# Fixed Income Insights

MONTHLY REPORT – **NOVEMBER 2023 | JAPAN EDITION**

FOR PROFESSIONAL INVESTORS ONLY

## Yen weakness persists but the BoJ edges closer to ending curve control

Wide dispersion of growth and inflation rates within the G7 shows little sign of ending, with disinflation in both Japan and China. But the BoJ relaxed curve control further to reduce pressure on the yen, and the disruptive scale of JGB buying to defend the 1% target. This signals more BoJ confidence in sustainably higher inflation.

**Macro and policy backdrop – Japan growth outlook upgraded on tourism and auto export recoveries**

The IMF upgraded Japan's 2023 growth forecasts to 2%, although disinflation resumed. The Bank of Japan relaxed its yield curve control policy on higher Treasury yields but maintained the -0.1% short term cash rate. (pages 2-3)

**Yields, curves and spreads – Signs of capitulation in long Treasury sell-off, as US sovereign spreads widen**

Longer Treasuries led G7 yields higher in October, reflecting strong US growth, with little sign of safe haven buying. The JGB curve steepened on higher long yields, as the market anticipated loosening of the 10-year yield cap at end-October. (pages 4-5)

**Credit and MBS analysis –**

(page 6)

**Sovereign and climate bonds – Sovereign re-weighting drove WGBI spreads tighter versus climate-WGBI**

Japan's reduced overweight in the Climate WGBI and an increase in UK's overweight notable in the June re-weightings, after the UK issued more green gilts. (page 7)

**Performance – Another weak month for longs in October led by the US, gilts and JGBs. The Yen weakened again.**

Long Treasuries lost 4-5.5% in October, as the curve disinverted. China and EM remained safe havens. (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: Yields increased most in the US, followed by Japan and UK. Nominal bund yields fell, helped by lower inflation expectations.

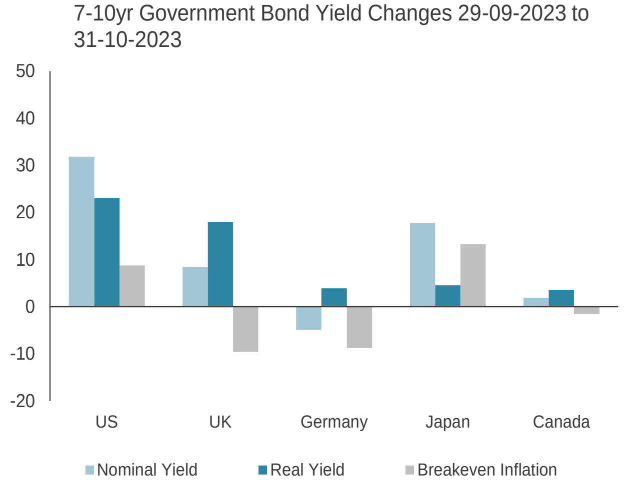
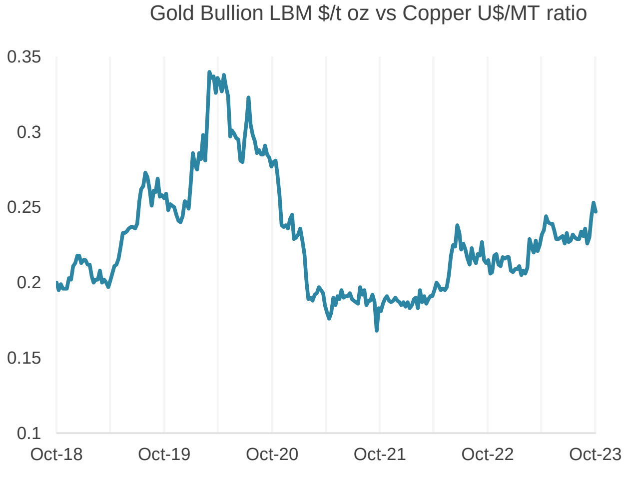



Chart 2: There was a modest safe haven effect in the gold price increasing relative to copper, in October, but the move was modest.

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# Macroeconomic Backdrop – Growth and Inflation Expectations

**IMF forecasts reflect the dispersion in GDP growth globally, with stronger US growth in Q3 driven by strong consumer spending, as the savings ratio fell to a post-Covid low of 3.8%. Disinflation has largely stalled, exc. Japan, but outright deflation fears continue in China. Wage growth forecasts are positive in Japan, despite less momentum in wage iinflation. Evidence of global economic and geo-political fragmentation may be a factor in dispersion of growth and inflation rates.**

Overall, stronger North American growth but weaker European and Asian growth continued in Q3, due to the greater severity of the 2022-23 energy shock in Europe, particularly. Latest IMF forecasts reflect this (Chart 1). Japanese 2023 growth forecast was revised upward by the IMF to 2%, helped by pent-up demand, inbound tourism bouncing-up, and auto exports recovery.

G7 September inflation data was again mixed, with disinflation stalling in the US and UK, but resuming elsewhere. Japan's core CPI increased 2.8% y/y in September, the lowest inflation rate since August 2022, helped by lower increases in food prices (exc. fresh food). Slower Japanese inflation suggests companies may not be able to pass on production costs to customers (Chart 2).

The Japanese labor market has cooled from the cash earnings growth in Q2, with y/y growth declining to 0.8%. But the unemployment rate stayed low and settled at 2.6% in September. Wage inflation keeps lagging the CPI, despite disinflation resuming, reducing pressure on the Bank of Japan to abandon its ultra-loose monetary policy anytime soon (Chart 3).

Globalisation has stalled since the GFC, defined as import shares in global GDP, as Chart 4 shows, after a period of rapid growth between 1990 and 2008, helped by trade tariff reductions and EM economies supplying cheaper tradeable goods. Forecasts of a rapid decline in global trade post-Covid have not materialized, but evidence of policy-induced global economic fragmentation (eg, Brexit, Ukraine war) may be a factor in the higher dispersion of growth and inflation rates in this cycle.

Chart 1: The IMF's October growth forecasts upgraded the US outlook, after the consumer's resilience, and the Japanese outlook as tourism, auto exports, and easing policies are boosters.

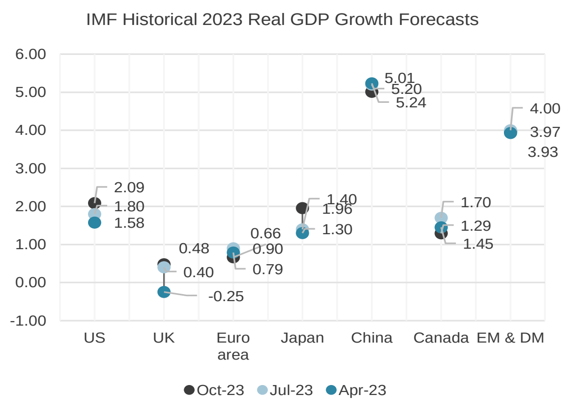



Chart 2: US and European disinflation has stalled, as consumer demand remained robust, notably in the US. However, disinflation resumed in Asia, including in Japan, amidst Chinese deflation fears.

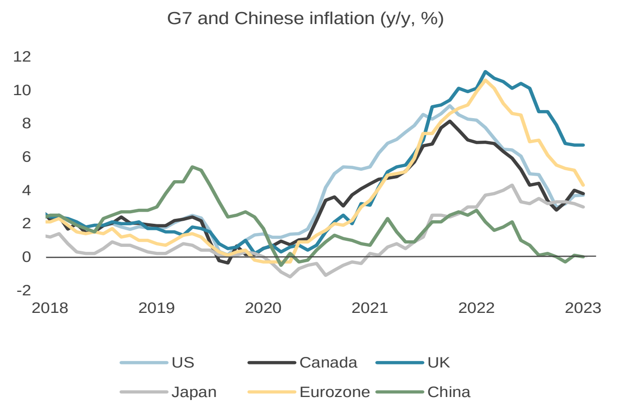



Chart 3: Negative real wage growth reduces pressure on the BoJ to drop its loose policy soon. The unemployment rate fell to 2.6%, boosting hopes of sustainably higher wage growth.

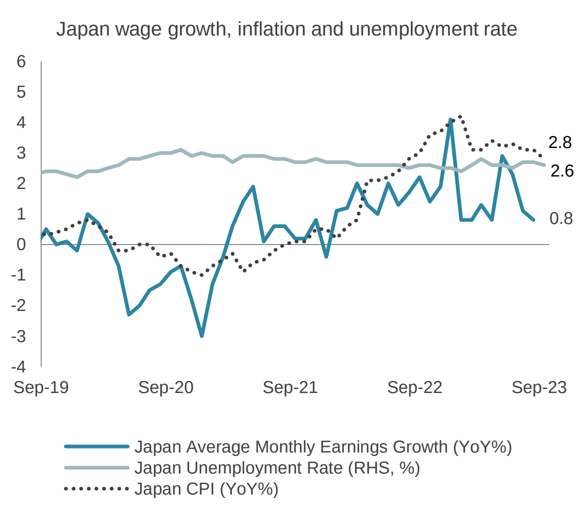
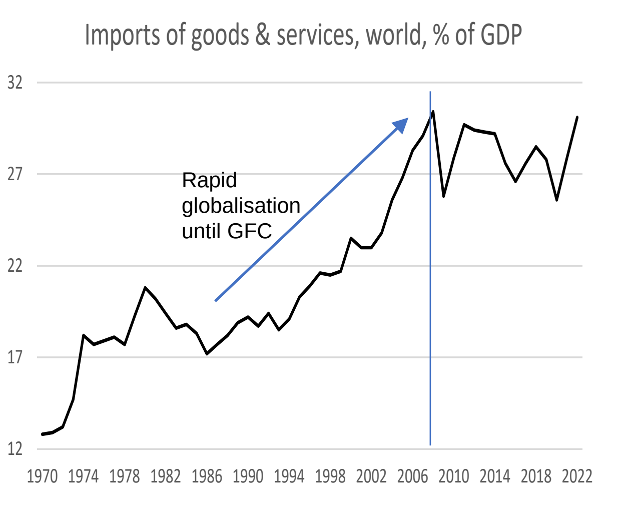



Chart 4: A golden era for globalization, helped by trade deals, ended in the GFC, when growth collapsed. More recent economic fragmentation may have contributed to higher dispersion in growth rates and inflation.

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## Financial Conditions and Monetary Policy Settings

**Japan retains relatively easy financial conditions, helped by modest money supply growth, relative to other G7 members, most of which have seen negative M2 growth. The US dollar stabilised after the Q3 rally, though the yen and renminbi remain vulnerable to rate differentials. The BoJ relaxed yield curve control further by loosening the 10-year yield cap. Foreign holdings of US Treasuries increased in 2023, despite fears of a buyer's strike.**

Japanese money supply increased 2.4% y/y in September, despite a multi-year low m/m growth (Chart 1). Japan's positive M2 growth contributes to easy financial conditions, accompanied by lower interest rates and expanding government bond buying, in contrast to negative M2 growth in other G7 nations after monetary tightening and balance sheet contractions.

After the surge in Q3, the US dollar stabilised in October, although the yen and RMB remained close to 2023 lows, as inflation weakened and rate differentials remained adverse. Higher ECB rates in September may have also helped the Euro. Sterling's rally in H1, 2023 reversed in Q3, as the BoE paused tightening and stagflation risks weigh on the currency (Chart 2).

While the BoJ continues with monetary easing, maintaining the short-term policy rate at -0.1% (Chart 3), it relaxed Yield Curve Control (YCC) by effectively removing the 10-year JGB yield cap of 1%. Inflation persistently above the 2% target in 2023, yen weakness, and signs of higher wage inflation drove a BoJ policy shift in October, which would also reduce JGB purchases.

Foreign holdings of US Treasuries increased in 2022-23, despite fears higher US Treasury yields reflect overseas selling (Chart 4). Declines in Chinese and Japanese holdings may be due to dollar sales to support the yen and RMB. Increases in European holdings are marked since Covid, and may reflect yield differentials in favour of US Treasuries.

Chart 1: Japan's M2 growth y/y held up well at 2.4%, although the m/m growth lost momentum in September. Positive and stable money supply growth is expected to be required to meet growth and inflation targets.

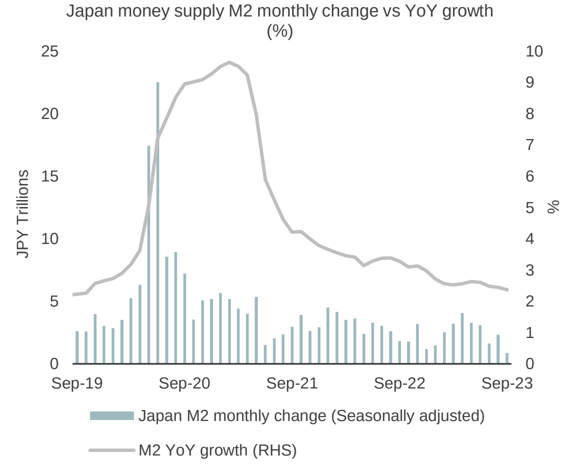


Chart 2: The US dollar stabilised in October, after Q3's rally, despite strong growth data. Lower inflation and lower interest rates weighed on the yen and renminbi, while the Euro gained from higher rates.

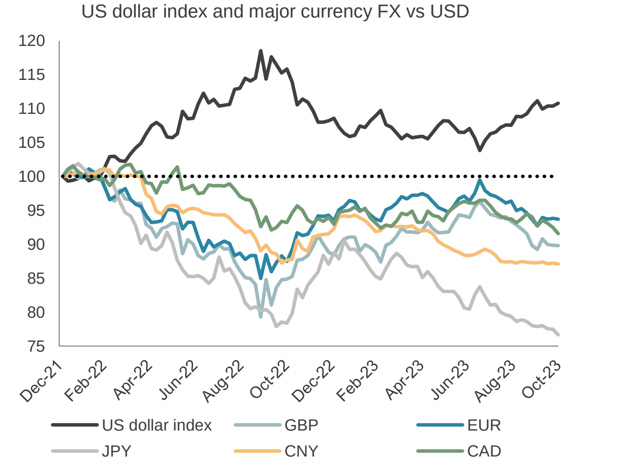


Chart 3: The BoJ shifted away from strictly capping 10-year JGB yields at 1%, as Japan may be nearing its goal of sustainable inflation. Ending curve control may improve JGB market functioning.

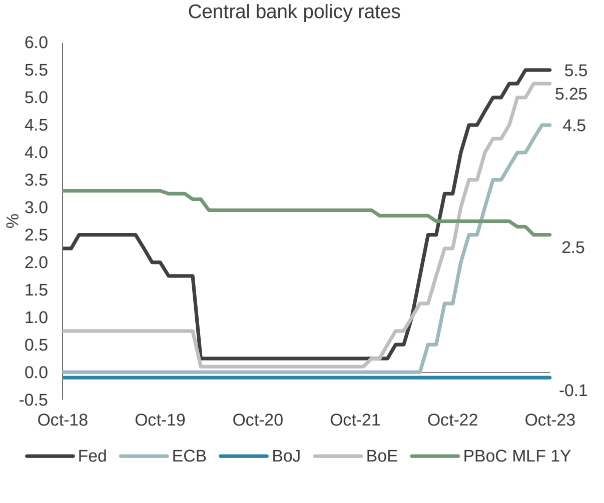


Chart 4: Foreign holdings of US Treasuries increased overall in 2022-23 with total foreign holdings now about 33% of issuance. Chinese holdings fell sharply suggesting official sales to support the RMB.


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# Global Yields, Curves and Breakevens

Chart 1: The US led yields higher in October, with the 10 yr trading briefly above 5%, in signs of a capitulation trade, with little evidence of safe haven buying of govt bonds, despite conflict in the middle east.

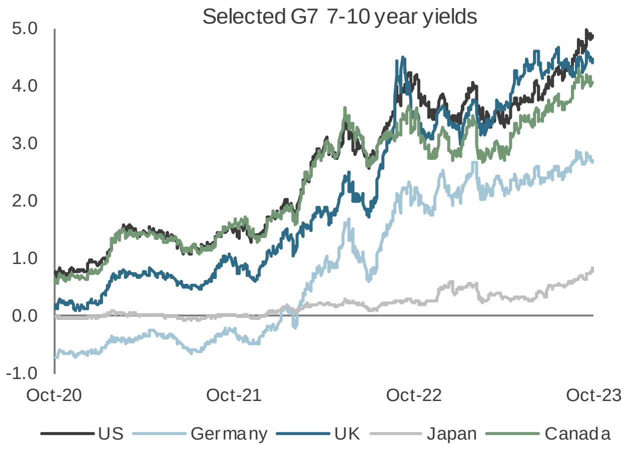



Chart 2: US Tips led other real yields higher, though US moves were more marked. JGB yields largely resisted upward pressure, but may change courses after the BoJ relaxed YCC. UK linkers range traded.

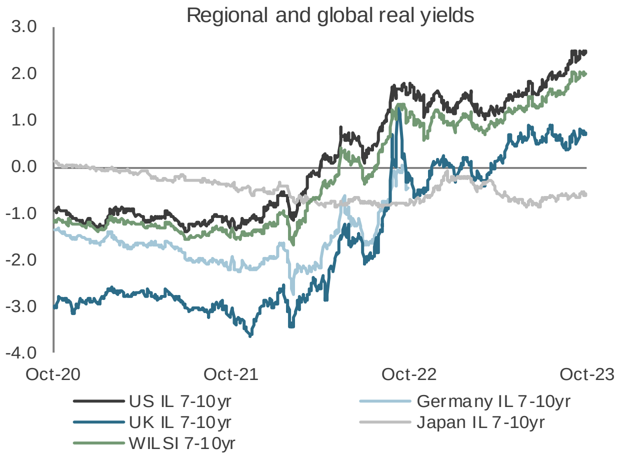



Chart 3: Curves oscillated, awaiting central bank policy decisions, with a bias towards dis-inversion, as 7-10 yr yields rose in October. The JGB curve steepened as markets mulled the end of curve control.

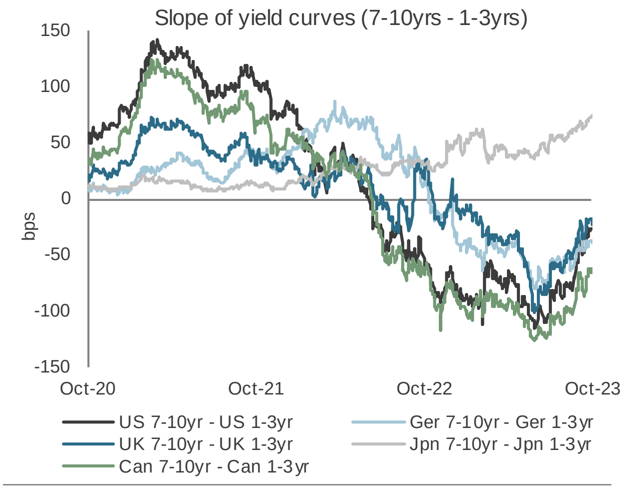



Chart 4: Apart from Canada, long yields have risen steadily versus short in recent months, as the higher for longer narrative has taken a grip of markets, and re-investment concerns have eased.

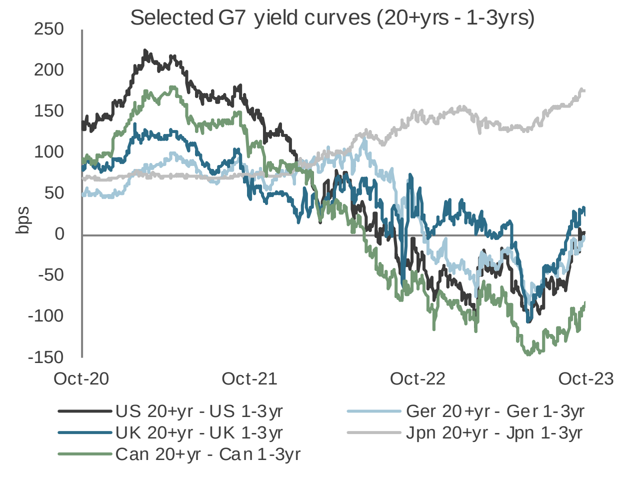



Chart 5: Breakevens edged higher in some markets in Q4, though moves are modest compared to the Ukraine spike in 2022. JGB breakevens are at post-Covid highs, but well below the 2% inflation target.

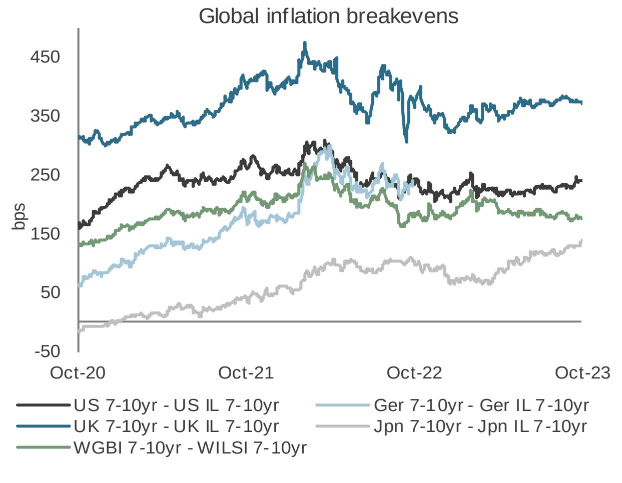
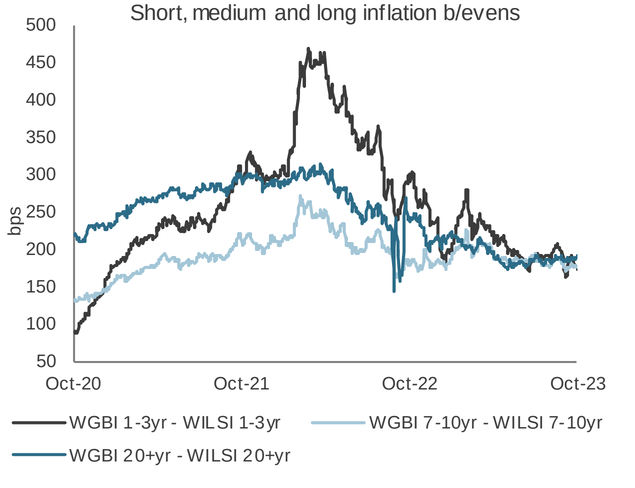



Chart 6: Global inflation breakevens of all tenors remain stable at around 2%. Neither the rebound in oil prices in Q3 nor the recent conflagration in the middle east de-stabilised inflation expectations.

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# Yield Spread and Credit Spread Analysis

Chart 1: The spike in Treasury yields in October, caused sovereign spreads to widen, as other markets moved less. US Treasuries trade above gilt yields again, as they did in most of the post-GFC period.

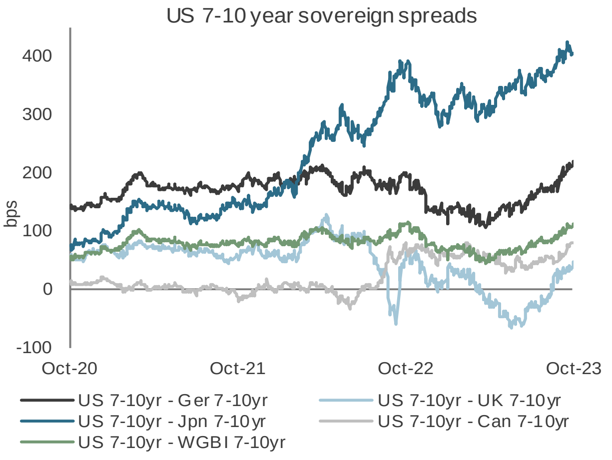



Chart 2: 7-10-year Italian sovereigns now trade through Treasuries again, after the US yield spike in October, but spreads moved out versus Bunds and other markets, showing the normal pro-cylicality.

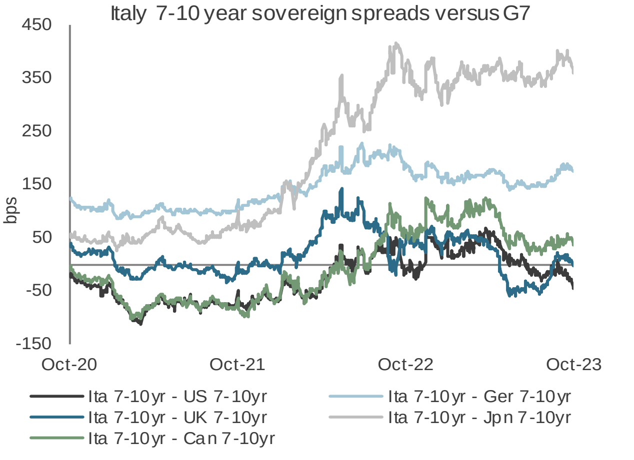



Chart 3: Helped by lower Chinese spreads, EM spreads remain at, or near post-Covid lows, benefitting from earlier counter-inflation policy than the G7. EM 7-10 yr spreads versus the US are now close to zero.

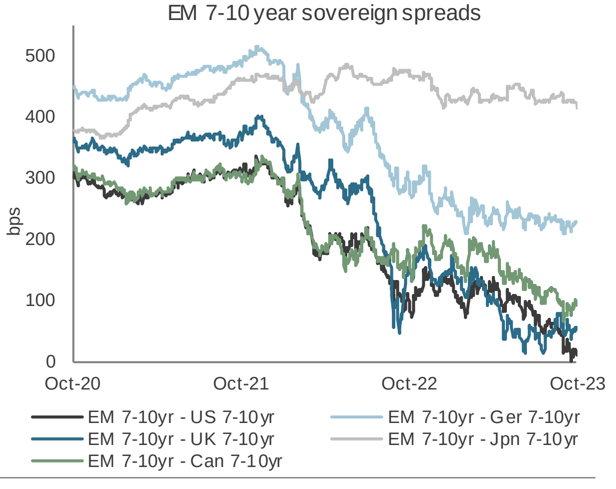



Chart 4: Chinese govt bonds now trade well through Treasuries and other G7 markets, apart from JGBs and Bunds. Divergence in policy rates and inflation performance are the main drivers.

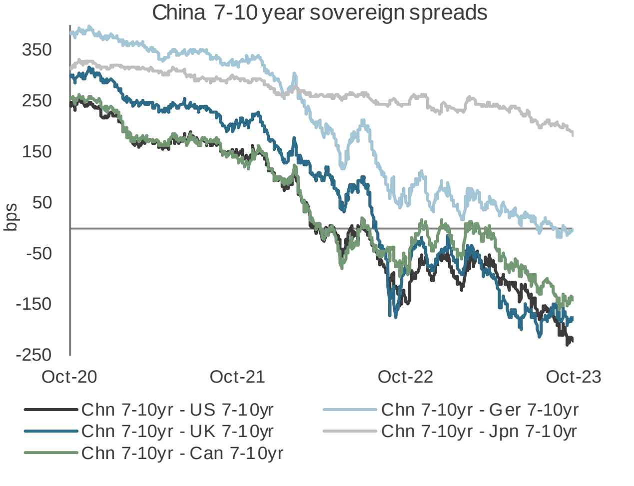



Chart 5: After a long period of tightening, HY spreads spiked higher in October, with Eurozone HY spreads moving more. IG spreads moved less in October, and remain relatively cheaper.

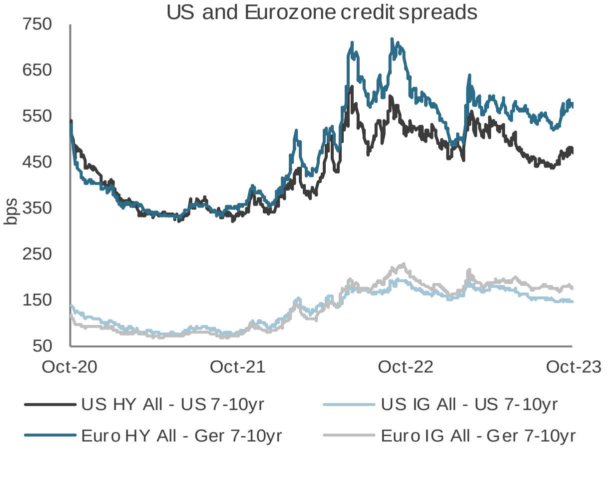
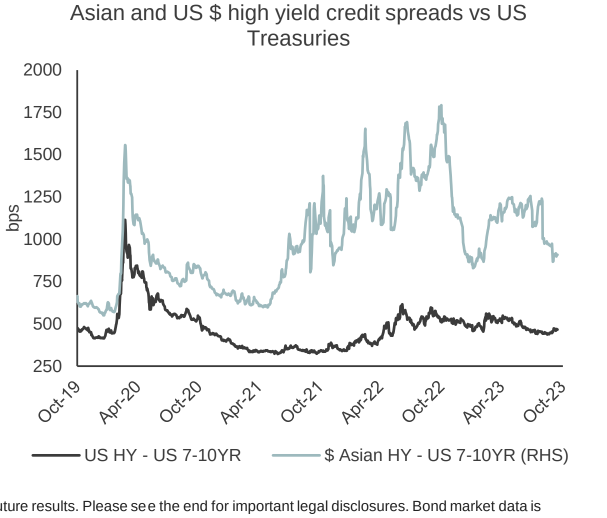



Chart 6: Asian $ HY spreads eased to 900bps by end-October, although remaining much wider and more volatile than US HY spreads post-Covid.

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## Credit sector and MBS analysis

Chart 1: US credit sector spreads show signs of a recovery in commercial real estate, since the Q1 banking crisis, and technology outperformance on AI. Industrials benefited from the growth pick-up.

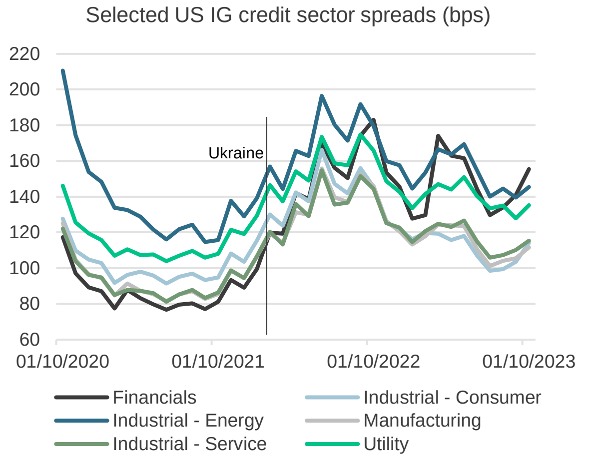



Chart 2: Euro credit sector spreads show the impact of the Ukraine war on the insurance sector. Consumer credits have outperformed, and bank spreads have narrowed on higher rates.

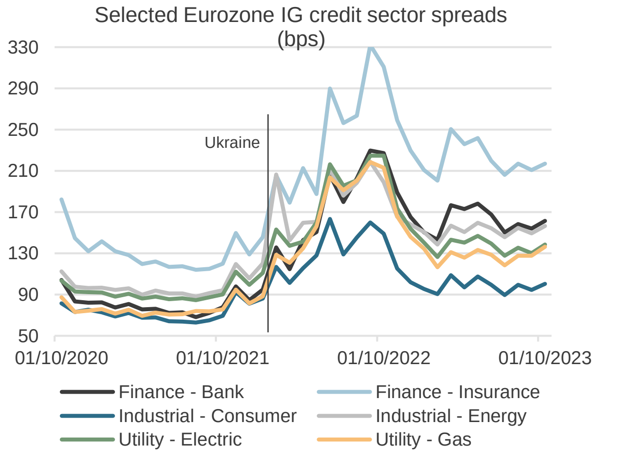



Chart 3: UK IG credit spreads rose with gilt yields in 2022, but unwound some of this in 2023, as has the spike in insurance sector spreads on the Ukraine war. Consumer credits trended lower in 2023.

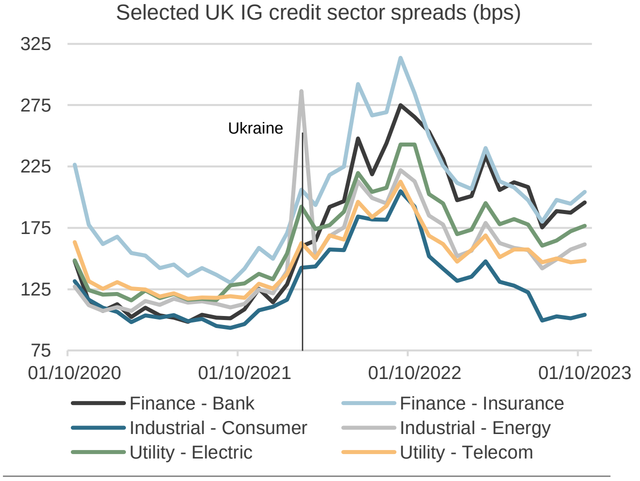



Chart 4: US agency-MBS traded through 7-10-year Treasuries in the early Covid period, driven by aggressive Fed QE. RMBS spreads widened further in October, despite the sharp rise in Treasury yields.

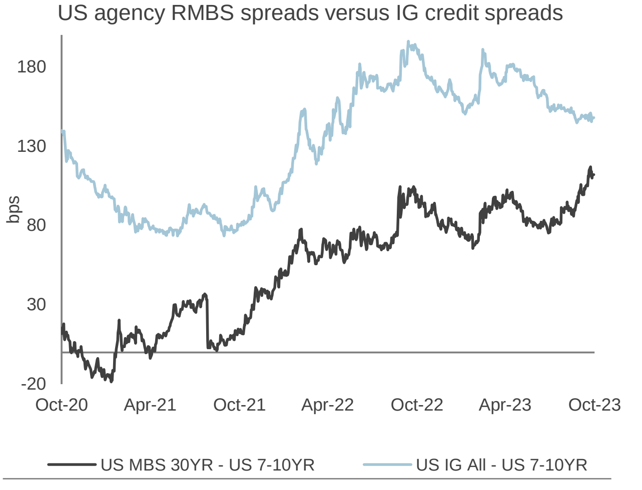



Chart 5: Mortgage refinancings and prepayments have collapsed in 2022-23, as the Fed raised rates steadily, leaving mortgage holders on lower borrowing rates no incentive to refinance mortgages.

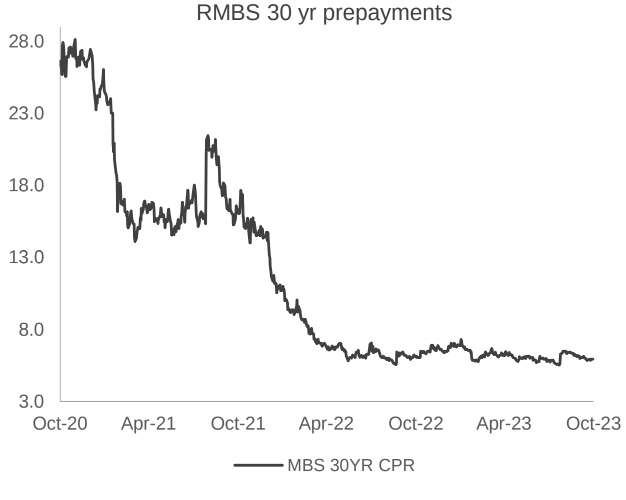
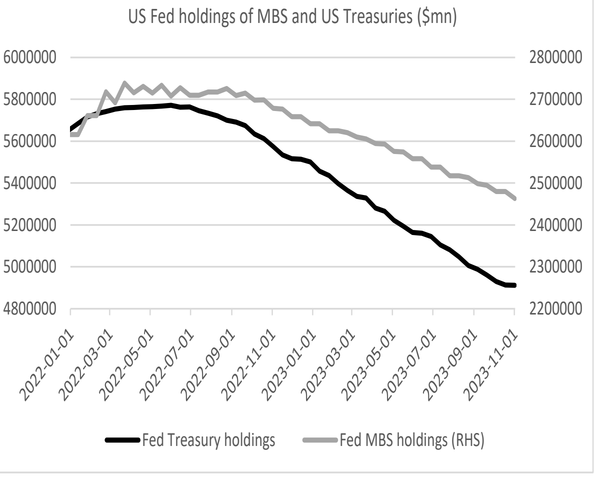



Chart 6: Fed holdings of MBS have fallen at a slower pace than US Treasuries, since QT began in 2022. This partly reflects slow MBS prepayments for low coupons, and the Fed's coupon stack.

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## Sovereign and Climate Bonds Analysis

Chart 1: Since the bear market in bonds developed in early 2022, climate WGBI has underperformed WGBI, due to the extra duration. US underperformance of late has narrowed the performance gap.

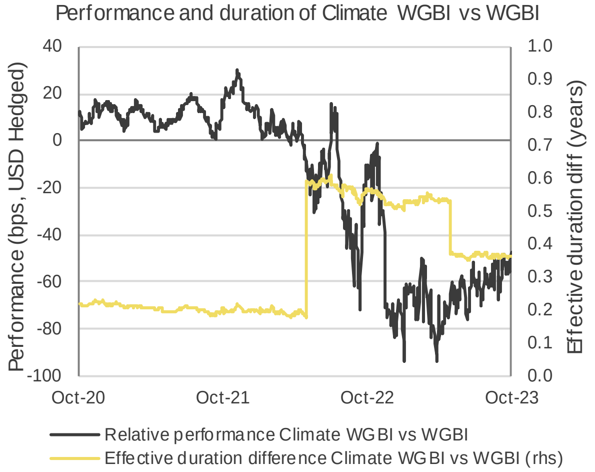



Chart 2: US underweight in the Climate WGBI fell in July's re-weighting, reducing the duration difference vs WGBI. China's 15% underweight prevented lower Chinese yields impacting Climate-WGBI significantly.

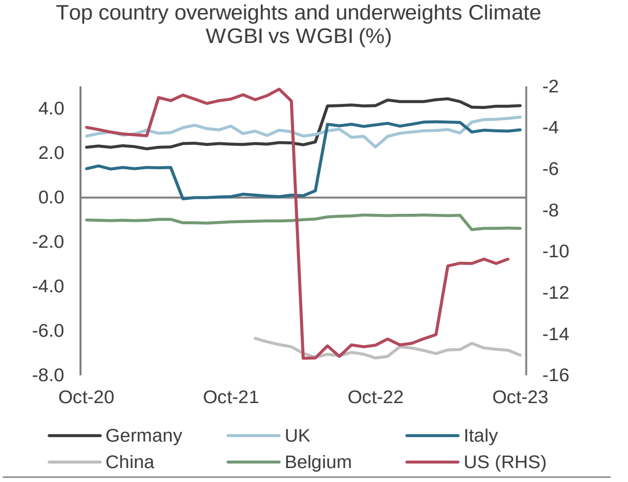



Chart 3: The increase in JGB yields in 2023 and high Japan country weight drove Climate-WGBI yields higher, versus WGBI, though climate-WBI yields remain lower, even if the 'greenium' is modest.

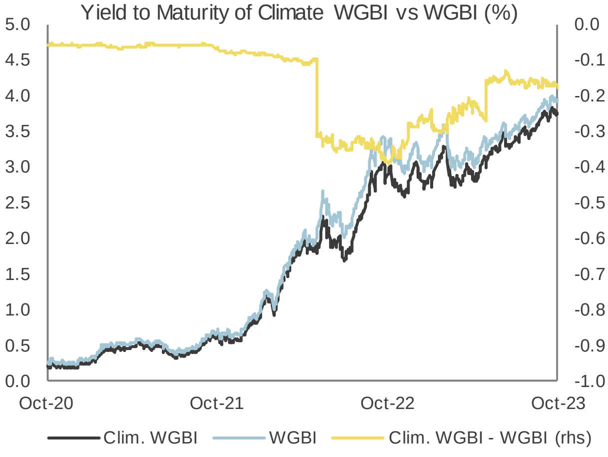



Chart 4: Climate WGBI's higher weighting in the Eurozone gives the index higher AAA weight, with Bunds rated AAA, but the lower US weighting in climate WGBI means the AA weight is notably lower.

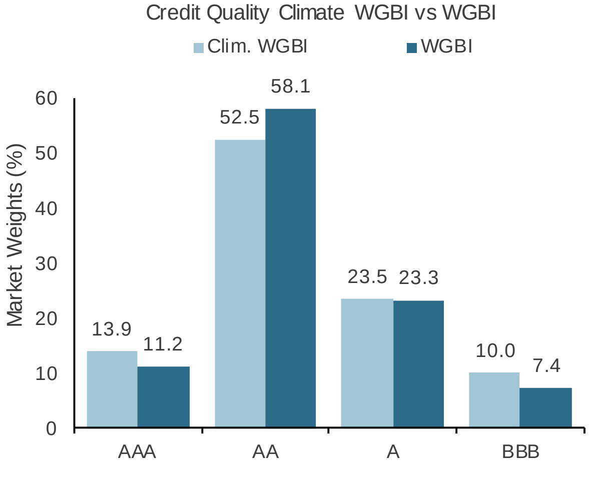



Chart 5: Yield curves in climate WGBI and WGBI remain extremely flat, with yields converging at about 3.5% for both medium maturities and longs, squeezing out most of the 'greenium' in Climate WGBI.

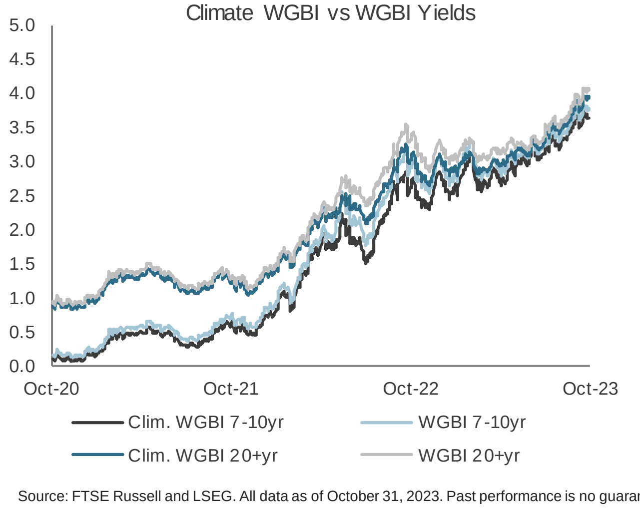
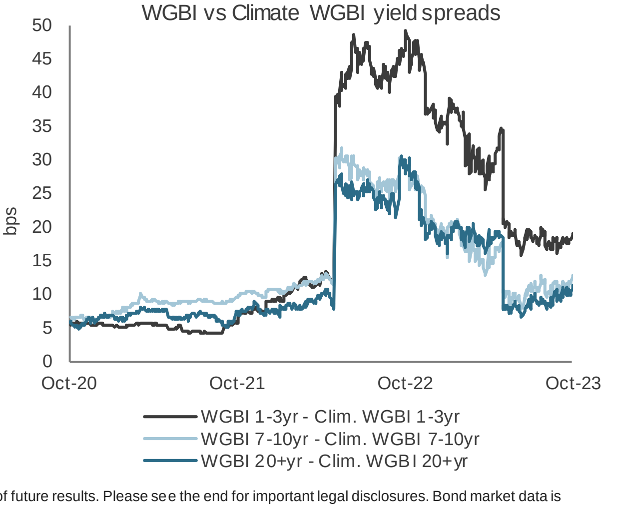



Chart 6: Unlike mediums and longs, where spreads are tight, WGBI short yields are further above the climate WGBI, reflecting Japan's zero rate policy and high weighting in the climate WGBI.

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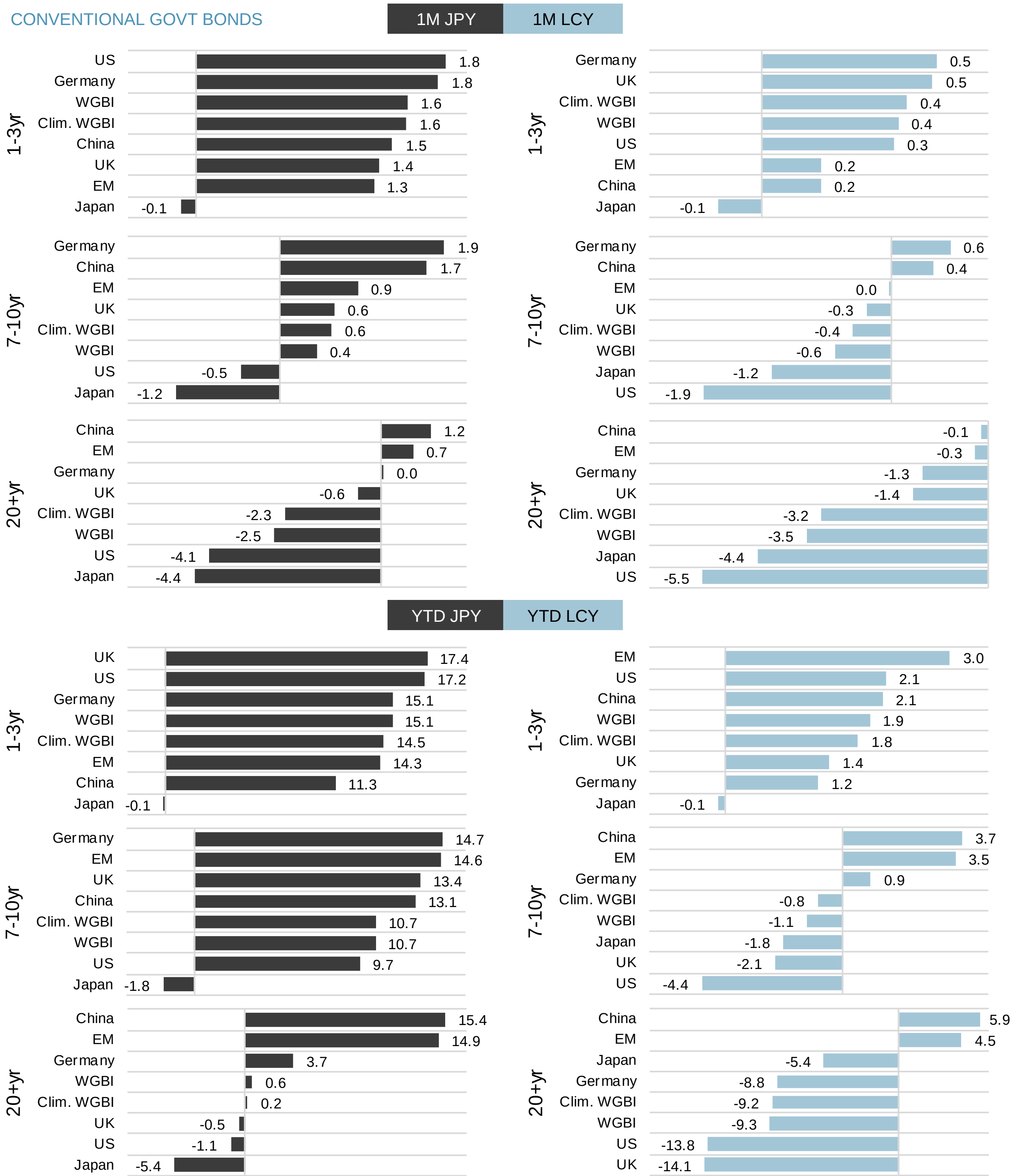
## Global Sovereign Bond Returns − 1M and YTD % (JPY & LC, TR)

**Longer maturity governments bore the brunt of the October sell-off, led by US Treasuries, gilts and JGBs, where losses reached 4.4%, for a yen investor. Speculation about the end of BoJ curve control hit longer JGBs. Chinese and EM bonds again proved safe havens, and currencies stabilized versus the US dollar. YTD, long gilts and JGBs have lost 5-14%.**

Signs of a capitulation trade emerged in US Treasuries at one point in October, as 10-year yields spiked above 5%, though the market rallied, to leave losses at 2% for the month in US dollars. Shorter bonds offered returns of up to 2% in yen terms.

A persistent weakness in yen has boosted bond returns up to 17% for a yen investors, YTD, led by short gilts and Treasuries. Higher running yields have bolstered short dated returns. Chinese and EM gained 11-15% across the curve. JGBs losses dwarf all other markets in yen terms, as losses in gilts and Treasuries were offset by currency effects.

CONVENTIONAL GOVT BONDS

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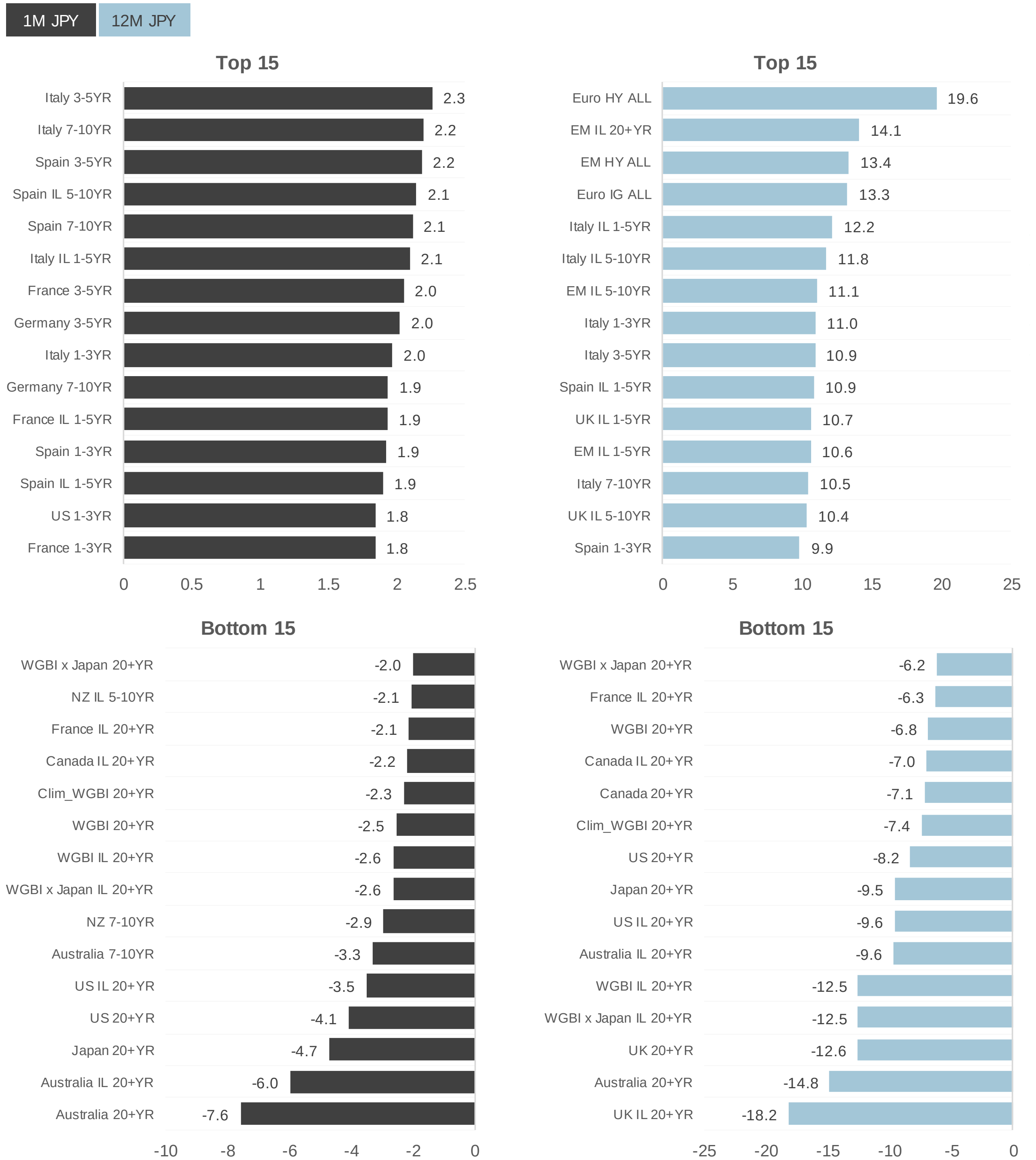
# Top and Bottom Bond Returns – 1M & 12M % (JPY, TR)

**Shorter dated European govts and Treasuries escaped the sell-off in longs in October and showed gains of about 2% in yen terms. 12-month returns capture a recovery in the Euro, with the dollar peaking in October 2022, and strong performance of Euro HY and EM linkers. But long gilts and linkers have fallen further in 2023, with losses of 6-18%.**

The de-coupling of credit, particularly HY, from losses in govt bonds over the last 12M is shown in the top 15, with EM and Euro HY gaining 13-20% in yen terms. All bottom 15 performers are 20+ yr issues, although losses are more modest in long Euro linkers.

Euro credit returns eclipsed the US on 12 months, helped by the Euro's recovery, for a yen investor. IG Euro credits returned 13%.

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

### Government Bond Returns

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

| | | 3M | | 6M | | YTD | | 12M | |
|---|---|---|---|---|---|---|---|---|---|
| | | Local | YEN | Local | YEN | Local | YEN | Local | YEN |
| US | 1-3YR | 0.73 | 7.37 | 0.25 | 11.50 | 2.14 | 17.24 | 2.94 | 4.89 |
| | 7-10YR | -5.68 | 0.54 | -8.78 | 1.46 | -4.38 | 9.75 | -2.40 | -0.55 |
| | 20+YR | -15.68 | -10.12 | -20.02 | -11.05 | -13.85 | -1.12 | -9.95 | -8.25 |
| | IG All | -5.13 | 1.12 | -5.84 | 4.73 | -1.61 | 12.93 | 2.80 | 4.74 |
| | HY All | -2.25 | 4.19 | 0.05 | 11.27 | 4.73 | 20.21 | 5.37 | 7.39 |
| UK | 1-3YR | 1.79 | 2.32 | 1.04 | 8.50 | 1.39 | 17.40 | 1.67 | 9.18 |
| | 7-10YR | -0.23 | 0.29 | -3.68 | 3.43 | -2.10 | 13.36 | -2.53 | 4.67 |
| | 20+YR | -8.04 | -7.55 | -13.12 | -6.71 | -14.07 | -0.51 | -18.59 | -12.58 |
| EUR | IG All | -0.30 | 1.88 | 0.47 | 6.99 | 3.05 | 17.14 | 3.98 | 13.30 |
| | HY All | 0.51 | 2.52 | 3.03 | 9.82 | 6.67 | 21.50 | 9.95 | 19.64 |
| Japan | 1-3YR | -0.20 | -0.20 | -0.27 | -0.27 | -0.08 | -0.08 | -0.23 | -0.23 |
| | 7-10YR | -2.38 | -2.38 | -3.61 | -3.61 | -1.85 | -1.85 | -3.62 | -3.62 |
| | 20+YR | -9.04 | -9.04 | -12.78 | -12.78 | -5.69 | -5.69 | -9.55 | -9.55 |
| China | 1-3YR | 0.27 | 4.38 | 1.28 | 6.64 | 2.10 | 11.32 | 1.98 | 3.63 |
| | 7-10YR | 0.62 | 4.74 | 2.19 | 7.60 | 3.69 | 13.05 | 2.97 | 4.64 |
| | 20+YR | 0.03 | 4.13 | 3.20 | 8.67 | 5.87 | 15.43 | 4.36 | 6.05 |
| EM | 1-3YR | 0.41 | 3.65 | 1.83 | 8.02 | 2.99 | 14.29 | 3.68 | 7.09 |
| | 7-10YR | -1.38 | 1.46 | 0.64 | 6.80 | 3.48 | 14.56 | 5.45 | 8.31 |
| | 20+YR | -1.59 | 1.62 | 1.33 | 7.53 | 4.53 | 14.89 | 5.66 | 8.27 |
| | IG All | -3.25 | 3.12 | -2.90 | 7.99 | 0.36 | 15.19 | 6.09 | 8.10 |
| | HY All | -1.95 | 4.51 | -0.57 | 10.59 | 0.31 | 15.13 | 11.30 | 13.40 |
| Germany | 1-3YR | 0.63 | 2.83 | 0.57 | 7.10 | 1.24 | 15.09 | 0.46 | 9.46 |
| | 7-10YR | -1.49 | 0.66 | -2.10 | 4.25 | 0.86 | 14.66 | -2.32 | 6.44 |
| | 20+YR | -9.55 | -7.57 | -11.97 | -6.26 | -8.76 | 3.72 | -13.86 | -6.13 |
| Italy | 1-3YR | 0.57 | 2.77 | 1.04 | 7.59 | 2.24 | 16.23 | 1.87 | 11.00 |
| | 7-10YR | -3.00 | -0.88 | -1.11 | 5.30 | 3.78 | 17.97 | 1.40 | 10.49 |
| | 20+YR | -9.50 | -7.52 | -7.03 | -1.00 | -1.27 | 12.23 | -6.16 | 2.25 |
| Spain | 1-3YR | 0.76 | 2.97 | 0.79 | 7.32 | 1.71 | 15.62 | 0.81 | 9.85 |
| | 7-10YR | -1.62 | 0.54 | -1.74 | 4.63 | 1.39 | 15.25 | -1.44 | 7.40 |
| | 20+YR | -8.45 | -6.44 | -8.55 | -2.62 | -5.85 | 7.03 | -10.00 | -1.92 |
| France | 1-3YR | 0.68 | 2.89 | 0.62 | 7.15 | 1.61 | 15.51 | 0.58 | 9.60 |
| | 7-10YR | -1.72 | 0.43 | -2.19 | 4.15 | 0.68 | 14.45 | -2.72 | 6.00 |
| | 20+YR | -9.32 | -7.34 | -10.78 | -4.99 | -8.61 | 3.88 | -13.29 | -5.52 |
| Sweden | 1-3YR | 0.67 | 0.92 | 0.64 | 2.76 | 1.39 | 8.53 | 0.82 | 1.60 |
| | 7-10YR | -2.20 | -1.96 | -3.61 | -1.58 | -2.39 | 4.48 | -3.53 | -2.78 |
| | 20+YR | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Australia | 1-3YR | 0.13 | 0.28 | -0.87 | 5.63 | 0.85 | 8.07 | 0.95 | 1.85 |
| | 7-10YR | -5.12 | -4.97 | -9.35 | -3.41 | -3.01 | 3.94 | -4.76 | -3.91 |
| | 20+YR | -13.63 | -13.49 | -20.40 | -15.18 | -11.97 | -5.67 | -15.56 | -14.82 |
| NZ | 1-3YR | 0.69 | 0.31 | 0.40 | 5.15 | 2.28 | 7.97 | 1.84 | 3.89 |
| | 7-10YR | -4.99 | -5.35 | -8.29 | -3.95 | -4.21 | 1.11 | -5.65 | -3.75 |
| Canada | 1-3YR | 0.79 | 1.86 | -0.63 | 7.98 | 1.25 | 13.42 | 1.73 | 1.85 |
| | 7-10YR | -2.73 | -1.70 | -7.06 | 0.99 | -2.70 | 9.00 | -2.36 | -2.25 |
| | 20+YR | -8.67 | -7.70 | -14.24 | -6.81 | -7.79 | 3.29 | -7.25 | -7.15 |

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## Global Bond Yields

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

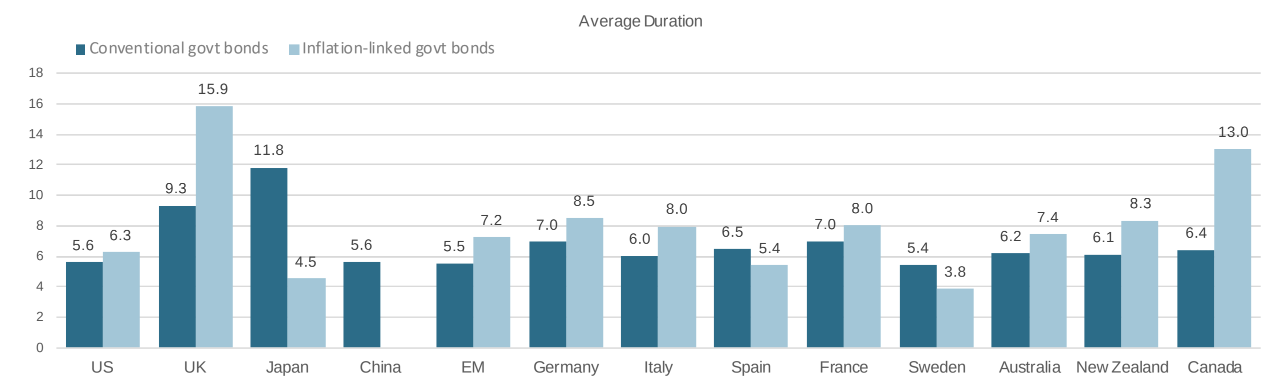
| | | Conventional government bonds | | | | Inflation-linked bonds | | | Inv Grade | High Yld |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1-3YR | 3-5YR | 7-10YR | 20+YR | 1-5YR | 5-10YR | 20+YR | All Mat | All Mat |
| US | Current | 5.17 | 4.87 | 4.90 | 5.19 | 2.82 | 2.50 | 2.64 | 6.38 | 9.46 |
| | 3M Ago | 5.01 | 4.33 | 3.97 | 4.11 | 2.44 | 1.72 | 1.80 | 5.50 | 8.34 |
| | 6M Ago | 4.24 | 3.62 | 3.41 | 3.75 | 1.68 | 1.23 | 1.58 | 5.15 | 8.49 |
| | 12M Ago | 4.58 | 4.37 | 4.05 | 4.34 | 1.76 | 1.65 | 1.84 | 5.97 | 8.97 |
| UK | Current | 4.67 | 4.45 | 4.43 | 4.91 | 0.65 | 0.71 | 1.51 | | |
| | 3M Ago | 5.04 | 4.69 | 4.25 | 4.39 | 1.86 | 0.65 | 1.00 | | |
| | 6M Ago | 4.05 | 3.77 | 3.64 | 4.02 | 0.39 | 0.14 | 0.63 | | |
| | 12M Ago | 3.38 | 3.35 | 3.53 | 3.74 | -2.60 | -0.37 | 0.19 | | |
| Japan | Current | 0.09 | 0.34 | 0.83 | 1.82 | -1.55 | -0.65 | | | |
| | 3M Ago | -0.04 | 0.08 | 0.50 | 1.40 | -1.70 | -0.74 | | | |
| | 6M Ago | -0.07 | 0.02 | 0.30 | 1.20 | -1.31 | -0.63 | | | |
| | 12M Ago | -0.06 | 0.00 | 0.24 | 1.40 | -1.43 | -0.85 | | | |
| China | Current | 2.27 | 2.42 | 2.67 | 3.08 | | | | | |
| | 3M Ago | 2.08 | 2.34 | 2.66 | 3.04 | | | | | |
| | 6M Ago | 2.28 | 2.51 | 2.78 | 3.17 | | | | | |
| | 12M Ago | 1.93 | 2.57 | 2.84 | 3.29 | | | | | |
| EM | Current | 3.71 | 4.43 | 5.00 | 4.55 | 4.20 | 4.73 | 5.46 | 6.68 | |
| | 3M Ago | 3.58 | 4.17 | 4.80 | 4.41 | 3.05 | 4.07 | 4.88 | 5.93 | |
| | 6M Ago | 3.74 | 4.37 | 4.66 | 4.46 | 3.84 | 4.04 | 5.15 | 5.61 | |
| | 12M Ago | 3.67 | 4.53 | 4.89 | 4.84 | 2.40 | 3.25 | 5.36 | 6.70 | |
| Germany | Current | 3.09 | 2.66 | 2.70 | 3.05 | 0.90 | 0.45 | 0.65 | | |
| | 3M Ago | 3.09 | 2.60 | 2.41 | 2.53 | 0.60 | 0.07 | 0.01 | | |
| | 6M Ago | 2.72 | 2.35 | 2.25 | 2.37 | 0.16 | -0.06 | -0.11 | | |
| | 12M Ago | 1.94 | 1.99 | 1.95 | 1.87 | -0.46 | -0.31 | -0.43 | | |
| Italy | Current | 3.77 | 3.88 | 4.45 | 5.06 | 1.77 | 2.35 | 2.53 | | |
| | 3M Ago | 3.60 | 3.55 | 3.86 | 4.35 | 1.30 | 1.64 | 1.69 | | |
| | 6M Ago | 3.36 | 3.49 | 3.97 | 4.45 | 0.80 | 1.65 | 1.83 | | |
| | 12M Ago | 2.82 | 2.98 | 3.52 | 3.79 | -0.02 | 1.17 | 1.23 | | |
| France | Current | 3.21 | 3.01 | 3.23 | 3.88 | 0.93 | 0.78 | 1.28 | | |
| | 3M Ago | 3.15 | 2.90 | 2.90 | 3.35 | 0.58 | 0.37 | 0.60 | | |
| | 6M Ago | 2.84 | 2.66 | 2.73 | 3.23 | -0.06 | 0.17 | 0.58 | | |
| | 12M Ago | 2.15 | 2.06 | 2.15 | 2.46 | -0.97 | -0.50 | -0.04 | | |
| Sweden | Current | 3.43 | 3.05 | 2.94 | | 1.34 | 1.30 | | | |
| | 3M Ago | 3.33 | 2.83 | 2.57 | | 0.96 | 0.74 | | | |
| | 6M Ago | 2.89 | 2.59 | 2.31 | | 0.71 | 0.73 | | | |
| | 12M Ago | 2.34 | 2.03 | 1.71 | | -0.78 | -0.37 | | | |
| Australia | Current | 4.49 | 4.48 | 4.87 | 5.33 | 1.47 | 2.04 | 2.53 | | |
| | 3M Ago | 4.02 | 3.86 | 4.03 | 4.40 | 1.03 | 1.47 | 1.79 | | |
| | 6M Ago | 3.13 | 3.05 | 3.30 | 3.88 | 0.09 | 0.84 | 1.50 | | |
| | 12M Ago | 3.21 | 3.35 | 3.67 | 4.08 | 0.36 | 1.16 | 1.58 | | |
| NZ | Current | 5.49 | 5.37 | 5.55 | 5.69 | 2.47 | 3.05 | | | |
| | 3M Ago | 5.21 | 4.80 | 4.70 | 4.87 | 1.94 | 2.39 | | | |
| | 6M Ago | 4.89 | 4.15 | 4.08 | 4.23 | 0.95 | 1.61 | | | |
| | 12M Ago | 4.31 | 4.54 | 4.34 | 4.52 | 1.42 | 1.91 | | | |
| Canada | Current | 4.55 | | 4.08 | 3.93 | | | 0.00 | 5.88 | |
| | 3M Ago | 4.55 | | 3.58 | 3.34 | | | 1.78 | 5.49 | |
| | 6M Ago | 3.55 | | 2.83 | 2.94 | | | 1.26 | 4.84 | |
| | 12M Ago | 3.81 | | 3.29 | 3.35 | | | 1.38 | 5.42 | |

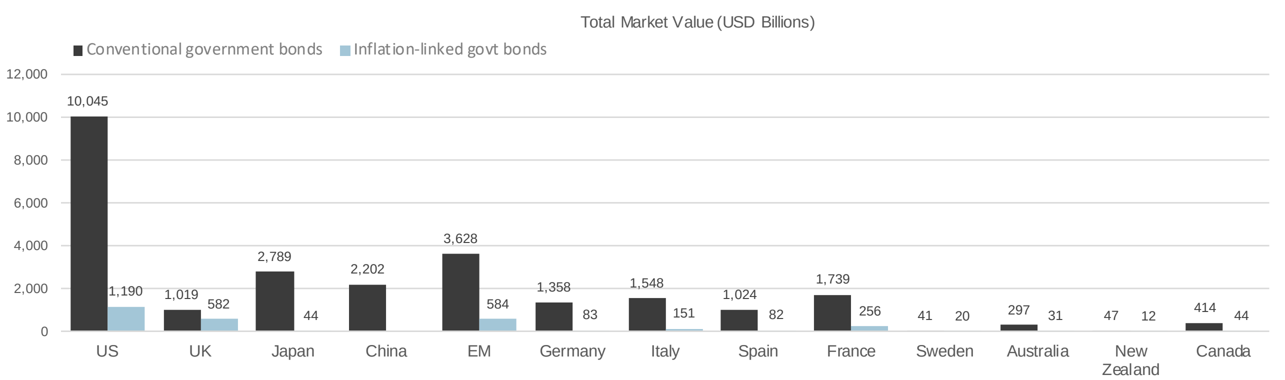
Source: FTSE Russell and Refinitiv. All data as of October 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indexes. See Appendix Glossary for list of indexes used for each market. For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

## Appendix – Duration and Market Value (USD, Bn) as of October 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 | 7.3 | 16.1 | **5.6** | 2,348.7 | 1,029.4 | 1,101.9 | **10,044.9** | 7.0 | 21.0 | **6.3** | 384.3 | 109.1 | **1,190.4** |
| **UK** | 3.4 | 7.4 | 17.7 | **9.3** | 135.3 | 182.2 | 274.1 | **1,019.0** | 6.8 | 27.0 | **15.9** | 96.1 | 214.7 | **582.4** |
| **Japan** | 3.9 | 8.1 | 23.6 | **11.8** | 338.1 | 332.8 | 592.8 | **2,788.9** | 7.2 | | **4.5** | 18.3 | | **43.6** |
| **China** | 3.7 | 7.5 | 17.6 | **5.6** | 479.1 | 364.1 | 253.0 | **2,202.3** | | | | | | |
| **EM** | 3.5 | 6.9 | 15.9 | **5.5** | 754.1 | 655.5 | 345.6 | **3,628.4** | 5.7 | 13.2 | **7.2** | 104.9 | 156.9 | **584.2** |
| **Germany** | 3.7 | 7.5 | 20.2 | **7.0** | 299.9 | 210.3 | 144.9 | **1,358.1** | 7.0 | 21.5 | **8.5** | 41.8 | 16.4 | **83.0** |
| **Italy** | 3.7 | 7.2 | 15.8 | **6.0** | 298.3 | 251.5 | 126.5 | **1,548.0** | 7.7 | 26.0 | **8.0** | 54.8 | 4.5 | **151.2** |
| **Spain** | 3.7 | 7.5 | 17.2 | **6.5** | 199.2 | 175.2 | 86.9 | **1,023.8** | 6.6 | | **5.4** | 22.3 | | **81.7** |
| **France** | 3.7 | 7.5 | 19.2 | **7.0** | 281.5 | 308.8 | 189.1 | **1,739.1** | 6.5 | 24.1 | **8.0** | 100.9 | 17.9 | **256.4** |
| **Sweden** | 3.5 | 7.4 | | **5.4** | 13.1 | 8.3 | | **41.2** | 5.6 | | **3.8** | 9.2 | | **19.9** |
| **Australia** | 3.6 | 7.5 | 16.6 | **6.2** | 33.9 | 79.3 | 12.3 | **297.1** | 7.0 | 21.9 | **7.4** | 9.1 | 2.2 | **30.9** |
| **New Zealand** | 3.7 | 7.4 | 15.9 | **6.1** | 9.5 | 12.8 | 2.1 | **46.7** | 6.1 | | **8.3** | 2.9 | | **12.4** |
| **Canada** | 3.8 | 7.4 | 19.0 | **6.4** | 56.2 | 104.3 | 55.9 | **414.0** | 6.7 | 20.3 | **13.0** | 7.7 | 17.3 | **44.4** |

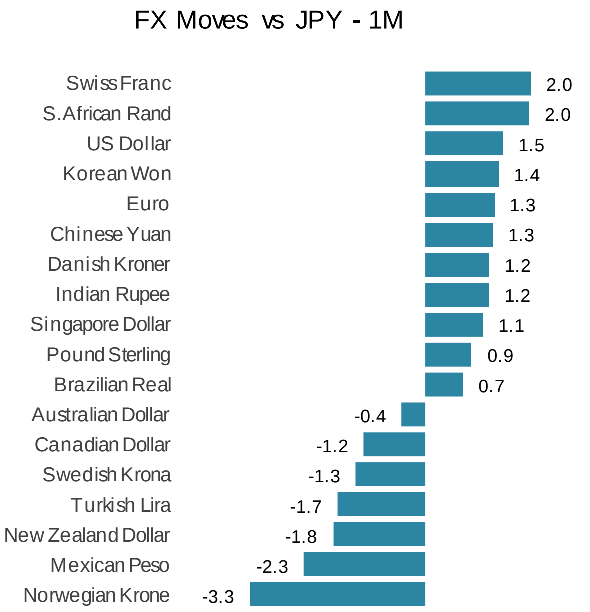
| | Investment grade bonds | | | | | | | | | | High Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Duration | | | | | Market Value | | | | | Duration | MktVal |
| | AAA | AA | A | BBB | Overall | AAA | AA | A | BBB | Overall | | |
| **US** | 9.8 | 7.8 | 6.7 | 6.2 | 6.6 | 66.5 | 419.2 | 2458.4 | 3156.0 | 6100.0 | 3.8 | 1130.4 |
| **Europe** | 5.4 | 4.7 | 4.5 | 4.2 | 4.4 | 12.2 | 179.1 | 1147.6 | 1398.3 | 2737.2 | | |
| **EM** | | 5.3 | 4.5 | 4.8 | 4.7 | | 44.5 | 212.6 | 304.6 | 561.7 | 3.2 | 178.9 |

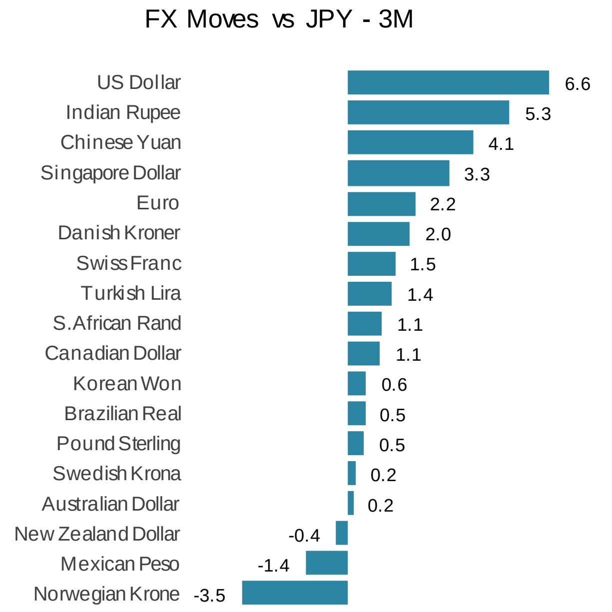


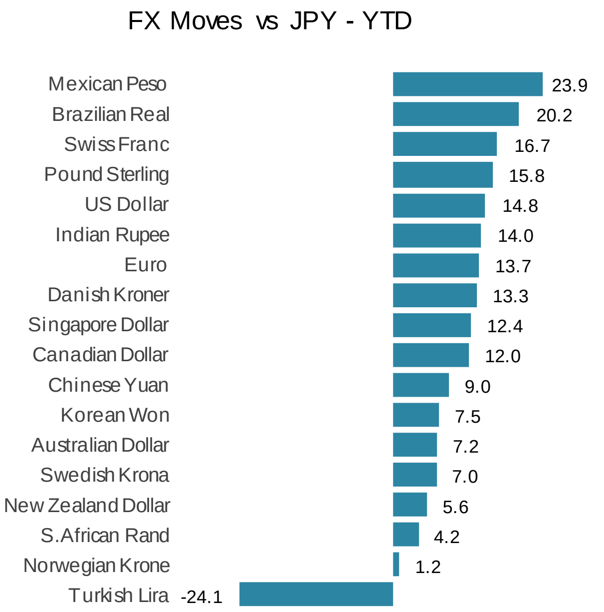



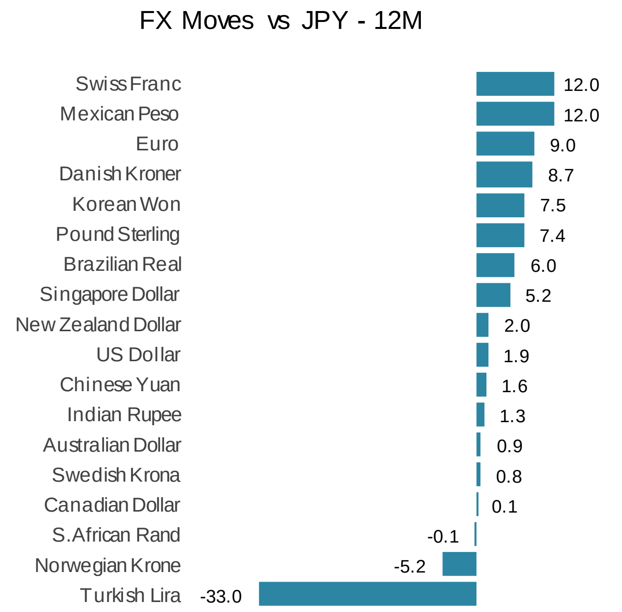

Source: FTSE Russell and Refinitiv. All data as of October 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. Bond market data is derived from FTSE Fixed Income Indexes. See Appendix Glossary for list of indexes used for each market. For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

## Appendix – Foreign Exchange Returns % as of October 31, 2023

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# 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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