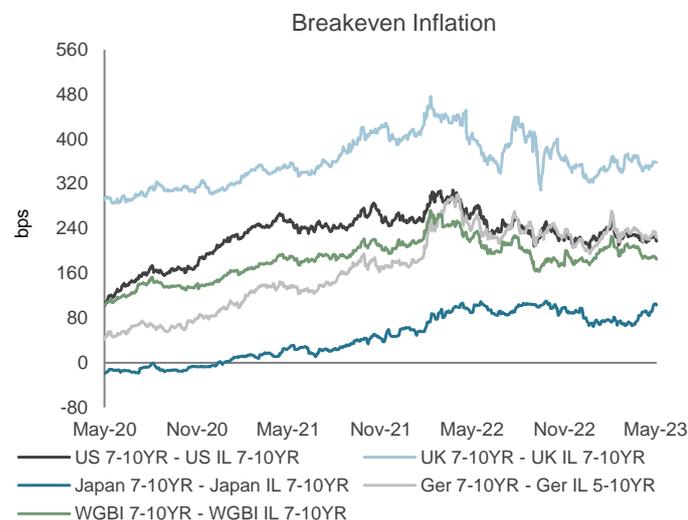


Chart 6: Global short and longer run inflation breakevens are falling, driven by policy tightening, lower energy prices, and lower inflation rates. Long run inflation breakevens are now below medium dated.



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Yield Spread and Credit Spread Analysis

Chart 1: The US debt ceiling crisis caused US spread widening in May, apart from versus UK, where the spike in yields on higher UK inflation caused US Treasury spreads to fall towards the 2022 lows.

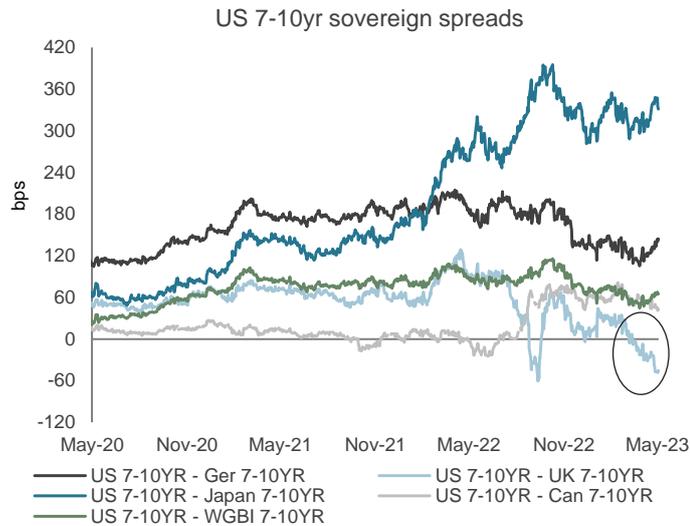


Chart 2: Peripheral Eurozone 7-10-year yield spreads were broadly stable versus Bunds and French OATs but fell sharply versus the US in May, as the debt ceiling crisis developed.

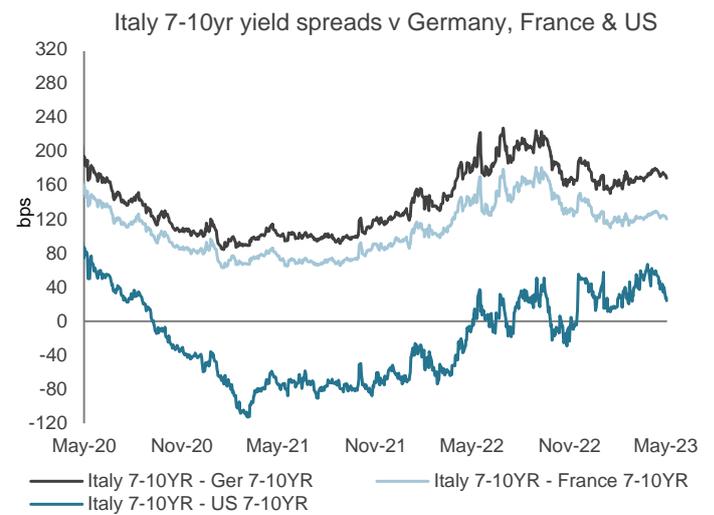


Chart 3: EM 7-10-year yield spreads remained at, or near, post-Covid lows in May, reflecting the increased robustness of the asset class, and earlier policy tightening to reduce inflation than in the G7.

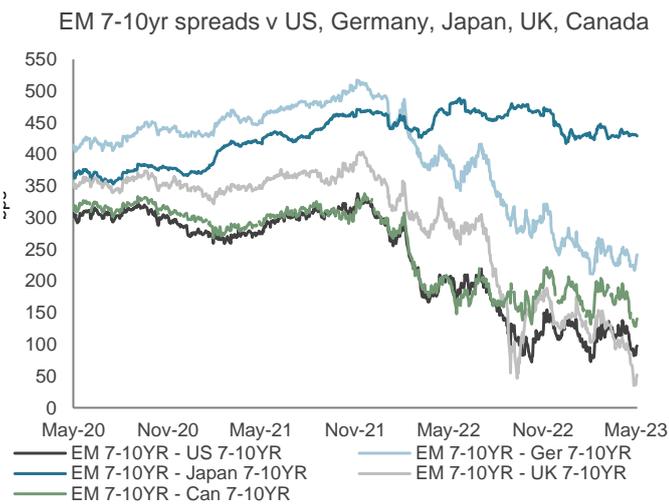


Chart 4: China 7-10-year yield spreads fell in May, after further policy tightening in the G7, and yet lower Chinese inflation (now <1% y/y). Spreads versus the UK are now close to cycle lows.

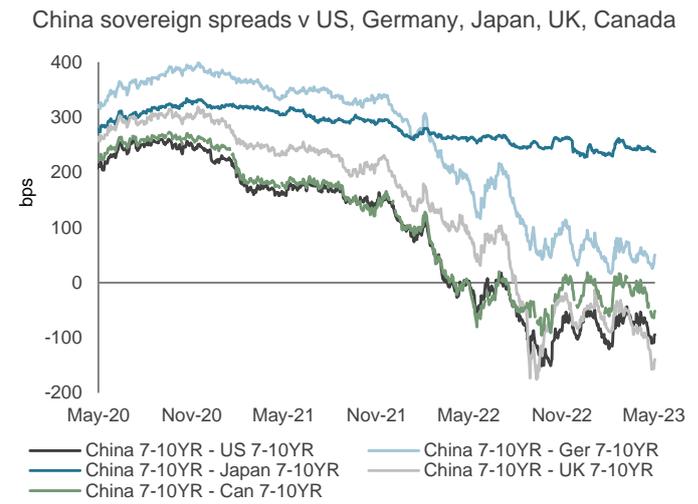


Chart 5: Credit spreads were broadly stable in May, with financials tightening after the March spike on US bank woes. IG spreads remain higher than HY, measured against the post-Covid highs.

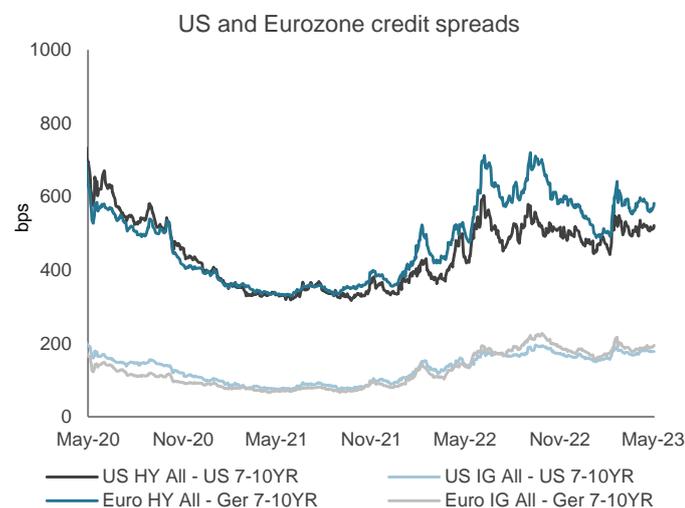
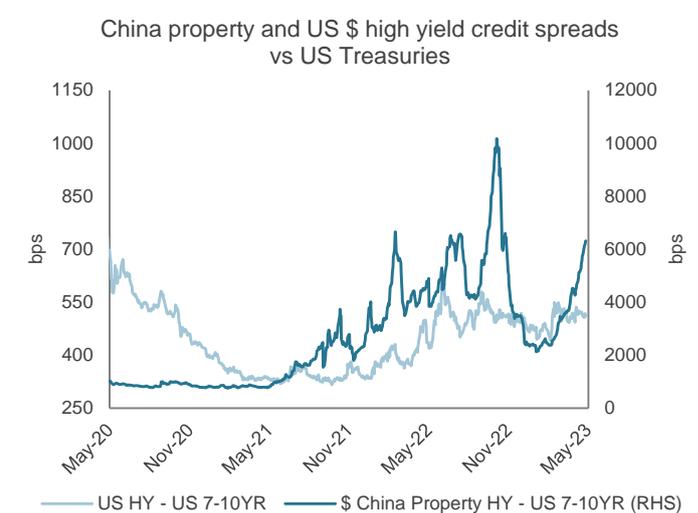


Chart 6: Chinese HY dollar spreads widened further in May, as investors fretted about debt restructurings in property, and despite the possibility of further PBoC support for the sector.



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Sovereign and Climate Bonds Analysis

Chart 1: HY spreads dipped below Green HY spreads in May after Green issuance surged, though spreads remain tight, after Green spreads reversed the widening in H1 2022, when issuance fell.

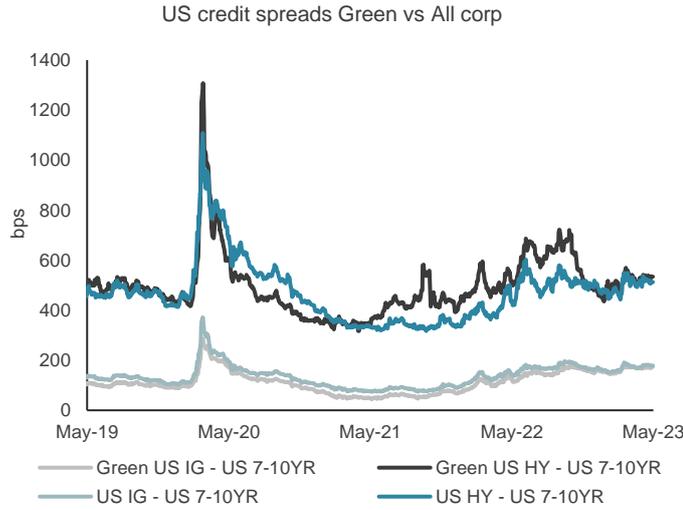


Chart 2: Unlike the US, spread widening in HY Green Eurozone credit spreads moved much less in 2022, and there was no major spike. Spreads narrowed since the bond rally began in Q4 2022.

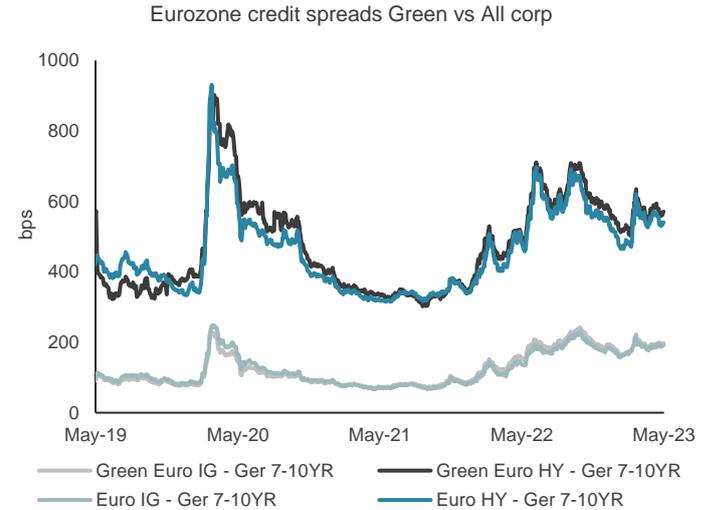


Chart 3: In 2022, Green bond issuance fell more than other bonds as yields and spreads rose. But Green issuance has rebounded in Q1 2023, and is at a new high versus total issuance.

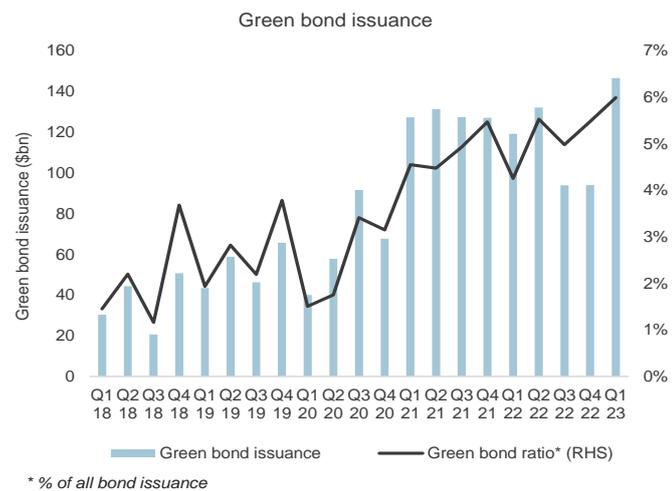


Chart 4: Within total Green bond issuance, Green corporates fell sharply, though issuance has recovered in Q1 2023, to an all-time high in absolute terms, as yields stabilised and spreads narrowed.

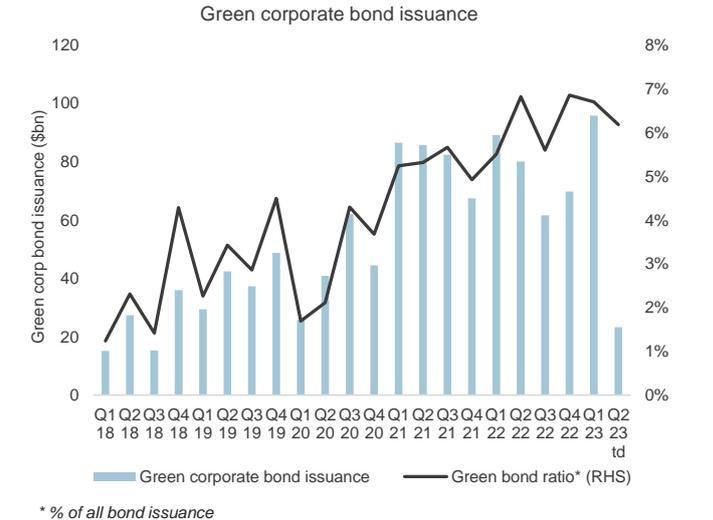


Chart 5: Euro green bonds dominate the currency weights in the Global Green index at 68.4%, in contrast to the low USD weight (18%). This is reversed in WorldBig with a USD weight of 55%.

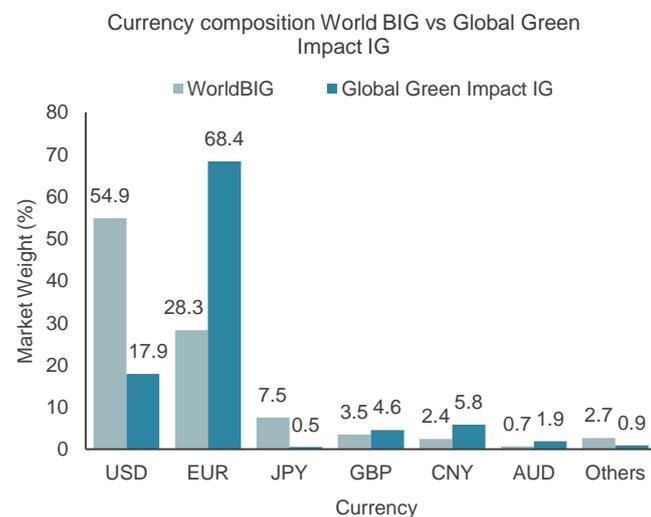
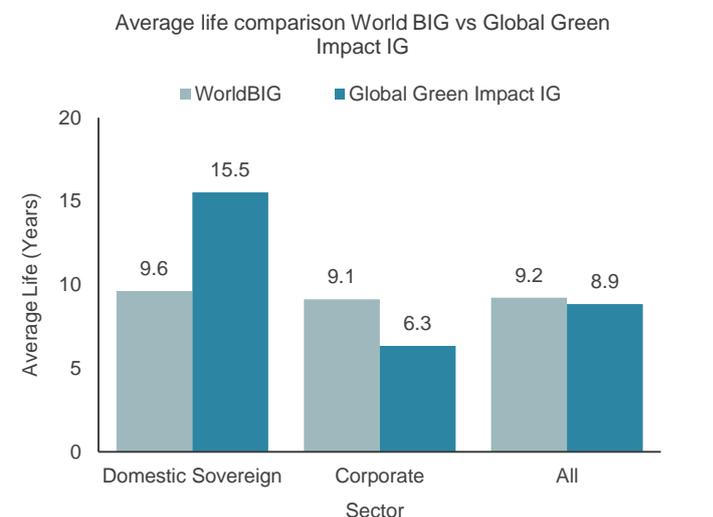


Chart 6: Breakdown of Global Green & World Big indices shows differences in average life for different components. Corporates offset the Sovereign impact in boosting Global Green average life.



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

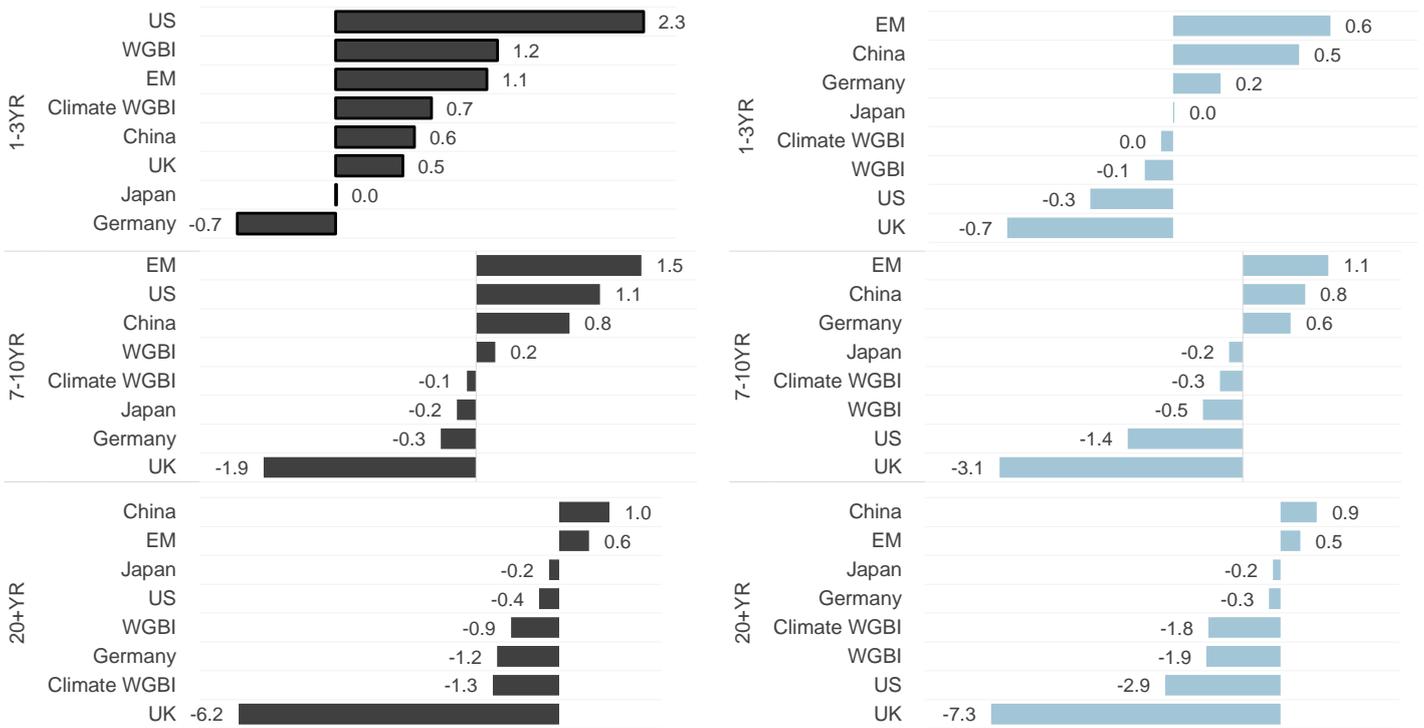
Sovereign bonds were flat or modestly higher/lower in local currency in May, except longer-dated gilts and Treasuries, but the weaker yen improved overseas returns in yen terms. Longer gilts were weakest, after poor UK inflation data. EM and China outperformed. Long duration bonds struggled as the prospect of early policy pivots receded, led by the UK.

Long gilts lost 6% in May, in yen, as core UK inflation increased to 6.8% y/y, and markets priced in further MPC tightening.

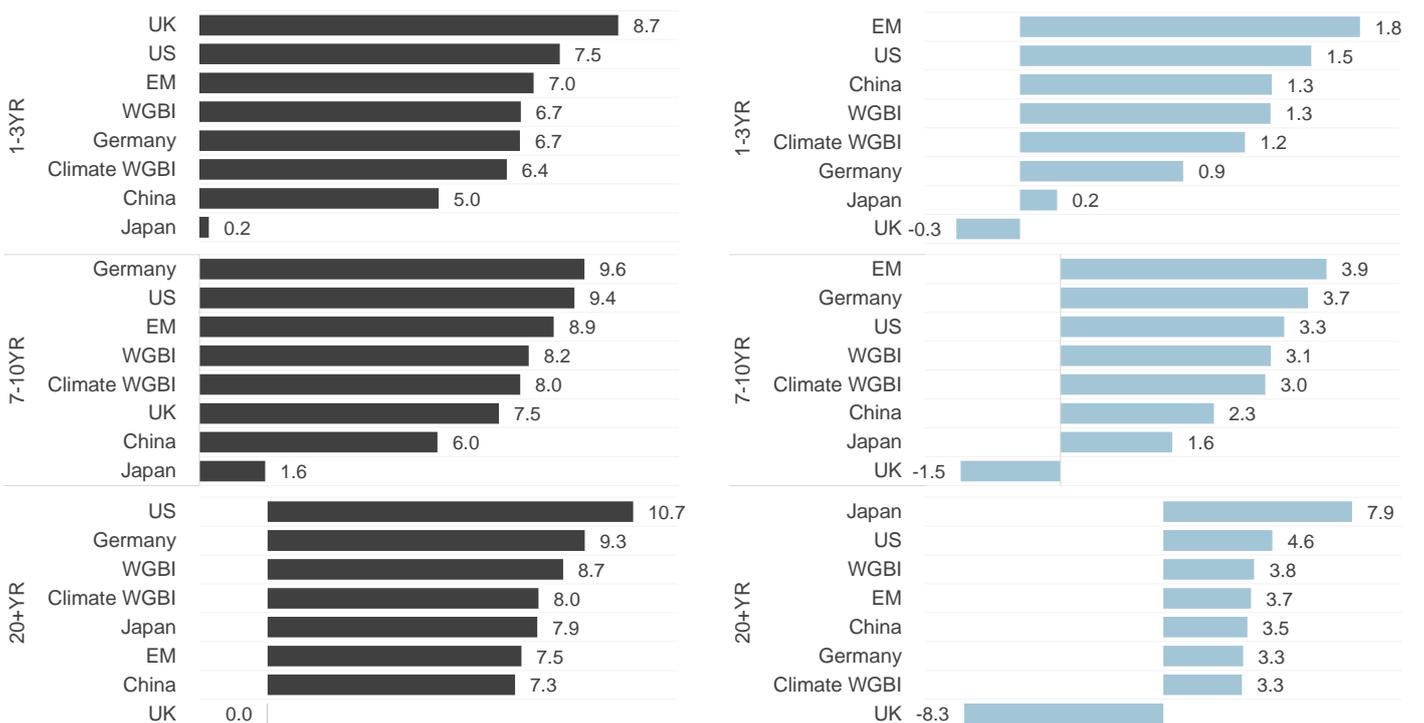
However, in yen terms, YTD returns are strongly positive in both longer Bunds and US Treasuries, which gained 9-10%.

CONVENTIONAL GOVT BONDS

1M JPY 1M LCY



YTD JPY YTD LCY



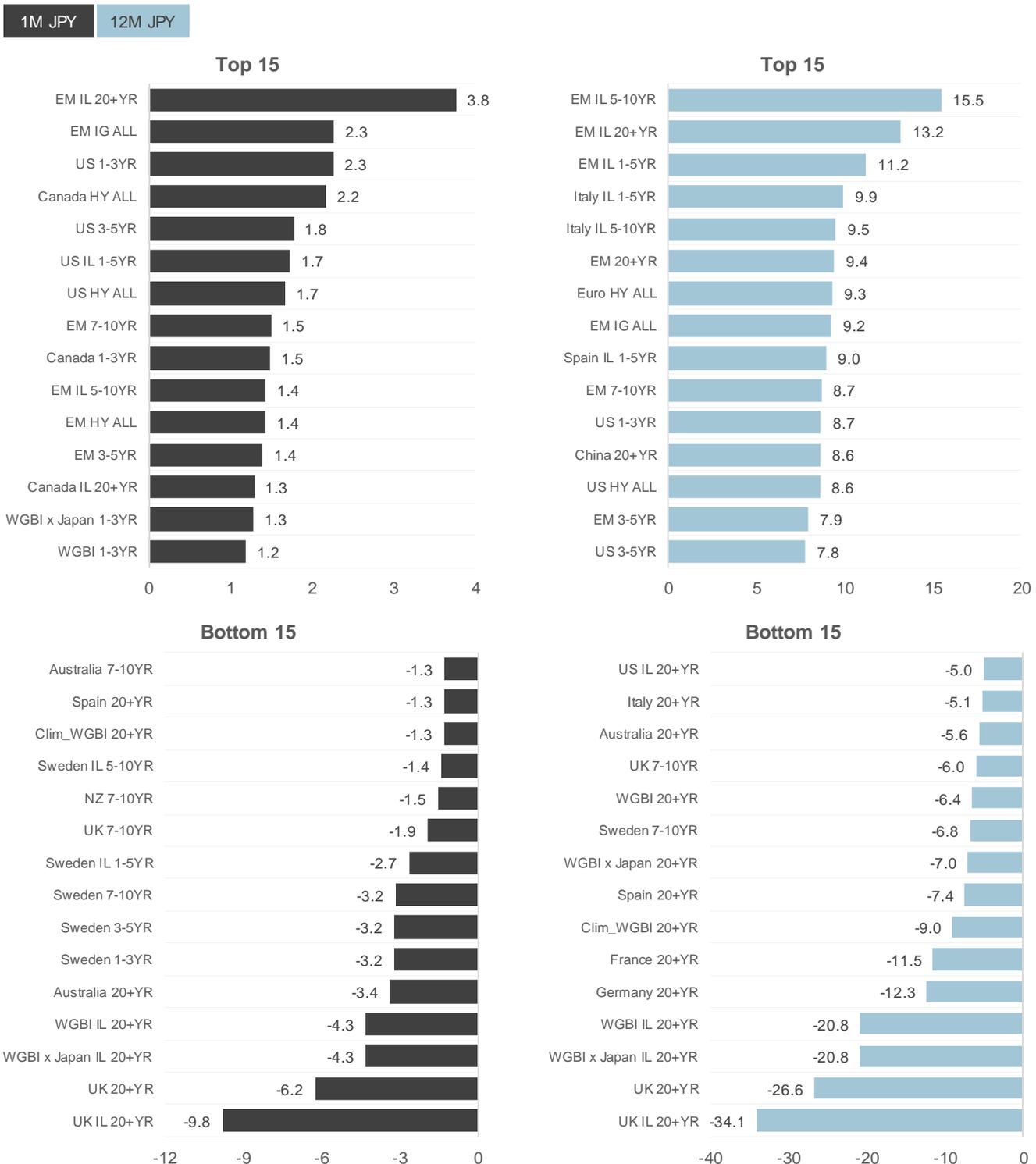
Source: FTSE Russell. All data as of May 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of Indices used for each market. For professional investors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

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

Canadian HY credit and EM inflation linked showed the best returns in May in yen terms. Long duration bonds underperformed in May and on 12M, with WGBI ex Japan and long UK gilts losing 4-10% in May alone. Nearly all the weakest 12M performers were long-dated governments, with losses of up to 34%, in yen terms. The yen has fallen against most major currencies over 12M, including US dollar, sterling and Euro, except against Australian dollar (see Page 12).

Short to medium maturities were mainly stable in May, except gilts, though yen depreciation boosted overseas returns.

On 12M, the long duration in inflation linked bonds (IL) drove sizeable losses in 20+ year maturities, in yen terms, as rates rose, with 5-34% losses in long WGBI, Eurozone, WGBI ex-Japan, and UK IL. EM IL bonds showed positive returns of 11-16%.



Source: FTSE Russell. All data as of May 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) – May 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	1.32	3.75	1.21	2.24	1.32	6.70	-0.24	6.90
	7-10YR	2.77	5.18	0.22	1.85	3.10	8.24	-3.27	2.45
	20+YR	2.17	4.45	-2.02	-0.83	3.81	8.67	-11.56	-6.43
WGBI x Japan	1-3YR	2.24	4.97	1.21	2.63	2.09	8.01	-1.40	6.34
	7-10YR	2.91	5.61	0.26	1.92	3.39	9.24	-3.97	2.82
	20+YR	1.80	4.70	-3.99	-2.49	2.69	8.91	-13.61	-7.00
US	1-3YR	1.52	4.13	1.70	1.83	1.54	7.51	0.05	8.66
	7-10YR	3.07	5.72	1.80	1.93	3.30	9.39	-2.88	5.47
	20+YR	2.15	4.78	1.89	2.02	4.57	10.73	-9.46	-1.67
	IG All	2.04	4.66	2.50	2.63	2.98	9.04	-1.57	6.90
	HY All	1.16	3.76	2.94	3.06	3.72	9.83	-0.02	8.59
UK	1-3YR	-0.25	4.74	-0.41	3.77	-0.34	8.74	-1.98	4.69
	7-10YR	-1.78	3.14	-4.87	-0.88	-1.47	7.49	-12.00	-6.01
	20+YR	-6.01	-1.31	-17.00	-13.51	-8.35	-0.01	-31.32	-26.65
EUR	IG All	1.59	4.75	0.83	4.53	2.72	8.65	-2.95	4.89
	HY All	0.76	4.11	3.51	7.38	4.28	10.67	1.23	9.31
Japan	1-3YR	0.06	0.06	0.09	0.09	0.20	0.20	0.02	0.02
	7-10YR	1.80	1.80	0.07	0.07	1.65	1.65	-0.34	-0.34
	20+YR	3.56	3.56	5.50	5.50	7.92	7.92	-4.41	-4.41
China	1-3YR	1.13	1.32	1.54	2.22	1.33	4.99	2.62	4.42
	7-10YR	1.91	2.10	2.83	3.51	2.26	5.96	3.68	5.51
	20+YR	4.00	4.19	5.25	5.96	3.52	7.26	6.74	8.62
EM	1-3YR	1.42	2.84	2.22	3.90	1.79	6.97	3.75	7.43
	7-10YR	2.76	4.33	4.65	5.60	3.93	8.87	6.19	8.68
	20+YR	3.30	3.92	5.16	5.25	3.67	7.46	7.30	9.41
	IG All	2.04	4.66	4.21	4.34	3.02	9.08	0.59	9.25
	HY All	-1.64	0.89	3.15	3.28	-0.27	5.60	-1.58	6.89
Germany	1-3YR	1.30	4.45	0.12	3.79	0.86	6.69	-2.11	5.80
	7-10YR	3.72	6.94	-1.07	2.56	3.65	9.64	-6.94	0.58
	20+YR	4.17	7.41	-10.81	-7.53	3.34	9.31	-18.86	-12.30
Italy	1-3YR	1.46	4.62	0.70	4.40	1.54	7.40	-0.69	7.33
	7-10YR	3.63	6.85	0.59	4.29	6.05	12.17	-2.76	5.10
	20+YR	3.04	6.25	-7.08	-3.67	6.80	12.96	-12.19	-5.09
France	1-3YR	1.35	4.50	0.21	3.88	1.23	7.07	-2.27	5.63
	7-10YR	3.29	6.50	-1.81	1.80	3.52	9.50	-6.85	0.68
	20+YR	3.51	6.73	-11.33	-8.07	2.48	8.40	-18.08	-11.46
Australia	1-3YR	0.94	-0.65	0.75	-2.52	1.11	2.17	1.35	-0.70
	7-10YR	2.96	1.35	1.26	-2.03	5.13	6.23	1.63	-0.42
	20+YR	2.37	0.77	-1.63	-4.82	6.37	7.49	-3.66	-5.61
NZ	1-3YR	1.31	0.53	1.86	-1.58	2.02	2.37	1.30	1.29
	7-10YR	3.44	2.64	0.88	-2.53	3.30	3.66	-1.39	-1.39

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Appendix – Historical Bond Yields % as of May 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	4.61	3.92	3.65	3.94	2.08	1.52	1.68	5.43	8.86
	3M Ago	4.90	4.34	3.93	4.01	1.82	1.57	1.65	5.55	8.62
	6M Ago	4.47	3.97	3.64	3.95	1.76	1.40	1.59	5.38	8.81
	12M Ago	2.44	2.80	2.84	3.21	-0.87	0.08	0.81	4.25	7.09
UK	Current	4.55	4.33	4.10	4.45	1.18	0.54	1.06		
	3M Ago	3.95	3.79	3.72	4.07	0.45	0.18	0.67		
	6M Ago	3.36	3.26	3.20	3.39	-1.95	-0.58	0.10		
	12M Ago	1.64	1.85	2.14	2.46	-3.51	-2.20	-1.05		
Japan	Current	-0.08	0.01	0.33	1.22	-1.51	-0.77			
	3M Ago	-0.04	0.11	0.53	1.35	-1.25	-0.36			
	6M Ago	-0.04	0.05	0.28	1.40	-1.44	-0.76			
	12M Ago	-0.07	-0.04	0.22	1.00	-1.46	-0.88			
China	Current	2.13	2.36	2.70	3.14					
	3M Ago	2.38	2.62	2.86	3.32					
	6M Ago	2.26	2.54	2.87	3.34					
	12M Ago	2.13	2.48	2.83	3.34					
EM	Current	3.74	4.16	4.62	4.44	4.34	4.24	5.00	5.78	12.12
	3M Ago	3.71	4.48	4.88	4.57	1.46	3.33	5.35	5.95	10.85
	6M Ago	3.72	4.51	4.89	4.89	2.45	3.14	5.10	6.08	12.18
	12M Ago	3.48	4.43	5.08	4.93	2.29	2.94	5.02	4.60	10.77
Germany	Current	2.71	2.30	2.20	2.40	0.37	-0.04	-0.13		
	3M Ago	3.09	2.78	2.59	2.57	0.22	0.08	0.03		
	6M Ago	2.04	1.95	1.91	1.81	-0.59	-0.41	-0.54		
	12M Ago	0.32	1.25	1.54	1.81	-1.46	-0.84	-0.50		
Italy	Current	3.35	3.42	3.89	4.43	1.11	1.62	1.80		
	3M Ago	3.65	3.81	4.18	4.55	0.84	1.69	1.90		
	6M Ago	2.73	3.09	3.59	3.86	0.12	1.32	1.35		
	12M Ago	1.10	2.06	2.99	3.58	-2.21	0.64	1.44		
France	Current	2.83	2.63	2.68	3.24	0.22	0.20	0.53		
	3M Ago	3.18	3.03	3.01	3.37	-0.05	0.24	0.69		
	6M Ago	2.25	2.19	2.27	2.59	-0.94	-0.39	0.09		
	12M Ago	0.46	1.10	1.67	2.49	-3.03	-0.93	0.26		
Sweden	Current	2.97	2.62	2.31		0.74	0.55			
	3M Ago	3.18	2.96	2.65		0.64	0.72			
	6M Ago	2.52	2.21	1.93		-0.29	-0.26			
	12M Ago	1.17	1.69	1.57		-1.53	-1.31			
Australia	Current	3.51	3.38	3.58	4.12	0.42	1.03	1.59		
	3M Ago	3.66	3.65	3.83	4.19	0.50	1.26	1.78		
	6M Ago	3.12	3.22	3.49	3.92	-0.08	0.90	1.43		
	12M Ago	2.69	3.31	3.52	3.77	-0.27	0.91	1.70		
NZ	Current	5.08	4.35	4.28	4.46	1.23	1.85			
	3M Ago	5.06	4.68	4.57	4.67	1.40	2.07			
	6M Ago	4.67	4.39	4.12	4.28	1.49	1.97			
	12M Ago	3.41	3.53	3.60	3.84	0.46	1.42			
Canada	Current	4.04		3.22	3.18			1.44	5.24	7.61
	3M Ago	4.04		3.35	3.26			1.34	5.16	7.19
	6M Ago	3.70		2.96	3.02			1.20	5.07	7.37
	12M Ago	2.65		2.88	2.90			0.91	4.44	6.43

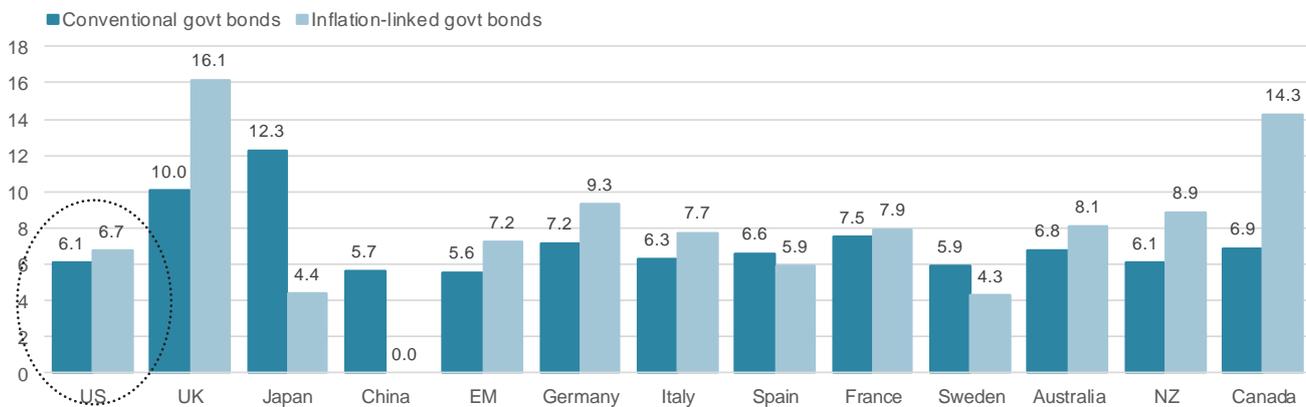
Source: FTSE Russell. All data as of May 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors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

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

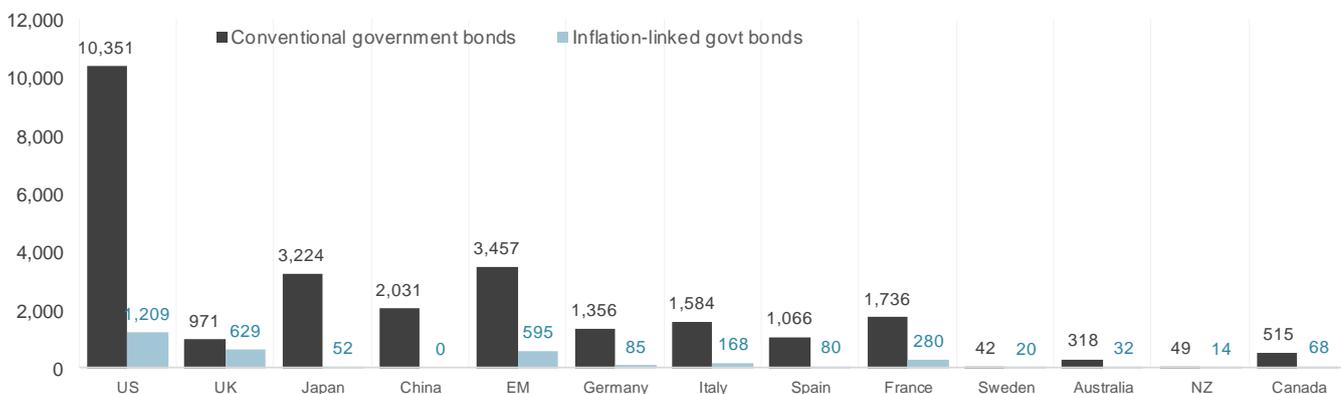
	Conventional government bonds								Inflation-linked government bonds					
	Duration				Market Value				Duration			Market Value		
	3-5YR	7-10YR	20+YR	Overall	3-5YR	7-10YR	20+YR	Total	5-10YR	20+YR	Overall	5-10YR	20+YR	Total
US	3.7	7.5	17.5	6.1	2,270.3	1,104.8	1,295.2	10,351.4	7.1	21.7	6.7	389.2	123.7	1208.8
UK	3.6	7.5	18.4	10.0	130.1	142.8	274.7	971.0	6.7	28.1	16.1	125.9	230.5	629.2
Japan	3.9	8.0	24.0	12.3	354.9	376.7	719.0	3,224.0	7.3		4.4	18.7		51.6
China	3.6	7.4	17.6	5.7	449.7	342.9	239.1	2,030.8						
EM	3.5	6.9	15.9	5.6	717.89	629.60	334.03	3,456.5	5.5	13.8	7.2	122.3	151.4	595.4
Germany	3.9	7.7	20.5	7.2	285.71	211.86	148.47	1,356.1	7.4	22.1	9.3	40.8	19.0	84.7
Italy	3.7	7.3	16.3	6.3	297.46	234.51	143.75	1,584.4	6.5	26.6	7.7	57.2	5.4	167.7
Spain	3.5	7.3	17.3	6.6	207.38	186.52	101.46	1,066.2	7.0		5.9	22.2		79.6
France	3.7	7.5	20.3	7.5	287.84	342.44	207.96	1,735.9	6.9	24.6	7.9	100.1	20.7	279.6
Sweden	3.3	7.9		5.9	7.34	8.73		41.8	6.0		4.3	9.5		20.4
Australia	3.6	7.7	17.8	6.8	41.13	101.68	15.27	317.6	7.3	22.7	8.1	9.5	2.7	32.4
NZ	3.3	7.5	17.6	6.1	8.95	12.57	2.32	48.6	6.5		8.9	3.1		13.7
Canada		7.1	16.4	6.9		162.00	110.70	515.4		14.3	14.3		67.7	67.7

	Investment grade bonds					High Yield						
	Duration					Market Value					Duration	MktVal
	AAA	AA	A	BBB	Overall	AAA	AA	A	BBB	Overall		
US	11.0	8.5	7.2	6.7	7.1	74.1	448.0	2,487.3	3,322.3	6,331.7	4.0	1,140.6
Euro	6.1	5.0	4.6	4.3	4.5	10.2	178.6	1,098.3	1,428.7	2,715.8	3.1	410.4
EM		5.8	4.9	5.0	5.0		45.14	226.34	335.7	607.2	3.3	191.1

Average Duration



Total Market Value (USD Billions)

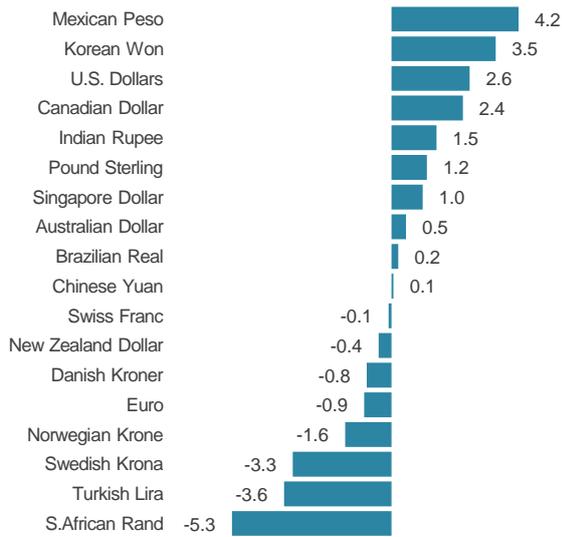


Data as of 2023-05-31

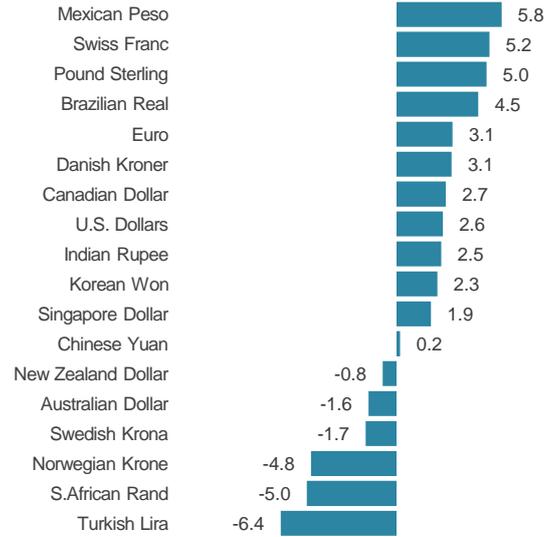
Source: FTSE Russell. All data as of May 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices used for each market. For professional investors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

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

FX Moves vs JPY – 1M



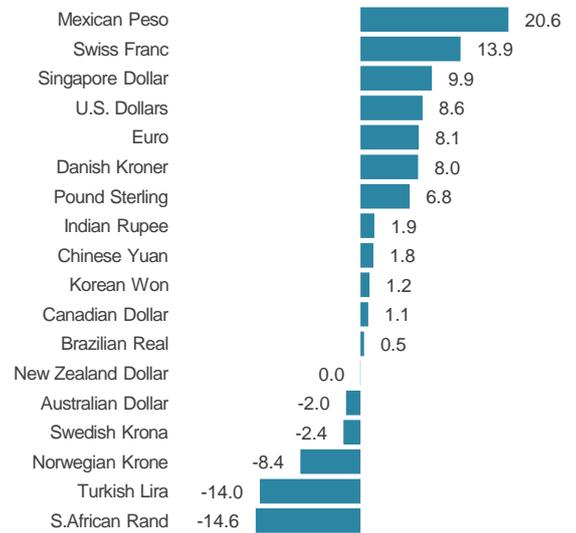
FX Moves vs JPY – 3M



FX Moves vs JPY – YTD



FX Moves vs JPY – 12M



Source: FTSE Russell and Refinitiv. All data as of May 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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