Fixed Income Insights

MONTHLY REPORT – **JANUARY 2024 | JAPAN EDITION**   FOR PROFESSIONAL INVESTORS ONLY

Yen recovery on Fed pivot, and disinflation may extend BoJ curve control

Markets discount about 75bp more easing than the Fed in 2024, despite Fed caution, a soft growth landing and sticky core inflation. The Fed pivot helped the yen rally, and combined with lower Japanese inflation, may delay the end of curve control. Yen depreciation over 2023 drove strong gains in Bunds and shorter gilts in yen terms.

Macro and policy backdrop – Less pressure on BoJ to exit easy policy after Fed pivot helps yen recovery

The BoJ stays firmly on hold, closely monitoring economic developments and price increases. The yen recovery after the Fed pivot, and lower Japanese inflation favour maintaining its accommodative policy stance. (pages 2-3)

Yields, curves and spreads – Yield curves bull flattened in Q4, and US sovereign spreads tightened

G7 markets continue to front-run central bank easing, as in 2023, driving bull inversions. US spreads tightened. (pages 4-5)

Credit and MBS analysis – Credit benefits from risk appetite recovery, led by HY

Recovery in risk appetite and low defaults helped credit spreads narrow. Convexity is a challenge for MBS investors after the Treasury rally. (page 6)

Sovereign and climate bonds – Climate WGBI outperformed, helped by duration

Duration boosted Climate and adjusted-Climate WGBI, despite lower US weight, as curves bull flattened. (page 7)

Performance – Bunds and gilts performed best in Q4. After the Q4 rally, only JGBs show negative 2023 returns

The US dollar and European yields fell after the Fed pivot, boosting returns in non-US markets. (pages 8-9)

Appendix (from page 10)

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

Chart 1: 2023 proved a year of divergence and disinflation. European yields fell sharply relative to the US and Canada, despite the Q4 rally.
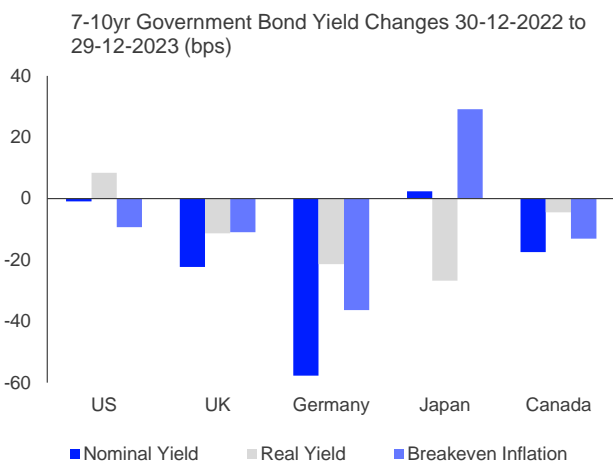

7-10yr Government Bond Yield Changes 30-12-2022 to 29-12-2023 (bps)

Chart 2: Evidence the 2022 inflation shock was supply-driven can be found in supply chain indices. The recent uptick is therefore of note.

Supply Chain pressure

Source: Federal Reserve Bank of New York

Source: FTSE Russell. All data as of December 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 Indexes. See Appendix for list of indexes used for each market.

Macroeconomic Backdrop – Growth and Inflation Expectations

The Fed pivot and Q4 disinflation fuelled expectations of aggressive easing in 2024, despite a soft landing for US growth in 2023, and an economy near full employment. After a recession that never was, forecasters are reluctant to forecast one in 2024, despite lags in the impact of policy making 2024 higher risk. Wage growth is key in 2024 for the BoJ, as inflation squeezes real incomes. Japan's private consumption has improved at a modest pace, constrained by slower wage increases.

Despite stronger US growth relative to Europe in 2023, consensus forecasts show the differential narrowing in 2024, with US growth falling back towards 1% but avoiding recession (Chart 1). These forecasts may not fully capture the positive impact on US growth of the easing in financial conditions since November (also see Chart 1, page 3). Risks to growth in Europe are skewed to the downside, according to the ECB, but the greatest uncertainty surrounds the Chinese outlook.

Headline inflation fell sharply in Q4, 2023 (see Chart 2) to 3.1% y/y in the US, though US core inflation is stickier. The theory that the last 1-2% of disinflation to 2% target levels has higher costs than earlier disinflation will now be tested in the US, Canada and Eurozone. The BoJ revised upward its 2024 CPI forecasts in October's Outlook Report, to 2.8%, considering a time lag in the pass-through of higher import prices to consumer prices, and expecting a virtuous cycle between wages and prices in longer terms.

Japan's core inflation (less fresh food) y/y fell sharply to 2.5% in November, the lowest since July 2022, due to lower goods prices (Chart 3). A shift from cost-push to demand-driven inflation could help achieve sustainable inflation, but slower wage increases than inflation may constrain consumer spending growth. Japan's labour market remains tight, with the unemployment rate at 2.5%.

JGBs 7-10-year yields fell to close to 0.5% by the end of 2023, helped by the global bond market rally in Q4 (Chart 4), despite the BoJ relaxing its curve control (YCC) in July and October (Chart 4). Year-over-year changes in both short and long yields are moderate, with YCC policy still in place. Developments in inflation and wage growth remain key factors in setting monetary policy for the BoJ, which remains cautious in exiting QE and curve control.

Chart 1: Consensus forecasts show slower US growth vs Europe in 2024, reversing 2023's pattern, and no recessions. Greatest uncertainty surrounds Chinese forecasts given the property crash & consumer caution.

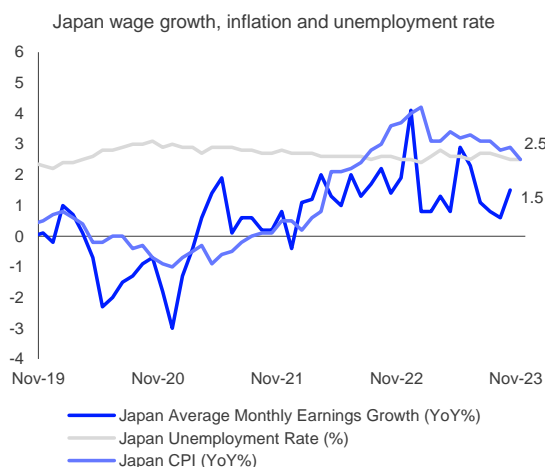| Latest Consensus Real GDP Forecasts (%, December 2023)			
	2022	**2023**	**2024**
US	2.1	**2.4**	1.2
UK	4.1	**0.5**	0.4
Eurozone	3.3	**0.5**	0.6
Japan	1.6	**1.6**	0.8
China	3.0	**5.0**	4.5
Canada	3.5	**1.1**	0.7

Chart 2: Regional inflation rates show some convergence towards 2% target levels in headline inflation, though core inflation remains stickier, at nearer 4%. The UK and China remain outliers globally.

Regional CPI Inflation (YoY%)

US, Eurozone, UK, Canada, Japan, China

Chart 3: Japanese inflation eased in November, alongside other G7 members,, due to lower energy prices. But a tight labour market, and 2%+ inflation, may drive faster wage gains in 2024.

Japan wage growth, inflation and unemployment rate

Japan Average Monthly Earnings Growth (YoY%)
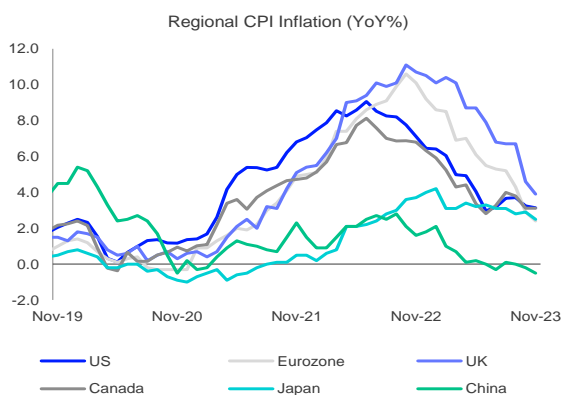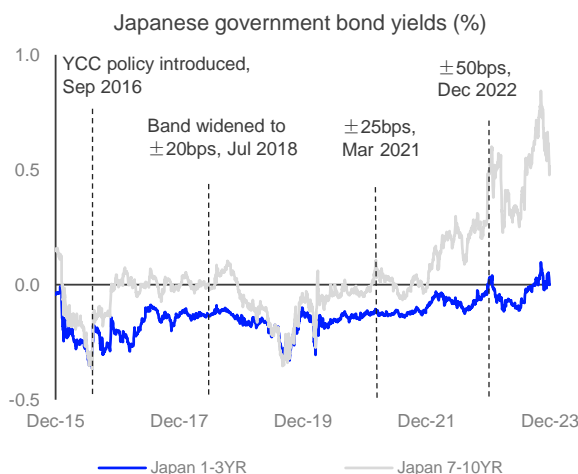Japan Unemployment Rate (%)
Japan CPI (YoY%)

Chart 4: Japanese government bonds yields fell back in Q4, after testing the yield cap of 1%, giving the BoJ more room to tweak its YCC policy. A normalization in monetary policy is contingent on economic data.

Japanese government bond yields (%)

YCC policy introduced, Sep 2016
Band widened to ±20bps, Jul 2018
±25bps, Mar 2021
±50bps, Dec 2022

Japan 1-3YR, Japan 7-10YR

Financial Conditions and Monetary Policy Settings

US financial conditions eased back to the levels when the Fed began raising rates (March 2022), after the Fed pivot and powerful Q4 market rally. Some FOMC members sought to cool easing expectations as a result. The dollar fell on narrowing in rate differentials, but weak growth in Europe and China restricted the sell-off. Previous cycles show 10-year yields falling before Fed easing, but these cycles were driven by exogenous deflationary shocks, not gradual disinflation.

Lower US yields, tighter credit spreads and higher equities drove significant easing in US financial conditions (FCs) in Q4, despite policy rates at cycle highs. FCs are close to Q1, 2022 levels, when the Fed began raising rates (Chart 1). Markets have eased significantly for the Fed, reinforced by Dec. dot plots showing median FOMC rate expectations falling 75bp in 2024. The risk now is that market expectations of more than 100-125bp in 2024 easing are disappointed, given the economy is not recessionary.

The US dollar fell in December (Chart 2) after the Fed pivot towards easing, on rate differentials likely shrinking against other G7 currencies. The yen's recovery gained momentum after the Fed pivot, as investors focused on the BoJ possibly ending negative rates in January. Sterling drew support from hawkish BoE signaling (see below), though weak UK growth tempered gains.

Further evidence of de-synchronized G7 policy cycles emerged in December. US disinflation enabled the Fed to pivot towards easing, with 75bp of easing implied in median FOMC dot plots. But European central banks did not discuss rate cuts, as they remain firmly on hold, as does the BoC. The yen rebound, and lower Japanese inflation may extend BoJ curve control.

In previous US policy cycles, Chart 4 show US 10Y yields generally fell before Fed easing. Front-running the Fed eventually paid off for investors, even if "false dawns" were common, where declines in 10Y yields were not validated at all, or for some months, e.g., 2005-07, 2018-19 & 2022-23. Recent easing cycles were driven by exogenous *deflationary* shocks, so differ from the current cycle.

Chart 1: When is a tightening not a tightening? Market anticipation of easing, tighter spreads and lower bond yields loosened financial conditions, so they are where they were when the Fed began raising rates in 2022.
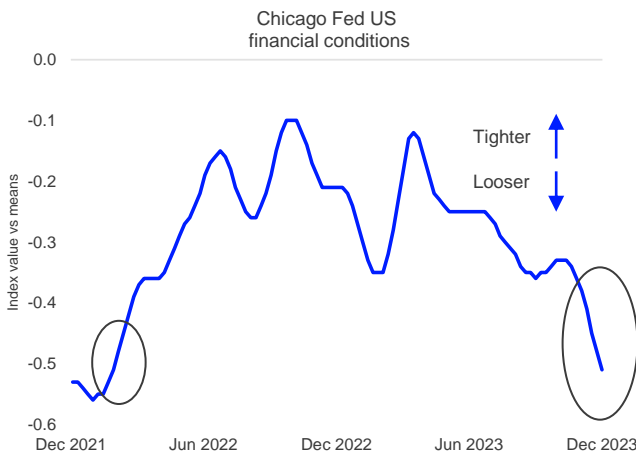
Chart 2: The dollar fell after the Fed pivot, though its fall was restricted by FOMC members cooling easing expectations and hopes for easier ECB policy. The yen rallied as investors mulled the end of curve control.

Chicago Fed US financial conditions

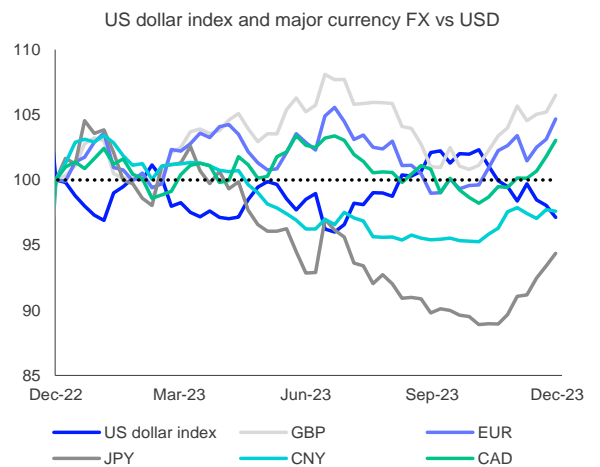
US dollar index and major currency FX vs USD

Chart 3: Further signs of an un-coordinated G7 monetary policy cycle emerged in December after the Fed pivoted towards easing, while European central banks and the BoC remained firmly on hold.

Chart 4: Front-running the Fed has generally paid, with some exceptions, notably mid-2023, when the Fed promptly raised rates again. The 10yr yield has dropped before Fed funds in previous cycles.
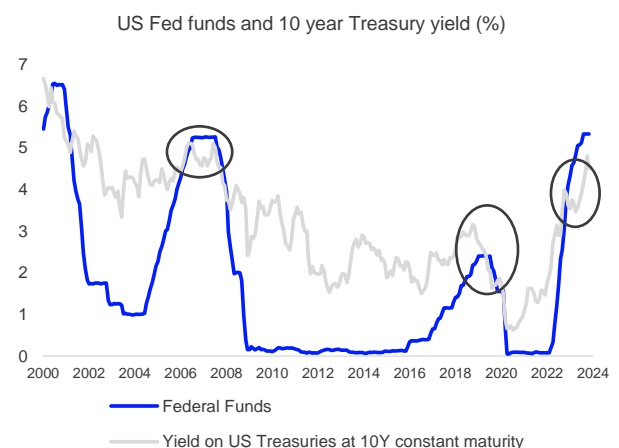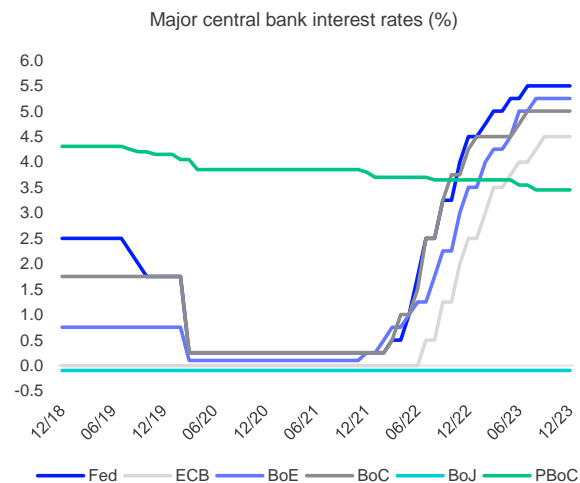
Major central bank interest rates (%)

US Fed funds and 10 year Treasury yield (%)

Source: FTSE Russell and LSEG. All data as of December 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: Q4, notably December, saw one of the fastest declines in bond yields, erasing 12 months of rises on expectation of aggressive cuts in 2024 following lower inflation and after Jay Powell's cut hints for 2024.
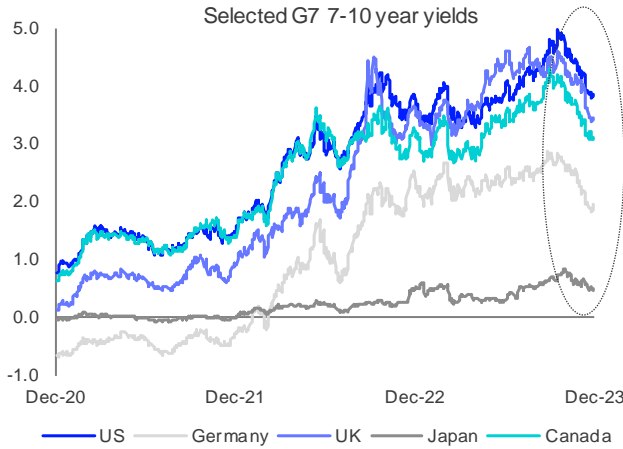
Chart 2: Except for Japan, real yields also fell sharply in Q4, reflecting weaker real growth as global economic activity feels the impact of the sharp rate rises during 2023.

Selected G7 7-10 year yields

US — Germany — UK — Japan — Canada

Regional and global real yields

US IL 7-10yr — Germany IL 7-10yr — UK IL 7-10yr — Japan IL 7-10yr — WILSI 7-10yr
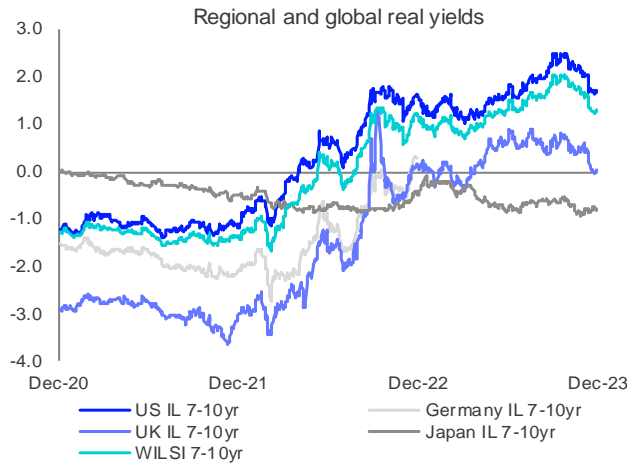
Chart 3: Yield curves have remained deeply inverted, after G7 curves bull flattened, with the Canadian yield curve the most inverted. Even the Japanese curve flattened, as the BoJ hinted at moving away from YCC.
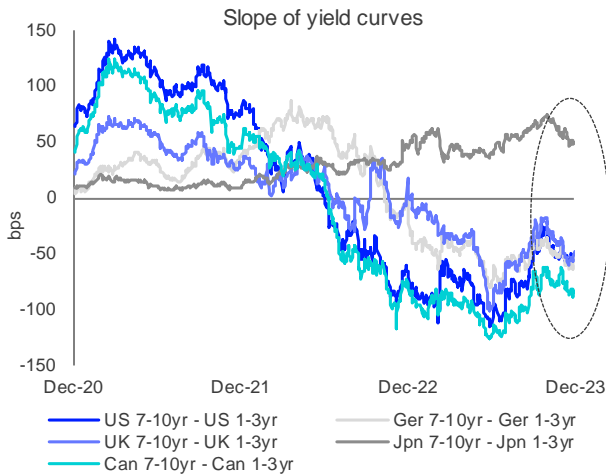
Chart 4: Longer G7 yield curves also inverted outright in Q4, with the UK curve returning close to zero. The Canadian curve has been more stable than equivalent peers but remains deeply negative.

Slope of yield curves

US 7-10yr - US 1-3yr — Ger 7-10yr - Ger 1-3yr — UK 7-10yr - UK 1-3yr — Jpn 7-10yr - Jpn 1-3yr — Can 7-10yr - Can 1-3yr

Selected G7 yield curves

US 20+yr - US 1-3yr — Ger 20+yr - Ger 1-3yr — UK 20+yr - UK 1-3yr — Jpn 20+yr - Jpn 1-3yr — Can 20+yr - Can 1-3yr
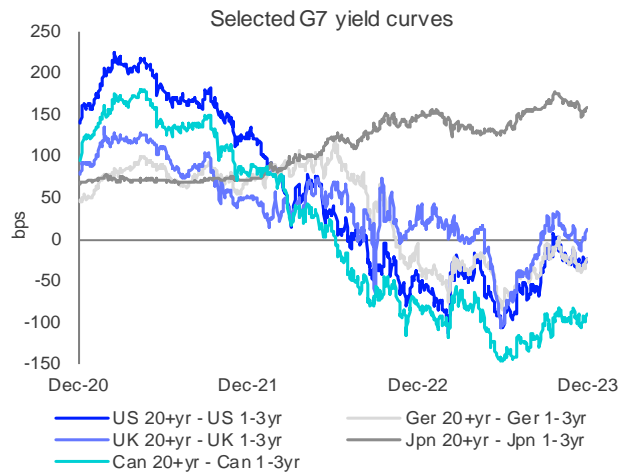
Chart 5: G7 inflation breakevens fell in Q4, remaining correlated with (lower) spot inflation. Japanese breakevens fell sharply, as the 2022-23 increase in inflation began to unwind and investors favoured nominal bonds.
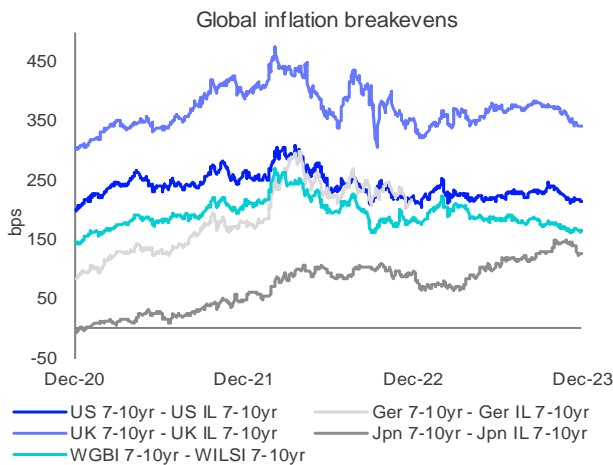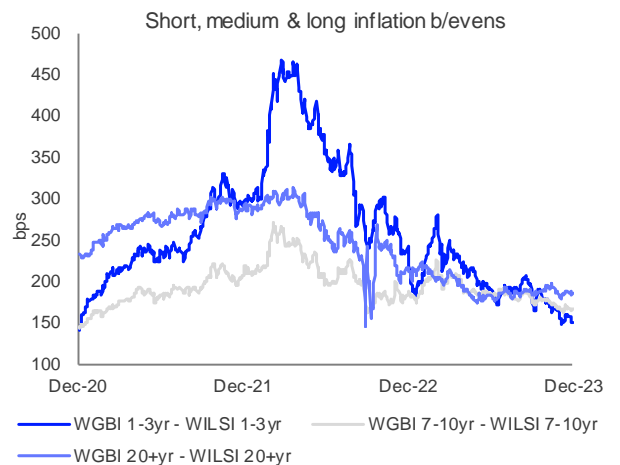
Chart 6: Global breakevens have fallen to pre-2020 levels, after global inflation eased on weaker economic growth and lower energy costs. Food inflation, while still high, has also eased.

Global inflation breakevens

US 7-10yr - US IL 7-10yr — Ger 7-10yr - Ger IL 7-10yr — UK 7-10yr - UK IL 7-10yr — Jpn 7-10yr - Jpn IL 7-10yr — WGBI 7-10yr - WILSI 7-10yr

Short, medium & long inflation b/evens

WGBI 1-3yr - WILSI 1-3yr — WGBI 7-10yr - WILSI 7-10yr — WGBI 20+yr - WILSI 20+yr

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Yield Spread and Credit Spread Analysis

Chart 1: US sovereign spreads proved pro-cyclical in 2023, rising as yields increased until October, before falling in Q4, although the decline in spreads is less marked than during Covid, particularly versus UK gilts.
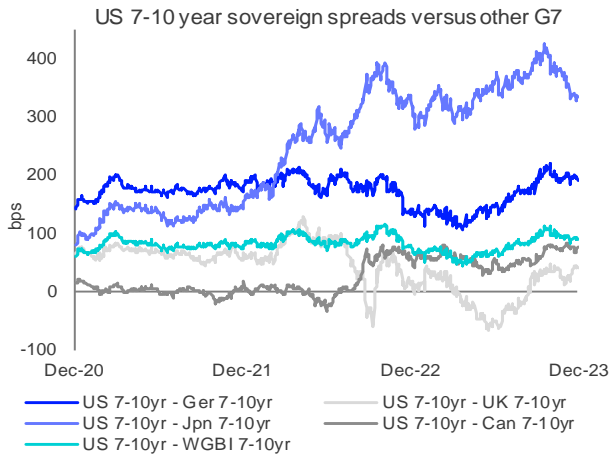
Chart 2: Italian spreads fell in Q4, though mostly versus JGBs. ECB President Lagarde stressed the ECB's commitment to successful policy transition at the December press conference, which helped BTP spreads.

US 7-10 year sovereign spreads versus other G7

Legend:
- US 7-10yr - Ger 7-10yr
- US 7-10yr - Jpn 7-10yr
- US 7-10yr - WGBI 7-10yr
- US 7-10yr - UK 7-10yr
- US 7-10yr - Can 7-10yr

Italy 7-10 year sovereign spreads versus G7

Legend:
- Ita 7-10yr - US 7-10yr
- Ita 7-10yr - UK 7-10yr
- Ita 7-10yr - Can 7-10yr
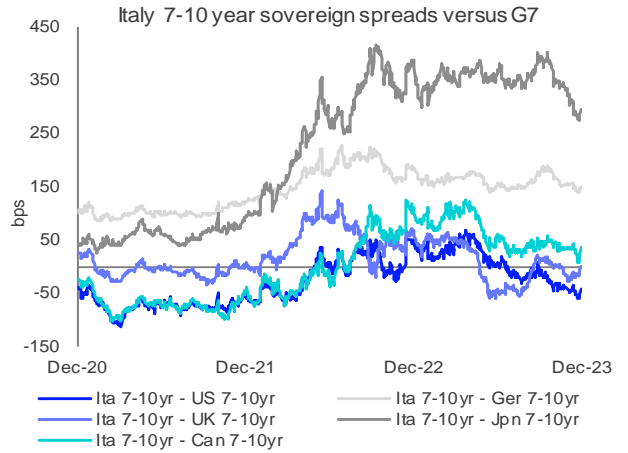- Ita 7-10yr - Ger 7-10yr
- Ita 7-10yr - Jpn 7-10yr

Chart 3: EM spreads widened in December, as the G7 bond market rally gathered momentum, excluding JGBs, where yields fell less. Spillover effects from lower US Treasury yields may help EM spreads in Q1.
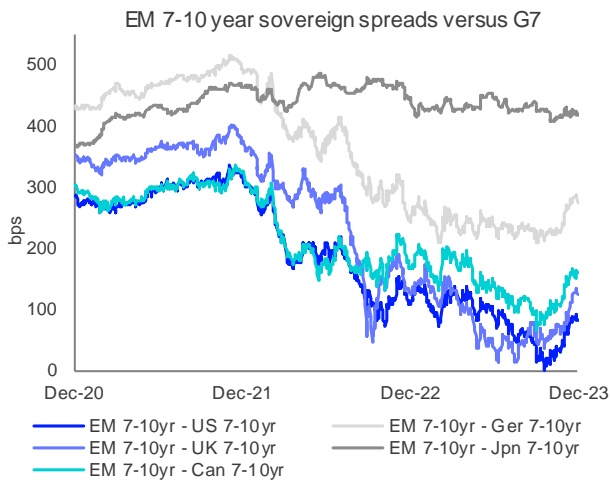
Chart 4: Chinese spreads versus the G7 have trended lower since 2020. They have generally been counter-cyclical, rising when G7 yields fall (Q4) and vice versa. This offers portfolio diversification benefits to investors.

EM 7-10 year sovereign spreads versus G7

Legend:
- EM 7-10yr - US 7-10yr
- EM 7-10yr - UK 7-10yr
- EM 7-10yr - Can 7-10yr
- EM 7-10yr - Ger 7-10yr
- EM 7-10yr - Jpn 7-10yr

China 7-10 year sovereign spreads versus G7

Legend:
- Chn 7-10yr - US 7-10yr
- Chn 7-10yr - UK 7-10yr
- Chn 7-10yr - Can 7-10yr
- Chn 7-10yr - Ger 7-10yr
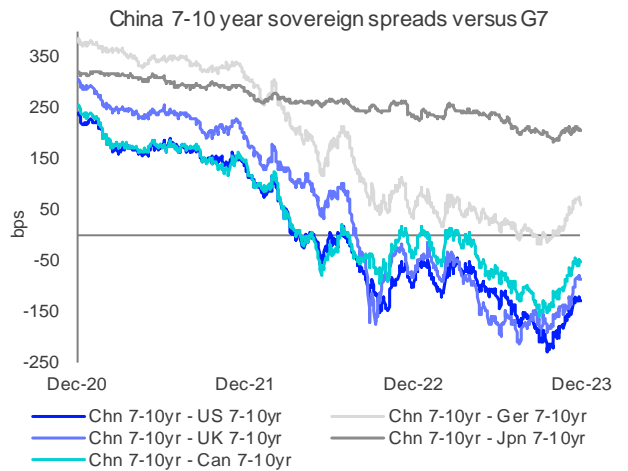- Chn 7-10yr - Jpn 7-10yr

Chart 5: Credit spreads fell in Q4, led by High Yield, as the Fed pivot helped the G7 recovery in risk appetite, and risk assets rallied. High yield generally outperformed IG in 2023, despite near-recessions in Europe.
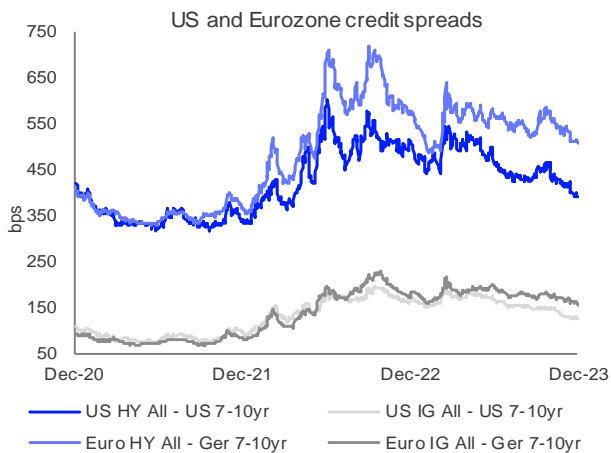
Chart 6: Chinese $ HY spreads eased further in December to 3500bps, a level last seen a year ago. US HY spreads tightened by about 120bps during 2023 as risk appetite recovered.
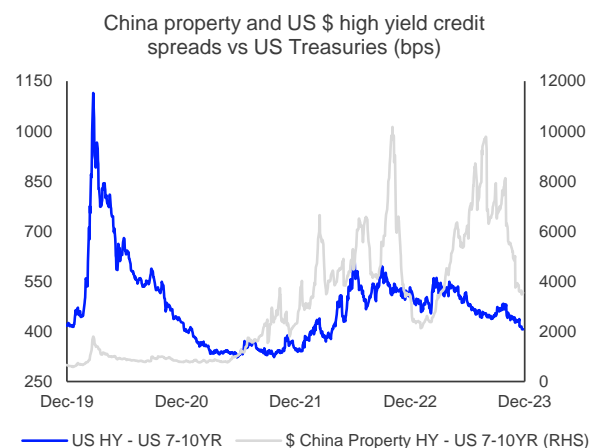
US and Eurozone credit spreads

Legend:
- US HY All - US 7-10yr
- Euro HY All - Ger 7-10yr
- US IG All - US 7-10yr
- Euro IG All - Ger 7-10yr

China property and US $ high yield credit spreads vs US Treasuries (bps)

Legend:
- US HY - US 7-10YR
- $ China Property HY - US 7-10YR (RHS)

Credit sector and MBS analysis

Chart 1: US IG spreads tightened further in December, as the risk rally gathered momentum after the Fed pivot. Energy credits joined the rally, despite lower oil prices. Consumer spreads tightened most in 2022-23.

Selected US IG credit spreads (bps)

Legend: Finance - Bank, Industrial - Consumer, Industrial - Energy, Industrial - Manufacturing, Industrial - Services, Utility - Gas
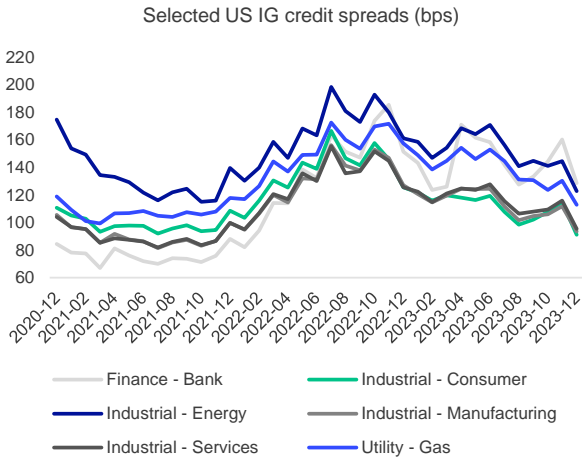
Chart 2: Eurozone IG spreads have broadly matched US IG spreads, and insurance sector spreads are getting close to pre-Ukraine shock levels. Like the US and UK, consumer credits have outperformed.

Selected Eurozone IG credit spreads (bps)

Legend: Finance - Bank, Finance - Insurance, Industrial - Consumer, Industrial - Energy, Industrial - Manufacturing, Utility - Gas
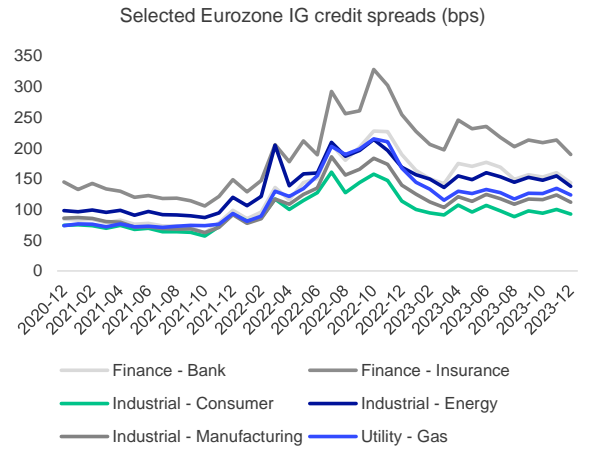
Chart 3: UK IG spreads also show outperformance by consumer credits, and volatile insurance sector spreads, after the Ukraine shock. Consumer spreads are now at post-Covid lows.

Selected UK IG credit spreads (bps)

Legend: Finance - Bank, Finance - Insurance, Industrial - Consumer, Industrial - Energy, Industrial - Services, Utility - Electric
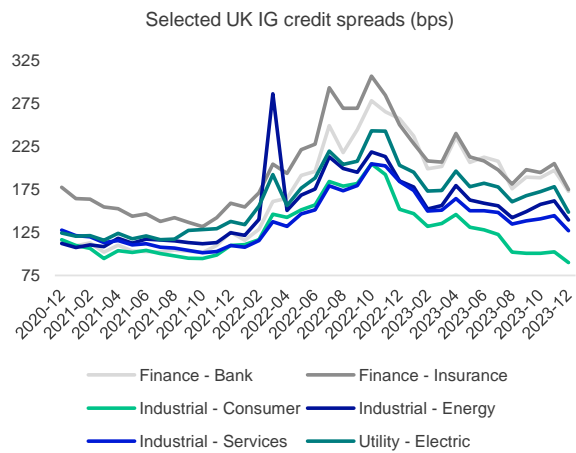
Chart 4: US IG real estate spreads have tightened, after mortgage rates fell, but remain well above 2021 levels, as retail moves online, and office space demand fell with more working from home, post-Covid.

US IG real estate & financials credit spreads (bps)

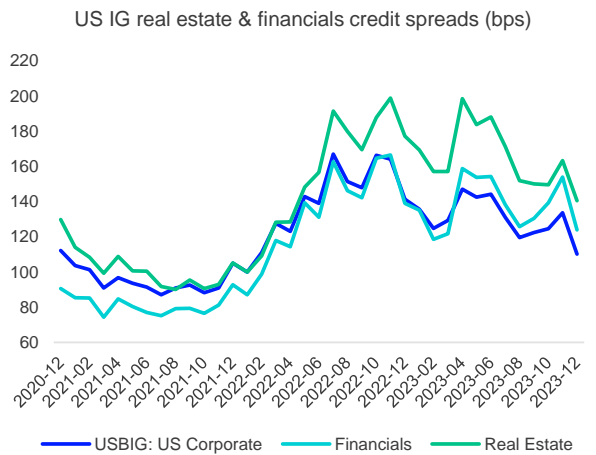Legend: USBIG: US Corporate, Financials, Real Estate

Chart 5: RMBS duration increased as prepayments collapsed in 2022. RMBS investors hedged duration risk by selling Treasuries. But this may reverse, if lower yields drive faster prepayments and lower RMBS duration.
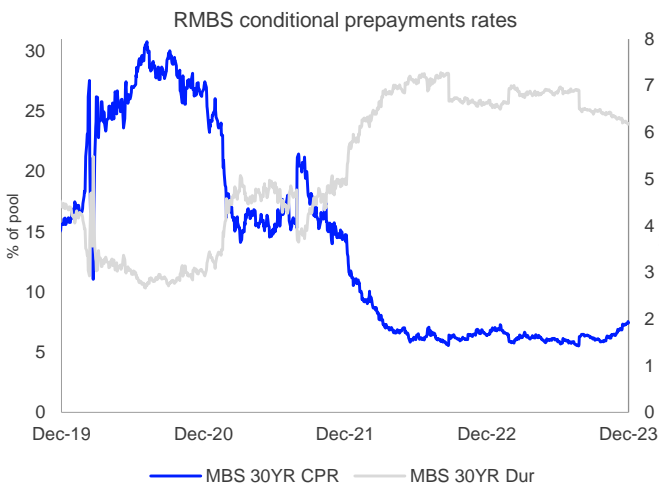
RMBS conditional prepayments rates

Legend: MBS 30YR CPR, MBS 30YR Dur

Chart 6: The reduction in the Fed's RMBS holdings slowed as higher mortgage rates drove lower prepayments, and RMBS run-offs, which averaged only $17 billion in the last four months (Fed data).

Change in Fed's MBS & US Treasury holdings, $ mn

Legend: Fed's MBS holdings, change on 12 mnths ($ mn); Fed's Treas.holdings, change on 12 mnths ($ mn)
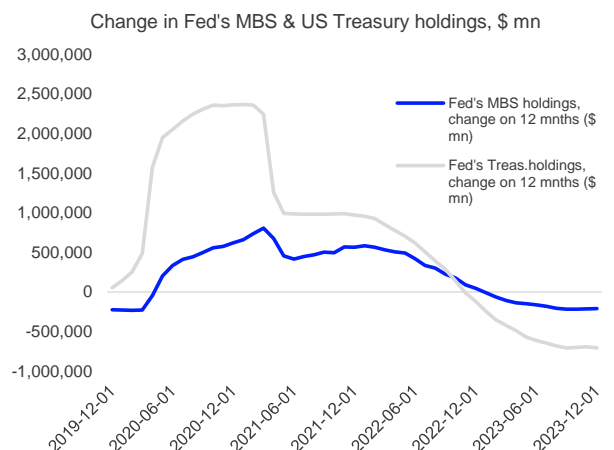
Source: FTSE Russell and LSEG. Data as of end-December 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indices. See Appendix Glossary for list of indices. For professional investors only.

Sovereign and Climate Bonds Analysis

Chart 1: The recovery in Emerging Markets ESG is the most striking and reflects a high Eastern Europe weight. The re-balancing of the ACWGBI towards Europe helped it recover in 2023, as Bunds outperformed.

Chart 2: ESG WGBI has a higher US weighting, and big underweight in China, reflected in its spread widening in 2022-23. Outperformance by Eurozone bonds drove ACWGBI spreads tighter, after the re-weighting.

Selected SI sovereign relative performance
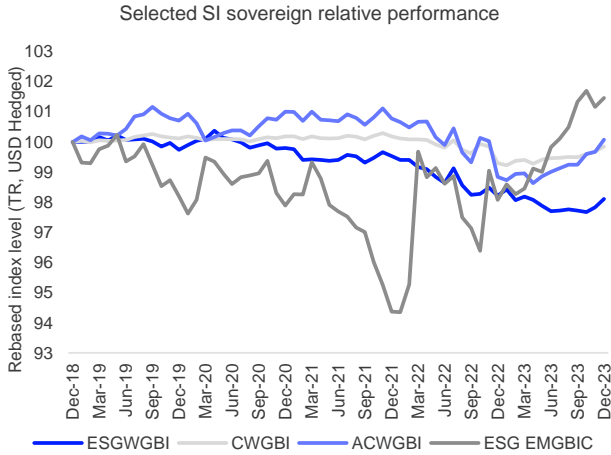

Selected SI sovereign spread to benchmark

Chart 3: Paris-aligned PAB Corp outperformed strongly early in Covid, after oil prices collapsed, but has underperformed since. More subtly tilted indices, like Choice Corp, have been more stable.
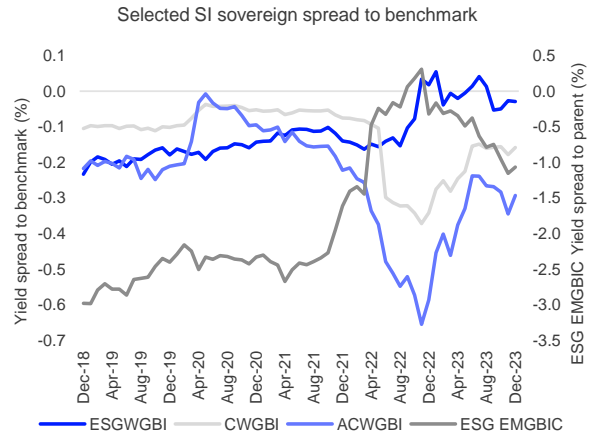
Chart 4: Spread widening in Green corporates in 2022/23 reflects heavy issuance but this reversed in 2023. The Paris-aligned PAB Corp is tilted away from fossil-fuels, so reflects energy price moves.

Selected SI corporate & aggregated relative performance

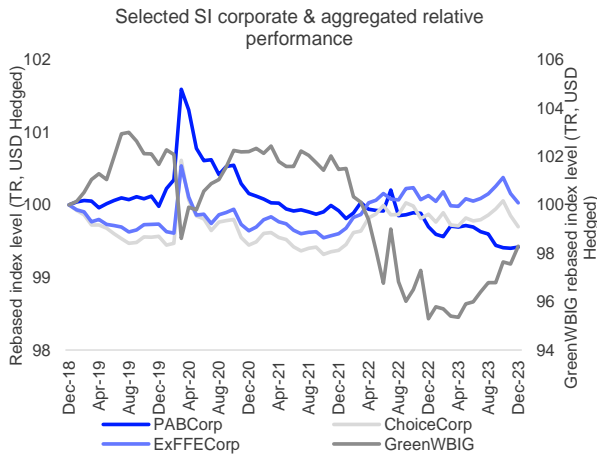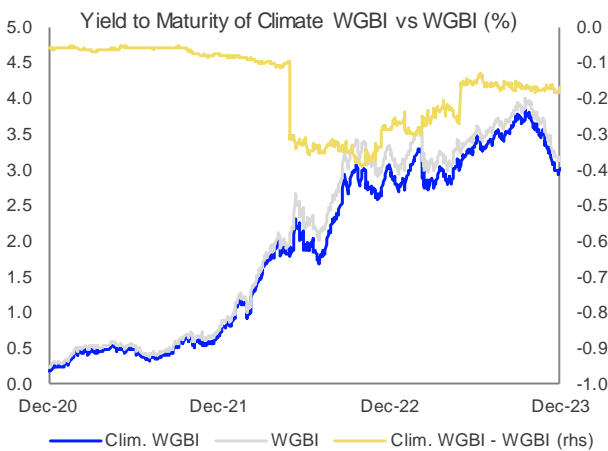### Selected SI corporate & aggregate spread to benchmark

Chart 5: Extra duration in Climate WGBI helped it vs WGBI, as sovereign curves bull flattened in Bunds and JGBs in Q4. But this was offset by WGBI's heavier US weight and tighter US spreads.
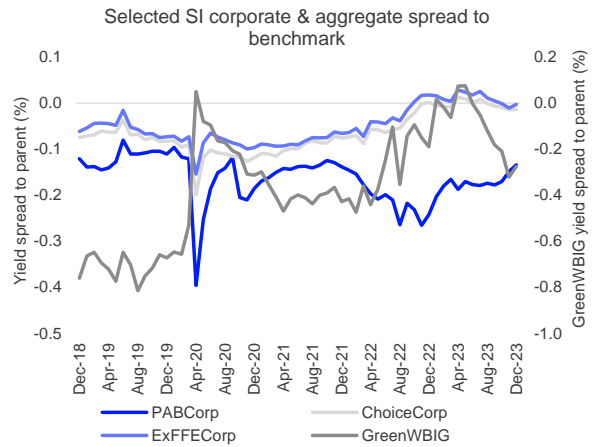
Chart 6: Changes in country weights in Climate WGBI (CW) impacted performance; the underweight in China & overweight in Europe caused the underperformance of CW vs WGBI in 2022-23.
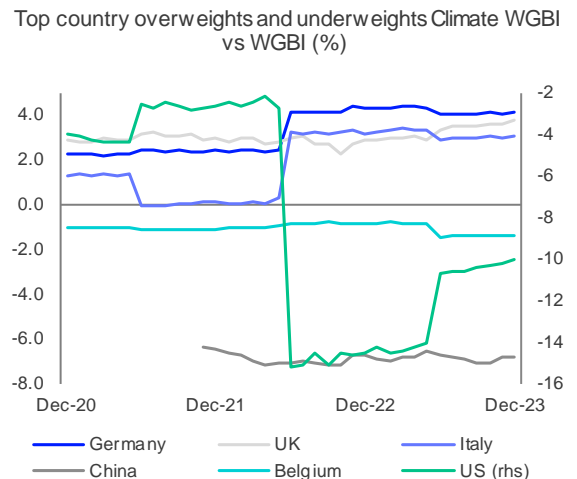
Yield to Maturity of Climate WGBI vs WGBI (%)

Top country overweights and underweights Climate WGBI vs WGBI (%)

Source: FTSE Russell and LSEG. All data as of December 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 Sovereign Bond Returns − 3M and YTD % (JPY & LC, TR)

After a volatile Q4, government bonds finished with strong positive returns, led by longs. Bunds and gilts performed best in yen, helped by strong currencies, as the Fed pivot pushed the USD lower. In 2023, JGBs returned less than 1%, while Bunds and shorter gilts gained up to 20%. Longer China and EM bonds also performed well, gaining 15+% YTD in yen.

Duration was very much the investor's friend in Nov/December, after the Fed pivot. Investors anticipated similar pivots in Europe, and long European bonds, and WGBI offered yen returns of up to 16%, in Q4, despite the yen's recovery from the Y150 level.

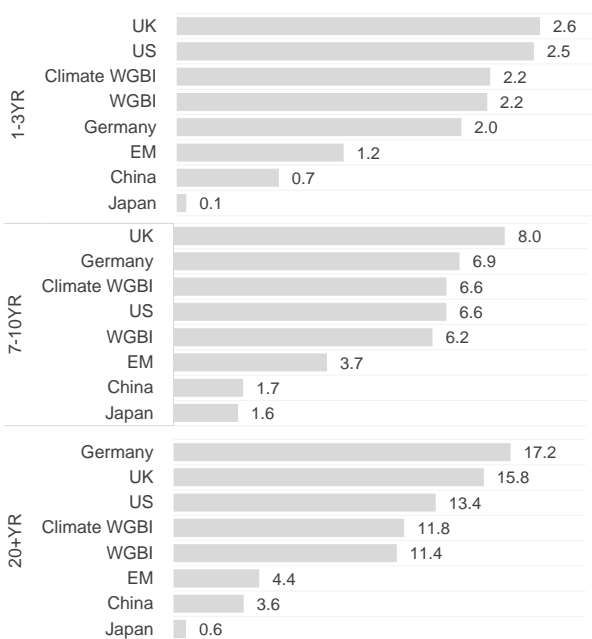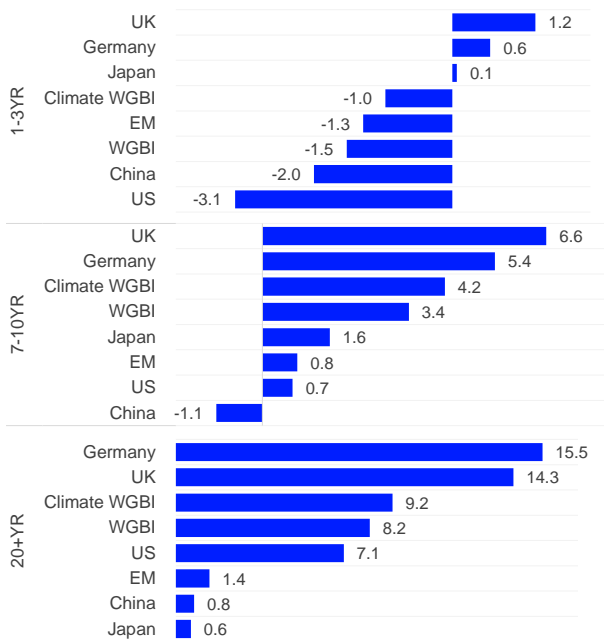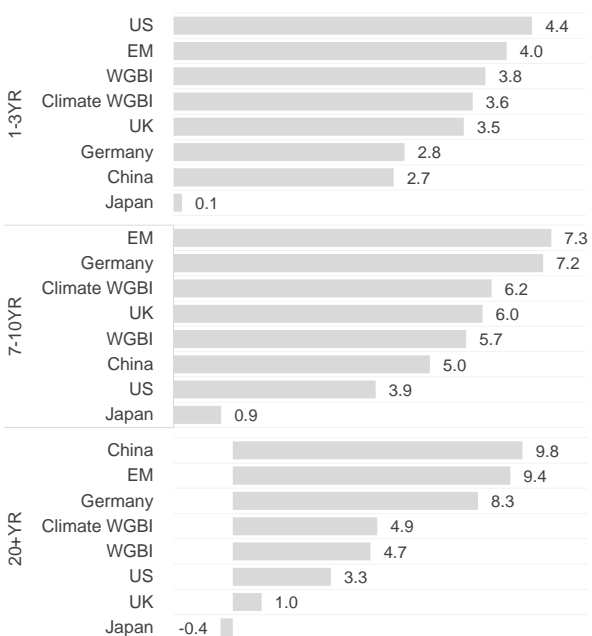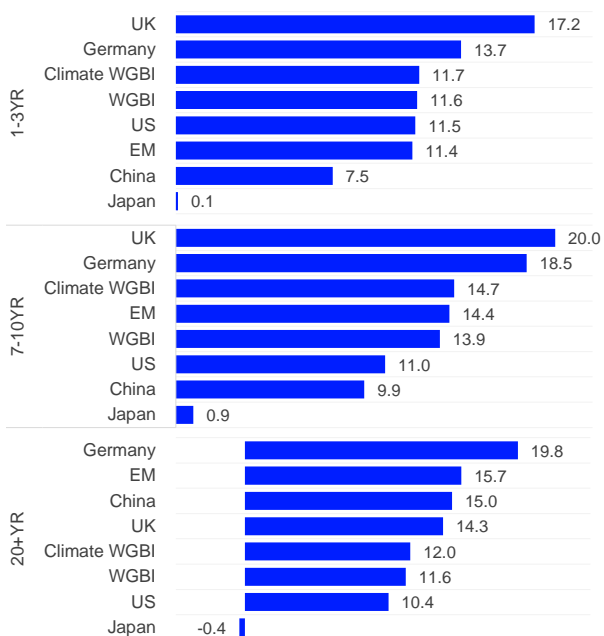China and EM lagged the Q4 rally, in both local currency and yen terms, and remained less volatile. Longer Treasuries managed positive returns of 7% in yen, despite dollar weakness. Climate WGBI outperformed WGBI as extra duration helped returns in Q4.

CONVENTIONAL GOVT BONDS   [3M JPY] [3M LCY]

1-3YR (3M JPY)
UK	1.2
Germany	0.6
Japan	0.1
Climate WGBI	-1.0
EM	-1.3
WGBI	-1.5
China	-2.0
US	-3.1

1-3YR (3M LCY)
UK	2.6
US	2.5
Climate WGBI	2.2
WGBI	2.2
Germany	2.0
EM	1.2
China	0.7
Japan	0.1

7-10YR (3M JPY)
UK	6.6
Germany	5.4
Climate WGBI	4.2
WGBI	3.4
Japan	1.6
EM	0.8
US	0.7
China	-1.1

7-10YR (3M LCY)
UK	8.0
Germany	6.9
Climate WGBI	6.6
US	6.6
WGBI	6.2
EM	3.7
China	1.7
Japan	1.6

20+YR (3M JPY)
Germany	15.5
UK	14.3
Climate WGBI	9.2
WGBI	8.2
US	7.1
EM	1.4
China	0.8
Japan	0.6

20+YR (3M LCY)
Germany	17.2
UK	15.8
US	13.4
Climate WGBI	11.8
WGBI	11.4
EM	4.4
China	3.6
Japan	0.6

[YTD JPY] [YTD LCY]

1-3YR (YTD JPY)
UK	17.2
Germany	13.7
Climate WGBI	11.7
WGBI	11.6
US	11.5
EM	11.4
China	7.5
Japan	0.1

1-3YR (YTD LCY)
US	4.4
EM	4.0
WGBI	3.8
Climate WGBI	3.6
UK	3.5
Germany	2.8
China	2.7
Japan	0.1

7-10YR (YTD JPY)
UK	20.0
Germany	18.5
Climate WGBI	14.7
EM	14.4
WGBI	13.9
US	11.0
China	9.9
Japan	0.9

7-10YR (YTD LCY)
EM	7.3
Germany	7.2
Climate WGBI	6.2
UK	6.0
WGBI	5.7
China	5.0
US	3.9
Japan	0.9

20+YR (YTD JPY)
Germany	19.8
EM	15.7
China	15.0
UK	14.3
Climate WGBI	12.0
WGBI	11.6
US	10.4
Japan	-0.4

20+YR (YTD LCY)
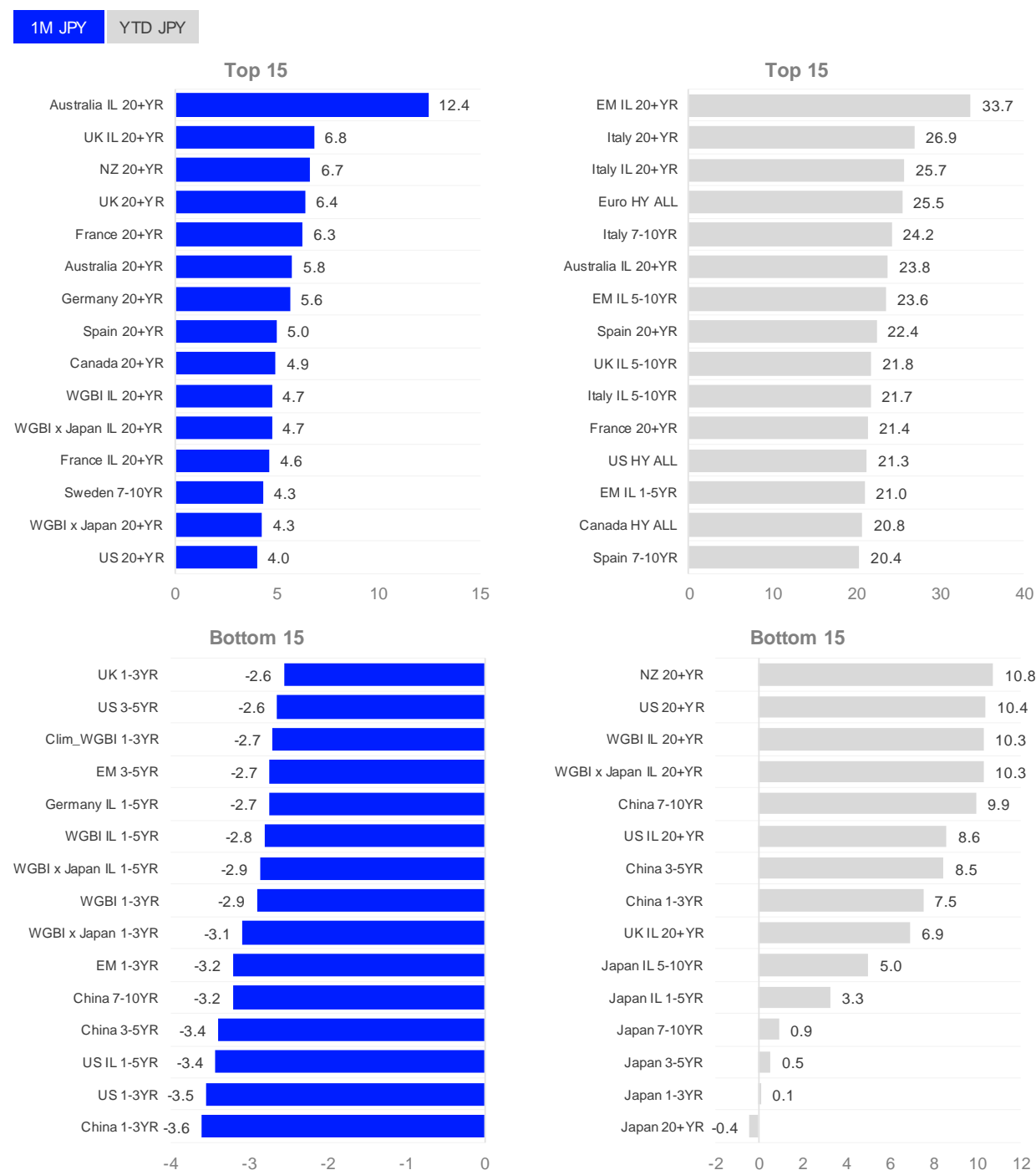|	
China	9.8
EM	9.4
Germany	8.3
Climate WGBI	4.9
WGBI	4.7
US	3.3
UK	1.0
Japan	-0.4

Source: FTSE Russell and Refinitiv. All data as of December 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 Indexes. See Appendix Glossary for list of indexes used for each market. For professional investors only.

Top and Bottom Bond Returns − 1M & YTD % (JPY, TR)

December returns show the impact of (1) the decline in yields on long duration govt bonds, and (2) yen strength vs dollar weakness after the Fed pivot. Nearly all Top 15 performers are long bonds, led by Australasian and UK linkers. YTD returns show long EM linkers outperformed with returns of 34% in yen terms. Italian govts and Euro HY also returned 24-27%.

The Fed pivot drove expectations of similar moves by other central banks, and 1M returns of 5-12% in Australasian and European bonds in yen, as duration boosted returns. However, Yen appreciation in December reduced returns in yen terms.

Longer EM inflation-linked, Italian bonds, and high yields outperformed in 2023, while the Bottom 15 returns mostly comprise Japanese and Chinese government bonds. High yield credit performed strongly, led by Eurozone HY.

`[1M JPY]` `[YTD JPY]`

Top 15 (1M JPY)

Index	Return
Australia IL 20+YR	12.4
UK IL 20+YR	6.8
NZ 20+YR	6.7
UK 20+YR	6.4
France 20+YR	6.3
Australia 20+YR	5.8
Germany 20+YR	5.6
Spain 20+YR	5.0
Canada 20+YR	4.9
WGBI IL 20+YR	4.7
WGBI x Japan IL 20+YR	4.7
France IL 20+YR	4.6
Sweden 7-10YR	4.3
WGBI x Japan 20+YR	4.3
US 20+YR	4.0

Top 15 (YTD JPY)

Index	Return
EM IL 20+YR	33.7
Italy 20+YR	26.9
Italy IL 20+YR	25.7
Euro HY ALL	25.5
Italy 7-10YR	24.2
Australia IL 20+YR	23.8
EM IL 5-10YR	23.6
Spain 20+YR	22.4
UK IL 5-10YR	21.8
Italy IL 5-10YR	21.7
France 20+YR	21.4
US HY ALL	21.3
EM IL 1-5YR	21.0
Canada HY ALL	20.8
Spain 7-10YR	20.4

Bottom 15 (1M JPY)

Index	Return
UK 1-3YR	-2.6
US 3-5YR	-2.6
Clim_WGBI 1-3YR	-2.7
EM 3-5YR	-2.7
Germany IL 1-5YR	-2.7
WGBI IL 1-5YR	-2.8
WGBI x Japan IL 1-5YR	-2.9
WGBI 1-3YR	-2.9
WGBI x Japan 1-3YR	-3.1
EM 1-3YR	-3.2
China 7-10YR	-3.2
China 3-5YR	-3.4
US IL 1-5YR	-3.4
US 1-3YR	-3.5
China 1-3YR	-3.6

Bottom 15 (YTD JPY)

Index	Return
NZ 20+YR	10.8
US 20+YR	10.4
WGBI IL 20+YR	10.3
WGBI x Japan IL 20+YR	10.3
China 7-10YR	9.9
US IL 20+YR	8.6
China 3-5YR	8.5
China 1-3YR	7.5
UK IL 20+YR	6.9
Japan IL 5-10YR	5.0
Japan IL 1-5YR	3.3
Japan 7-10YR	0.9
Japan 3-5YR	0.5
Japan 1-3YR	0.1
Japan 20+YR	-0.4

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Government Bond Returns

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

Top 15% | Bottom 15%

		3M		6M		YTD		12M	
		Local	YEN	Local	YEN	Local	YEN	Local	YEN
US	1-3YR	2.52	-3.14	3.27	0.73	4.35	11.50	4.35	11.50
	7-10YR	6.58	0.70	1.88	-0.63	3.92	11.04	3.92	11.04
	20+YR	13.36	7.10	-1.34	-3.77	3.32	10.40	3.32	10.40
	IG All	8.32	2.33	5.24	2.65	8.71	16.16	8.71	16.16
	HY All	6.94	1.03	7.51	4.86	13.50	21.28	13.50	21.28
UK	1-3YR	2.56	1.20	5.01	2.70	3.52	17.22	3.52	17.22
	7-10YR	7.99	6.56	9.40	7.00	6.00	20.03	6.00	20.03
	20+YR	15.81	14.27	7.61	5.25	0.98	14.34	0.98	14.34
EUR	IG All	5.58	4.07	5.90	4.59	8.35	19.83	8.35	19.83
	HY All	5.82	4.33	7.97	6.53	13.14	25.45	13.14	25.45
Japan	1-3YR	0.07	0.07	-0.13	-0.13	0.10	0.10	0.10	0.10
	7-10YR	1.56	1.56	-1.07	-1.07	0.92	0.92	0.92	0.92
	20+YR	0.63	0.63	-8.07	-8.07	-0.41	-0.41	-0.41	-0.41
China	1-3YR	0.72	-2.00	1.07	0.98	2.67	7.53	2.67	7.53
	7-10YR	1.68	-1.07	2.06	1.96	4.98	9.94	4.98	9.94
	20+YR	3.57	0.77	4.79	4.69	9.79	14.99	9.79	14.99
EM	1-3YR	1.18	-1.29	1.80	1.24	4.04	11.35	4.04	11.35
	7-10YR	3.70	0.81	2.56	1.47	7.33	14.44	7.33	14.44
	20+YR	4.37	1.42	4.01	3.68	9.38	15.66	9.38	15.66
	IG All	5.93	0.08	4.28	1.71	7.56	14.93	7.56	14.93
	HY All	5.08	-0.73	5.09	2.51	6.66	13.97	6.66	13.97
Germany	1-3YR	2.01	0.55	2.58	1.31	2.80	13.69	2.80	13.69
	7-10YR	6.90	5.37	4.54	3.25	7.17	18.52	7.17	18.52
	20+YR	17.18	15.51	3.84	2.55	8.29	19.76	8.29	19.76
Italy	1-3YR	2.72	1.25	3.34	2.06	4.35	15.41	4.35	15.41
	7-10YR	9.17	7.61	5.40	4.10	12.33	24.22	12.33	24.22
	20+YR	16.02	14.37	3.86	2.57	14.78	26.93	14.78	26.93
Spain	1-3YR	2.28	0.82	2.84	1.57	3.41	14.37	3.41	14.37
	7-10YR	8.20	6.65	5.50	4.20	8.84	20.37	8.84	20.37
	20+YR	16.96	15.29	5.97	4.66	10.67	22.39	10.67	22.39
France	1-3YR	2.36	0.90	2.95	1.68	3.48	14.44	3.48	14.44
	7-10YR	7.56	6.02	5.02	3.72	7.76	19.18	7.76	19.18
	20+YR	18.28	16.59	5.71	4.40	9.76	21.38	9.76	21.38
Sweden	1-3YR	2.14	4.02	2.91	7.58	3.16	13.96	3.16	13.96
	7-10YR	8.67	10.68	6.34	11.17	5.52	16.56	5.52	16.56
	20+YR								
Australia	1-3YR	1.84	1.72	2.92	2.91	3.02	10.76	3.02	10.76
	7-10YR	5.24	5.12	3.09	3.08	5.10	12.99	5.10	12.99
	20+YR	10.79	10.67	2.67	2.66	5.07	12.96	5.07	12.96
NZ	1-3YR	3.11	2.65	3.24	4.07	4.73	12.02	4.73	12.02
	7-10YR	9.19	8.71	4.71	5.55	5.87	13.25	5.87	13.25
Canada	1-3YR	3.41	0.17	3.33	1.15	3.94	14.11	3.94	14.11
	7-10YR	8.03	4.64	3.32	1.13	4.79	15.06	4.79	15.06
	20+YR	16.26	12.62	2.66	0.49	7.55	18.08	7.55	18.08

Source: FTSE Russell and Refinitiv. All data as of December 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 Indexes. See Appendix Glossary for list of indexes used for each market. For professional investors only.

Appendix − Historical Bond Yields % as of December 31, 2023

Global Bond Yields

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

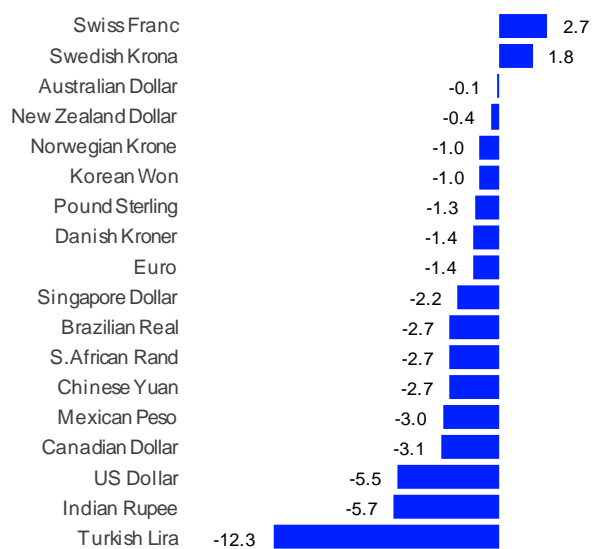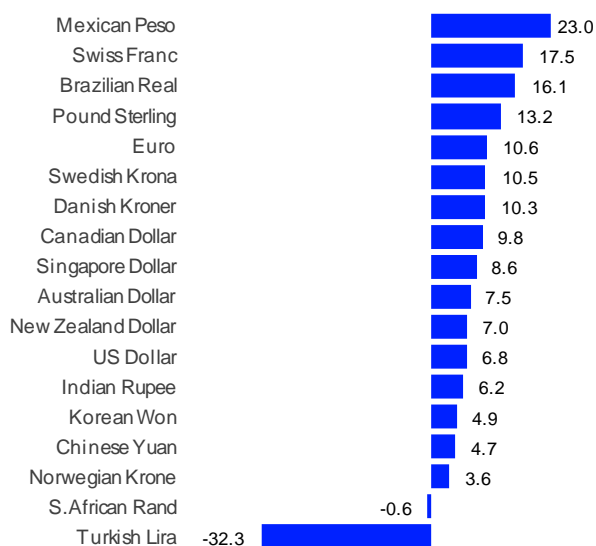|		Conventional government bonds				Inflation-linked bonds			Inv Grade	High Yld
		1-3YR	3-5YR	7-10YR	20+YR	1-5YR	5-10YR	20+YR	All Mat	All Mat
US	Current	4.37	3.92	3.87	4.14	2.20	1.72	1.96	5.11	7.79
	3M Ago	5.16	4.71	4.59	4.82	2.72	2.29	2.37	6.06	8.91
	6M Ago	5.01	4.31	3.85	3.95	2.45	1.72	1.68	5.53	8.58
	12M Ago	4.54	4.13	3.88	4.11	2.09	1.68	1.82	5.50	8.99
UK	Current	3.94	3.45	3.46	4.07	-0.02	-0.02	0.91		
	3M Ago	4.73	4.46	4.35	4.81	0.55	0.53	1.39		
	6M Ago	5.36	5.04	4.38	4.35	1.78	0.72	0.90		
	12M Ago	3.50	3.65	3.69	3.92	-0.68	0.15	0.49		
Japan	Current	0.00	0.13	0.50	1.60	-1.67	-0.81			
	3M Ago	0.01	0.21	0.66	1.61	-1.75	-0.70			
	6M Ago	-0.10	-0.01	0.29	1.21	-1.64	-0.87			
	12M Ago	0.03	0.15	0.48	1.50	-1.22	-0.54			
China	Current	2.18	2.33	2.58	2.90					
	3M Ago	2.24	2.42	2.70	3.06					
	6M Ago	2.09	2.33	2.66	3.08					
	12M Ago	2.28	2.53	2.85	3.26					
EM	Current					4.27	4.23	4.82	5.57	10.03
	3M Ago					3.27	4.48	5.32	6.43	11.01
	6M Ago					4.15	4.07	4.86	5.95	11.86
	12M Ago					2.79	3.04	5.15	5.92	11.40
Germany	Current	2.48	1.97	1.96	2.25	0.92	0.16	0.16		
	3M Ago	3.21	2.78	2.75	2.97	0.87	0.44	0.52		
	6M Ago	3.17	2.66	2.37	2.36	0.96	0.19	-0.06		
	12M Ago	2.56	2.53	2.54	2.51	0.40	0.34	0.18		
Italy	Current	2.99	2.88	3.45	4.17	1.23	1.62	1.88		
	3M Ago	3.94	4.03	4.50	5.02	1.68	2.31	2.43		
	6M Ago	3.79	3.71	3.87	4.25	1.74	1.78	1.70		
	12M Ago	3.34	3.72	4.38	4.72	1.16	2.19	2.18		
France	Current	2.49	2.23	2.43	3.00	0.56	0.32	0.64		
	3M Ago	3.33	3.14	3.26	3.79	0.82	0.75	1.12		
	6M Ago	3.21	2.94	2.85	3.19	0.88	0.47	0.55		
	12M Ago	2.85	2.82	2.97	3.30	0.15	0.44	0.77		
Sweden	Current	2.59	2.04	2.01		1.12	0.59			
	3M Ago	3.50	3.18	2.98		1.42	1.28			
	6M Ago	3.43	2.94	2.61		1.18	0.91			
	12M Ago	2.80	2.65	2.37		-0.24	0.25			
Australia	Current	3.71	3.63	3.90	4.30	0.85	1.27	1.61		
	3M Ago	4.14	4.10	4.43	4.86	1.30	1.78	2.24		
	6M Ago	4.17	3.99	4.02	4.36	1.04	1.47	1.85		
	12M Ago	3.43	3.62	4.01	4.37	0.60	1.45	1.88		
New Zealand	Current	4.71	4.24	4.31	4.60	1.45	2.12			
	3M Ago	5.63	5.35	5.32	5.54	2.50	2.89			
	6M Ago	5.08	4.67	4.61	4.77	1.53	2.15			
	12M Ago	5.00	4.62	4.46	4.54	1.54	2.06			
Canada	Current	3.94	3.26	3.10	3.04	1.31	1.35	1.51		
	3M Ago	4.88	4.37	4.07	3.85	2.35	2.29	2.13		
	6M Ago	4.60	3.84	3.35	3.12	1.90	1.57	1.43		
	12M Ago	4.04	3.50	3.28	3.26	1.53	1.39	1.18		

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Appendix – Duration and Market Value (USD, Bn) as of December 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	**6.1**	2,522.9	1,098.8	1,336.4	**10,868.3**	7.0	21.2	**6.6**	423.2	126.7	**1,253.5**
UK	3.6	7.4	18.8	**9.9**	140.0	190.5	346.2	**1,225.4**	6.9	27.4	**16.5**	113.2	268.0	**684.3**
Japan	3.8	8.0	23.7	**12.0**	378.7	370.5	673.5	**3,117.7**	7.2		**4.5**	21.0		**48.1**
China	3.7	7.6	17.7	**5.6**	595.9	358.8	277.5	**2,426.4**						
EM	3.5	7.0	15.9	**5.6**	894.4	689.4	380.2	**3,966.2**	5.8	13.9	**7.6**	118.7	177.5	**651.7**
Germany	3.8	7.6	20.8	**7.3**	358.5	239.5	185.0	**1,532.5**	7.0	21.5	**8.7**	45.3	19.6	**90.9**
Italy	3.6	7.2	16.4	**6.2**	309.2	305.1	153.0	**1,750.6**	7.5	26.1	**8.1**	63.9	5.6	**173.0**
Spain	3.8	7.7	18.1	**6.8**	211.8	204.7	108.2	**1,143.4**	6.5		**5.8**	24.0		**91.8**
France	3.9	7.6	20.2	**7.5**	330.4	307.2	245.4	**1,954.8**	6.4	24.3	**8.2**	110.9	22.4	**286.4**
Sweden	4.2	7.8		**5.5**	7.1	14.3		**49.2**	5.6		**3.8**	10.7		**22.8**
Australia	3.7	7.5	17.2	**6.8**	48.8	106.8	21.7	**331.3**	6.9	22.3	**7.7**	10.6	2.9	**36.0**
New Zealand	3.6	7.4	17.2	**6.3**	11.1	16.0	2.9	**57.4**	6.0		**8.5**	3.3		**14.7**
Canada	3.7	7.4	20.1	**6.9**	61.5	117.5	69.7	**466.1**	6.7	20.7	**13.6**	8.5	21.1	**51.2**

	Investment grade bonds										High Yield	
	Duration					Market Value					Duration	MktVal
	AAA	AA	A	BBB	Overall	AAA	AA	A	BBB	Overall		
US	10.7	8.6	7.3	6.7	7.1	77.6	459.8	2747.0	3470.9	6755.4	3.9	1034.5
Europe	5.7	4.8	4.6	4.2	4.4	11.2	205.4	1277.8	1553.0	3047.4		
EM		6.1	4.9	5.2	5.1		37.0	218.1	311.3	566.3	3.3	161.1
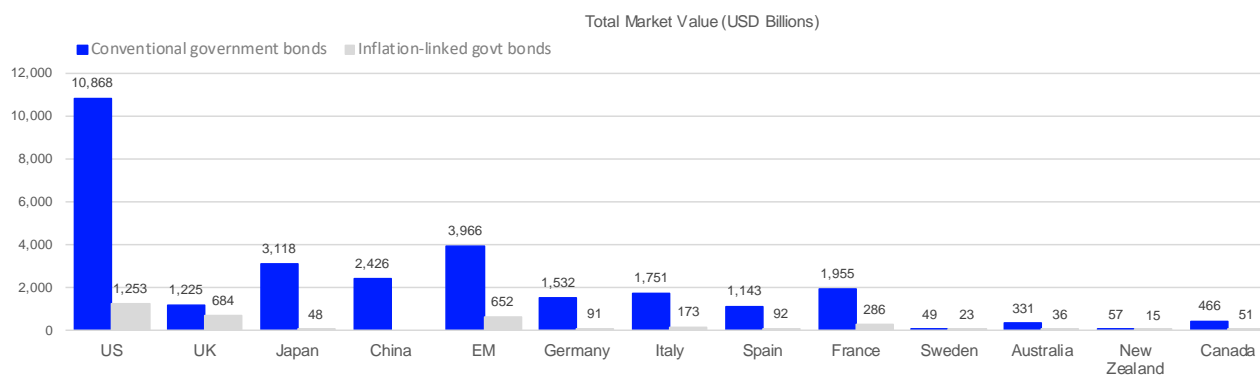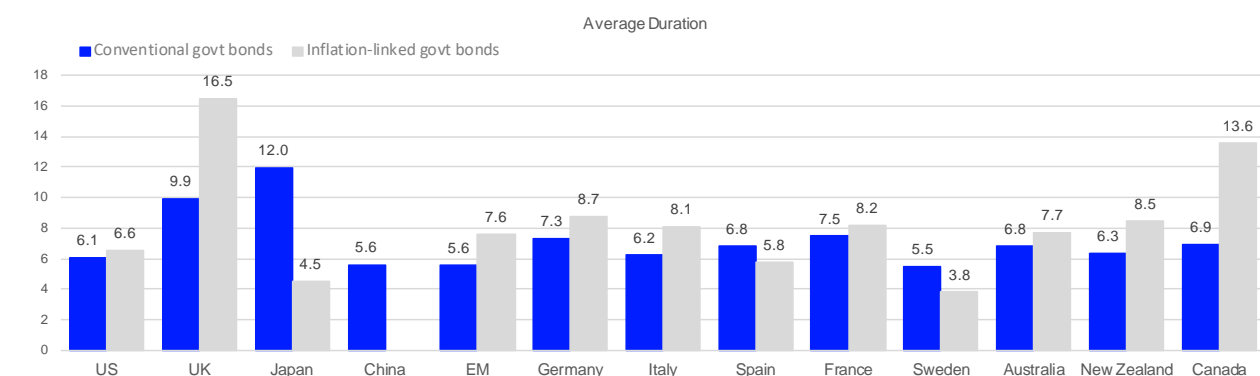
Average Duration

Total Market Value (USD Billions)

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

FX Moves vs JPY - 1M

Currency	Value
Norwegian Krone	1.2
Swedish Krona	-0.8
S.African Rand	-1.2
Swiss Franc	-1.5
Australian Dollar	-1.9
Canadian Dollar	-1.9
Mexican Peso	-2.2
New Zealand Dollar	-2.2
Brazilian Real	-3.2
Danish Kroner	-3.4
Euro	-3.5
Singapore Dollar	-3.5
Pound Sterling	-4.0
Chinese Yuan	-4.1
Indian Rupee	-4.4
Korean Won	-4.5
US Dollar	-4.6
Turkish Lira	-6.8

FX Moves vs JPY - 3M

Currency	Value
Swiss Franc	2.7
Swedish Krona	1.8
Australian Dollar	-0.1
New Zealand Dollar	-0.4
Norwegian Krone	-1.0
Korean Won	-1.0
Pound Sterling	-1.3
Danish Kroner	-1.4
Euro	-1.4
Singapore Dollar	-2.2
Brazilian Real	-2.7
S.African Rand	-2.7
Chinese Yuan	-2.7
Mexican Peso	-3.0
Canadian Dollar	-3.1
US Dollar	-5.5
Indian Rupee	-5.7
Turkish Lira	-12.3

FX Moves vs JPY - YTD

Currency	Value
Mexican Peso	23.0
Swiss Franc	17.5
Brazilian Real	16.1
Pound Sterling	13.2
Euro	10.6
Swedish Krona	10.5
Danish Kroner	10.3
Canadian Dollar	9.8
Singapore Dollar	8.6
Australian Dollar	7.5
New Zealand Dollar	7.0
US Dollar	6.8
Indian Rupee	6.2
Korean Won	4.9
Chinese Yuan	4.7
Norwegian Krone	3.6
S.African Rand	-0.6
Turkish Lira	-32.3

FX Moves vs JPY - 12M

Currency	Value
Mexican Peso	23.0
Swiss Franc	17.5
Brazilian Real	16.1
Pound Sterling	13.2
Euro	10.6
Swedish Krona	10.5
Danish Kroner	10.3
Canadian Dollar	9.8
Singapore Dollar	8.6
Australian Dollar	7.5
New Zealand Dollar	7.0
US Dollar	6.8
Indian Rupee	6.2
Korean Won	4.9
Chinese Yuan	4.7
Norwegian Krone	3.6
S.African Rand	-0.6
Turkish Lira	-32.3

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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FTSE Russell is a leading global provider of index and benchmark solutions, spanning diverse asset classes and investment objectives. As a trusted investment partner we help investors make better-informed investment decisions, manage risk, and seize opportunities.

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