Global Investment Research
Market Maps

FTSE RUSSELL
An LSEG Business

Asset Allocation Insights

USD EDITION

QUARTERLY REPORT | **JUNE 2024**

"Higher for longer" and non-US markets playing catch-up are major themes. Macro dispersion and high valuation in some assets call for selectivity. Policy uncertainty and geopolitical risks could lead to volatility.

Policy rate dispersion and slowing growth remain key macro themes
Rates uncertainty led to higher realized volatility in yields and equities post-Covid. Growth is broadly slowing, while policy rates have diverged.

Higher for longer remain likely – a throwback to 1990s Goldilocks era?
Higher rates could imply better capital allocation and continued high stock-bond correlations. Alongside any AI-led productivity gains, this could be supportive for risk assets in the long run.

Global equity rally broadens, and opportunities widen to non-US markets
The US continues to outperform the All-World alongside competitive returns in many regions. Credit returns and drivers are better outside the US.

Fixed income positioning
Yield curve slope argues for barbell positioning, while peak rates argue for locking into longer duration. Within IG, sovereigns offer better valuations than corporates. Geographically, Europe has a better valuation and credit quality. HY spreads are vulnerable to risk reversal.

Higher uncertainty and realized volatility could continue
Realized volatility could continue to be high given policy and geopolitical uncertainty in a multi-polar world, and in a year with major elections.

Income investing gains attention
Aging demographics need income investing, which is supported by yields in fixed income and listed alternatives, and dividend yields in non-US equities. High valuations in risk assets imply long-term returns may be lower than in GFC-to-Covid era.

Commodities, Infrastructure and Emerging markets show potential
Higher geopolitical risks and AI's energy needs support commodity returns. Infrastructure spending in countries like US and India create opportunities. EM show fundamental strengths.

CONTENTS

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Chart 1: Sovereign yields likely to have peaked finally? Divergent policy rates among G7 may lead to yields decoupling across countries, but uncertainties remain as the market may front run the Fed's move.

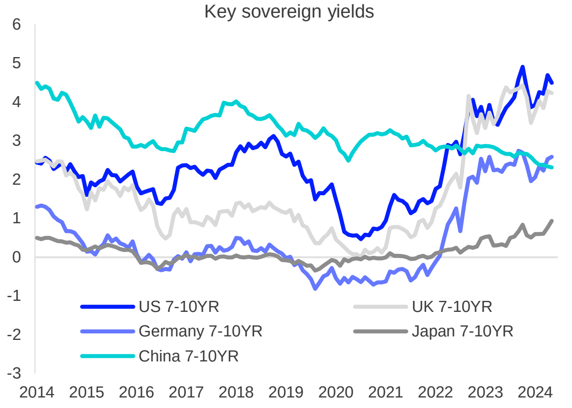
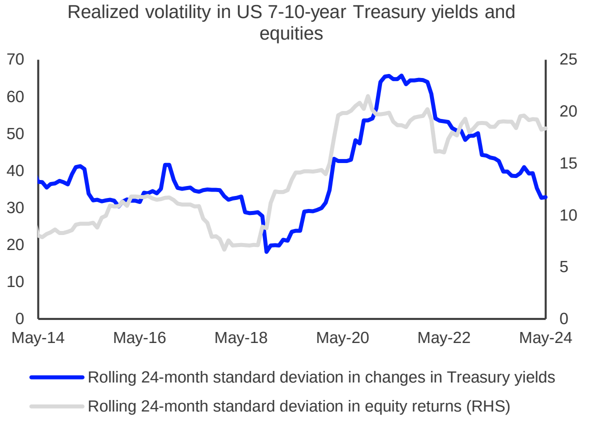


Chart 2: US volatility is generally higher than pre-Covid, although US equity vol stays elevated vs yield volatility, which has eased as rates stay higher. Volatility of US equities has increased slightly earlier than that of rates.



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Financial Markets Overview

Macro backdrop of slowing growth and rate dispersion: Progress on disinflation and rate trajectory differs among countries: The ECB, SNB, BoC have cut rates, while the Fed has left policy on hold. Growth is slowing. A structurally "higher for longer'' rate environment is likely, based on US projections of the longer run neutral rate and higher term premium. Macro indicators (copper/gold ratio, PMI) imply rates at/near cyclical peak, and also suggest a need for caution on risk assets.

Duration positioning in rates: G7 curves (except Japan) generally show inversion in 10s/2s, and a modest yield pick-up from 10-year out to 30-year. Investors get more yield by holding 2yr & 30yr, than 10yr, on a duration-neutral basis, suggesting for a barbell portfolio. A likely peak in rates in this business cycle argues for increasing duration and positive convexity.

Broadening equity rally: The US retained its YTD and 12M leadership, while the UK and China led equity performance over 3M. YTD returns show broad gains of 5-11% among equity markets globally. AI spillovers and higher energy/commodity prices boosted cyclical industry returns and others like Utilities.

Valuation & return in risk assets: Eurobond valuations remain attractive relative to the richly priced US & EM. Euro HY was the top credit performers over 12M, and its credit quality improved more YTD than in the US. US corporate bonds lagged peers over 3M & 12M, within both IG & HY. HY spreads tightened further, potentially squeezing forward returns, but easing lending standards contributed to the healthy functioning of credit markets. In equities, earnings growth forecasts are broadly stable globally YTD and earnings revisions have stabilized. APAC & EM equities are trading at higher forward valuations than their 10Y mean, joining the US and Japan. The US valuation premium (vs rest of the world) continued to decline.

A broadening equity rally, compressing US equity valuation premium, superior valuation, returns and credit quality in European bonds, all point to increased opportunities in non-US financial markets.

Risk-on has plateaued and lingering caution evidenced by capital flows: Global fund flows saw a moderate uptick over the past 7 months, aided by a pause in rate hikes across most DM economies. The relative strength of bond flows over money market flows YTD suggests a preference for duration, while consistently positive flows to money markets indicate continued caution. Bond flows across regions and the credit spectrum have been positive over 12M. Equity flows YTD have been led by EM & North America, and by Technology. Geopolitical risks and important elections add to uncertainty and potential volatility.

Emerging markets have changed: EMs economic growth has outpaced DMs, helped by structural reforms and supply chain shifts. Emerging markets' greater reliance on local currency debt have made them resilient to DM rate hikes & a stronger US dollar. Faster growth in many EM (ex China) has led to a more diversified EM equity index and a volatility in line with that of DM. 2022-23 saw EM sovereign spreads compressing, a reversal in the traditional spread widening during Fed tightening.

Commodities show continued strength and diversification benefits to both equities & fixed income: Commodities made 3M gains of 11.2% vs 3.9% for the All-World equities. Copper & gold outperformed the broad commodity index YTD & 12M, helped by climate transition and AI, and geopolitical risk hedging, respectively. An upward shift in the oil forward curve and outperformance by exporter currency indicate healthy commodity returns may continue and maintain the momentum of their outperformance relative to equities. Low correlations to both equities & FI indicate their significant diversification benefits.

(Listed) infrastructure did better than real estate: Listed real estate (LRE) underperformed listed infrastructure (LI) over 3M & 12M, as rising yields hurt rate-sensitive real estate. Within LRE, the defensive health care sector did the best. LRE in Europe and UK outperformed other regions. Infrastructure benefited from large spending in the US and EM (i.e., India).

US dollar: Policy rate dispersion may support the dollar in the near term, but mean reversion may lead to later weakening.

Portfolio construction: Income investing is viable given yields in fixed income, listed real estate and infrastructure, and high dividend yields in many equity markets. Over 12M, equities and commodities offered the highest total and risk-adjusted returns. Commodities provided diversification to fixed income and equities, while FI was a volatility dampener.

Chart 1: The correlation of US equity returns & 7-10yr treasuries vs US inflation (Mar-2001 to May-2024) shows the high stock-bond correlation in the Post-Covid era is an exception, led by the high inflation in this era.

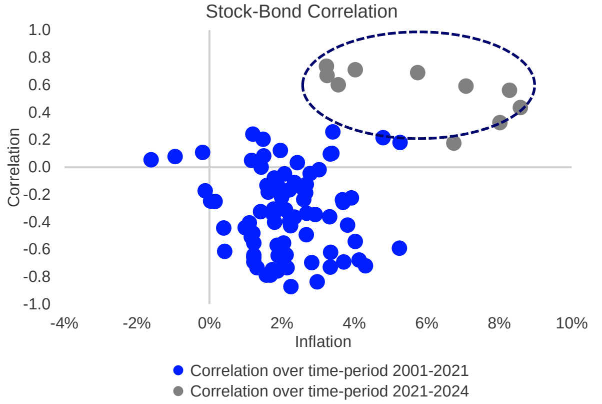
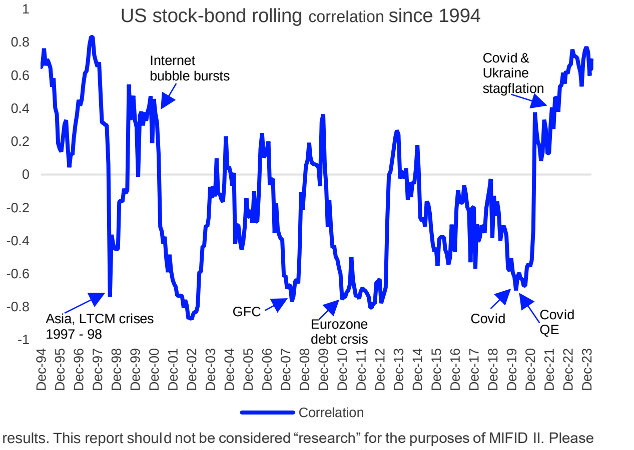


Chart 2: 12-month, monthly returns rolling correlation of the Russell 1000 and 7-10 year US treasury bonds (Dec-94 to May-24) show current stock-bond correlations are reminiscent of the mid 1990s.



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Macroeconomic Backdrop

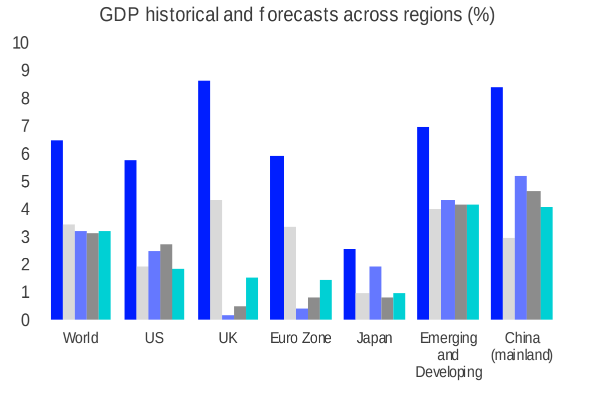
The last leg of disinflation remains tricky for monetary policy implementation, even as the ECB and BoC make their first cuts. The cumulative impact of higher US interest rates may be finally showing in some areas.

The IMF revised 2024 growth estimates higher for the US, China and EMs, and modestly lower for the UK, Eurozone, Japan and Canada in its April outlook (Chart 2). The picture changes for 2025 when growth is projected to slow in the US and China and pick up elsewhere (Chart 1).

The US has been a growth bright spot in DMs due to fiscal-led investment spending but, over the last 3M, construction spending has levelled off slightly (Chart 3), possibly due to the cumulative impact of high interest rates. Q1 US GDP was revised down from 1.6% to 1.3% on lower consumer spending. The US labor market has remained strong, with some signs of pending weakness (e.g., drop in quit rates).

Interest rates are expected to stay "higher for longer" given sticky inflation (particularly service inflation) in many DMs. Long-term inflation expectations have drifted up over the last 3M (Chart 4). However, the IMF still projects inflation in the US, UK and Japan to approach their 2% target by 2025 and to be just higher than 2% in the EU (Chart 5).

Chart 1: Global growth is projected stable/weaker in 2024 & 2025, with regional variations: US growth to pick up in 2024 before slowing; lower growth in Japan & China; higher in the UK & Eurozone from low bases.



Source: IMF

Chart 2: The IMF upgraded 2024 growth estimates in the US, China and EM, and downgraded the UK, Eurozone, Japan and Canada. This shows growth dispersion alongside differences in direction of policy rates.

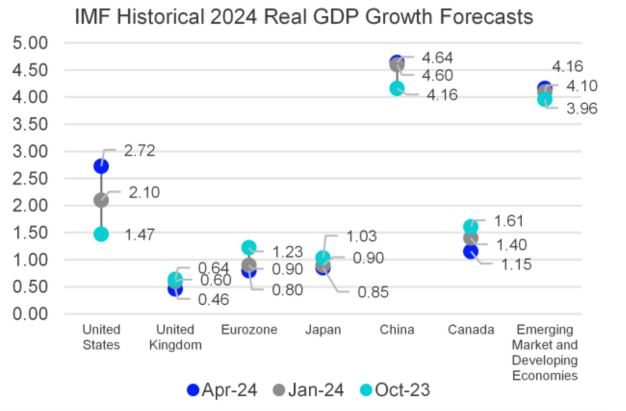


Chart 3: US fiscal policies that led to increased investment spending since end-2022 (Infrastructure Act) have continued to bolster US growth, although construction spending has levelled off slightly in 2024.

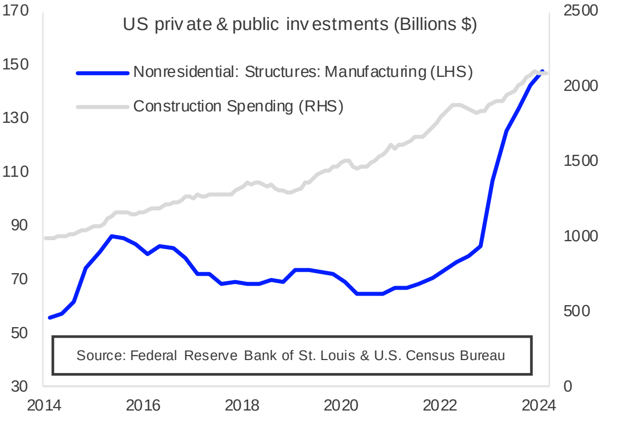


Chart 4: Long term inflation expectations have drifted up in the last 3M in the US, UK, Germany, Japan & to a smaller extent globally (indicated by 7-10 year breakevens). The last leg of disinflation is proving difficult.

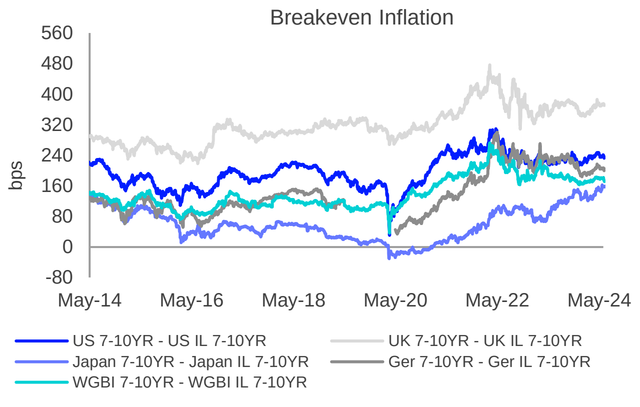
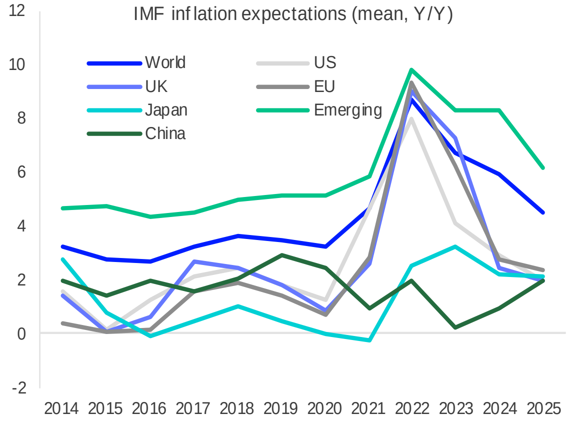


Chart 5: The IMF projects inflation in the US, UK and Japan to approach their 2% target by 2025 and just slightly higher in the EU. China's inflation is expected to rise but stay lower than its 3% target.



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Macroeconomic Backdrop (Continued)

Slowing growth argues for rates to fall further from cyclical peak. High valuations in risky assets (equities and credit) are potentially disconnected from underlying macro trends and could be yielding insufficient compensation for risk.

Trends in the oil price and Copper-Gold ratio (growth indicators that rolled over) indicate rates could fall further in this business cycle. This is not in contradiction to the higher-for-longer narrative that argues for rates to remain at levels much higher than in the GFC-to-Covid era (page 5).

Growth and real yields also point to equities being expensive over the last 12-18 months relative to fundamentals. US equity valuations seem to have moved well ahead of the ISM manufacturing PMI, a leading economic indicator (Chart 2), and forward valuations have diverged from the historic inverse relationship they have had with long-term sovereign real yields (Chart 3).

Globally, equity risk premia are at historic lows, after having steadily declined since 2022 due to buoyed equity valuations (Chart 4). The risk premium in credit (high yield credit spreads) is also significantly below what macro trends would point to as equilibrium value (spreads could widen).

Chart 1: The historic relationship between Copper-Gold ratio and the oil price (growth indicators are sharply off their peaks) and rates indicate long rates globally have room to fall and probably peaked in this cycle.

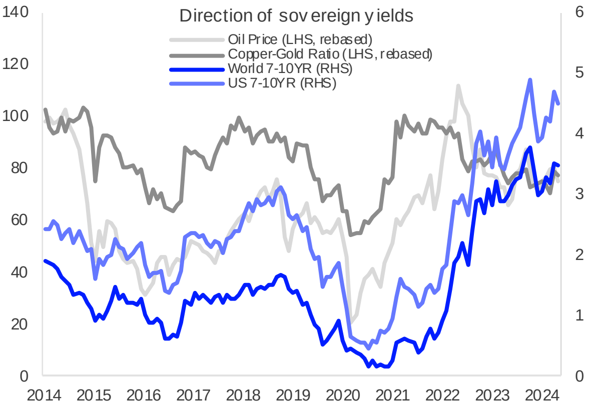


Chart 2: Historically, US equities have been positively correlated to US growth. Recent data indicates that equities may be more optimistic than justified by the ISM manufacturing PMI, a leading growth indicator.

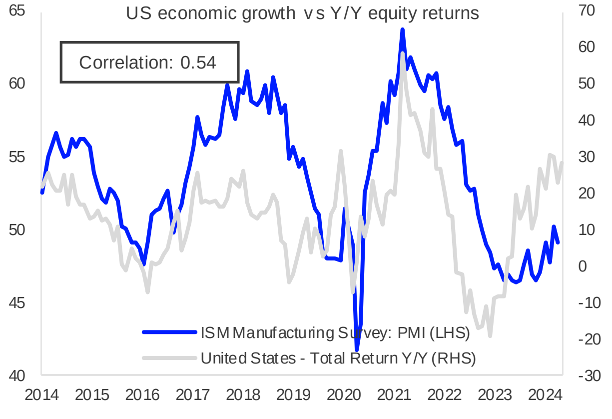


Chart 3: Forward valuations and real long yields have inversely tracked one another but diverged significantly since the late-2022 in the US, when the forward PE rose alongside the real 7-10 year yield.

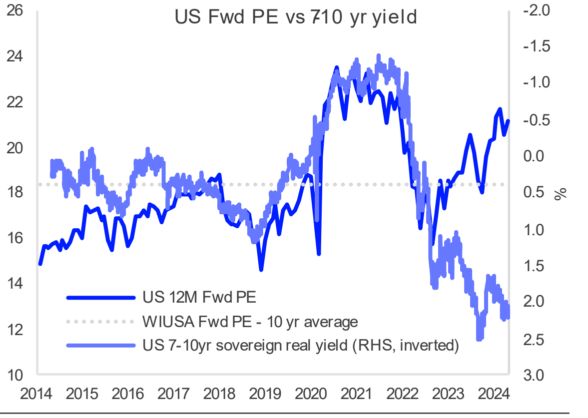


Chart 4: The equity risk premia, the excess return that investors get for investing in riskier equities, have declined globally since the pandemic and are at historic lows due to elevated equity valuations.

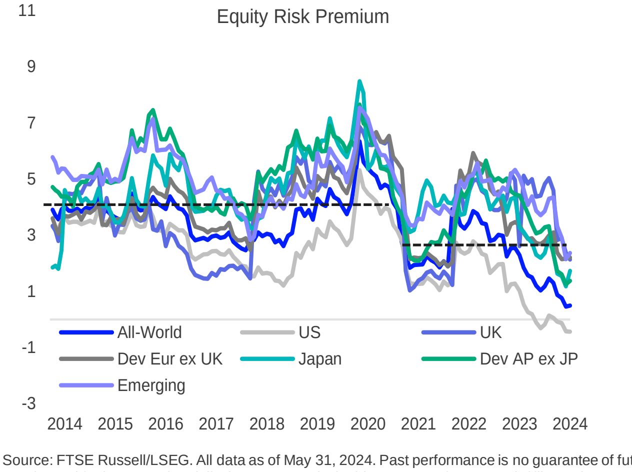
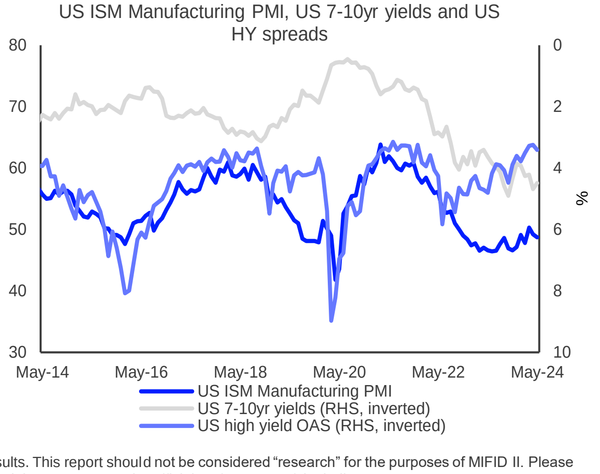


Chart 5: High yield credit spreads have mirrored macro trends historically (manufacturing PMI). US economic growth expectations make a case for higher HY credit spreads (~2% higher).



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Sovereign Yield Curves

“Higher for longer” is a structural story relative to the GFC-to-Covid era. Higher neutral rate and term premium may help long yields remain closer to the pre-GFC Goldilocks range. Regional dispersion in policy rate paths may drive yield dispersion among G7.

The yield curve dis-inverted slightly in Germany over 3M, helped by higher for longer yields, but was little changed in the US. Japanese 10s/2s curve steepened as inflation expectations boosted longer JGB yields (Chart 2). Other 7-10-year nominal yields also rose over 3M, driven by both real yields and prospects of higher inflation. US and Canadian yields fell in May following better inflation data, even though they increased over 3M.

The BoC and ECB have cut rates in June, while the US Fed has kept monetary policy unchanged. FOMC projections show the longer run neutral rate increases to 2.8%, in line with its upward-moving range. Current market expectations are for shallower and slower Fed rate cuts; Fed Funds rate are now expected to stay above 4% compared to three months ago, when they were expected to drop to 3% (Chart 5). The upward bias to Fed Funds neutral rate (Chart 3) and the increased term premium (Chart 4) argue for “higher for longer” in this cycle as in the pre-GFC era.

Chart 1: US yields have advanced by similar degrees (~ 20 bps) across the curve in the last 3M, mainly driven by real yield increases. Short term inflation expectation fell, offsetting some real yield gains.

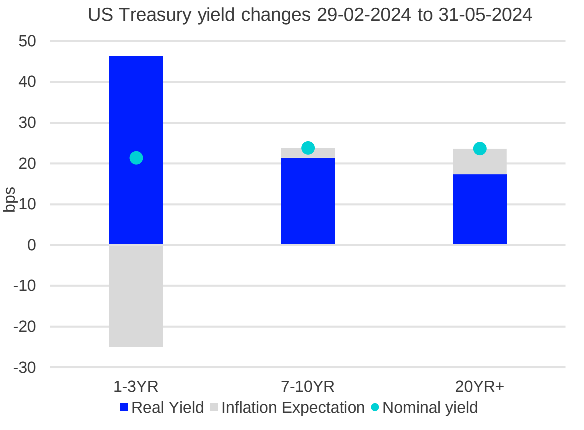


Chart 2: G7 long yields rose in the last 3M, led by Japan, where inflation expectation contributed the most to yield moves. April’s robust yield increases dominated 3M changes, despite regional dispersion in May.

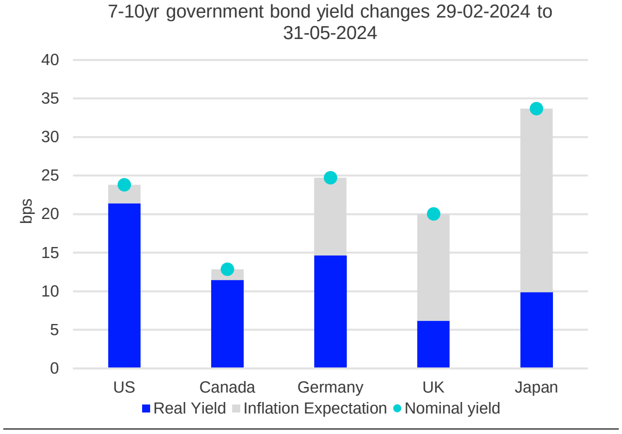


Chart 3: Projections of the long run neutral Fed Funds rate (median) rose to 2.8% in June (2.6% in March, 2.5% for several years). The upper and lower end of the range shows an upward bias too (relative to 2008-21).

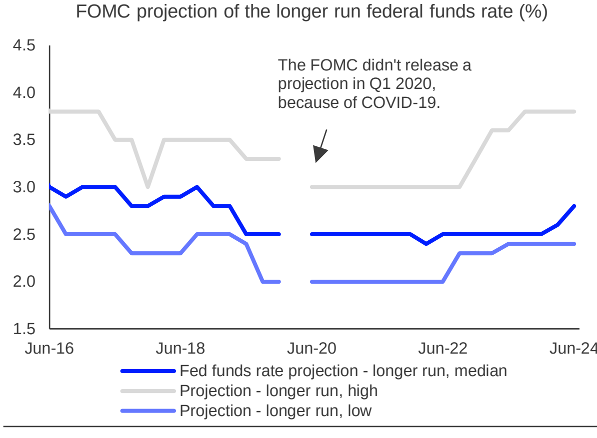
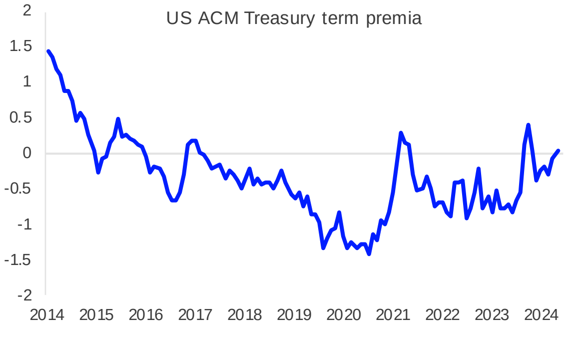
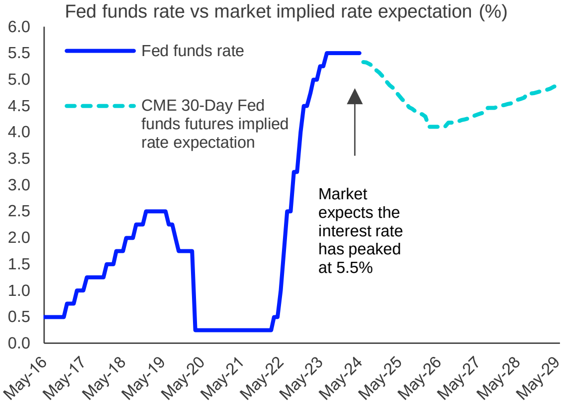


Chart 4: The US 10-year term premium has improved further YTD (now at ~0), relative to 2016-21 (average of -0.53), likely to put a higher floor to long rates. The latest level is also above the 10-year average (-0.32).



ACM model = Adrian, Crump, and Moench

Chart 5: Market expectations still price in rate cuts from mid-2024, but the projected rate path has moved higher vs 3 months ago. The trough of rate path is now pushed up to 4%, from the about 3% forecast in Feb.



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Credit

Credit market resilience persisted in the last 3M, with positive returns and narrower spreads. EM and Euro bonds outperformed in HY and IG, respectively. The HY credit mix is better in Europe than in the US.

Credit spreads tightened more in EM HY than in US HY, but widened in Euro HY over 3M. EM HY led gains over 3M and YTD, helped by the Chinese property bond rally. Euro HY outperformed over 12M, despite weaker returns YTD. US corporate bonds lagged over 3M and 12M in both IG and HY.

European HY has a better credit quality composition than US HY. Within IG, European credit quality has improved YTD, with AAA's weight increasing to 41% from 37%, while US IG quality fell, as weights of AAA and AA decreased.

NY Fed's Corporate Bond Market Distress Index (CMDI) fell to levels last seen in November 2022, driven by IG. CMDI levels are at lows and similar levels for both IG and HY (in the US), suggesting healthy corporate bond market functioning, despite significant spread tightening.

Chart 1: The HY credit mix is better in Europe than in the US. Also, YTD, the credit quality composition has improved more in Europe than in the US.

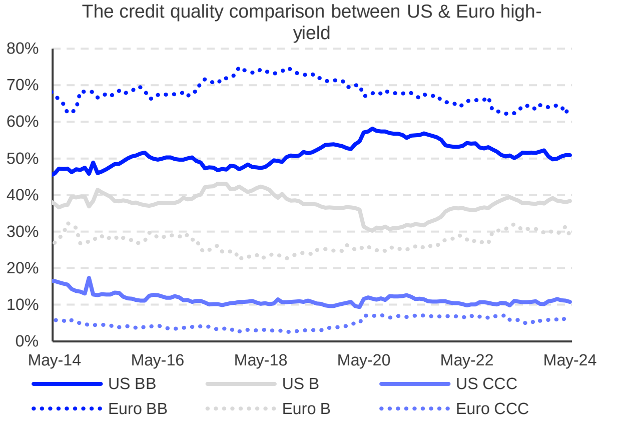


Chart 2: Consistent spread narrowing remains a feature globally, despite slowing in the last 3M, except Euro HY spreads, which widened.

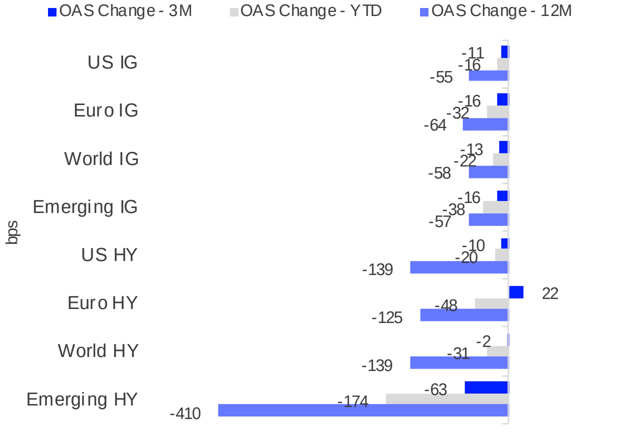


Chart 3: Positive credit returns in the last 3M & 12M, led by EM HY and Euro HY. Over 3M, HY continued to outperform IG (risk-on rally).

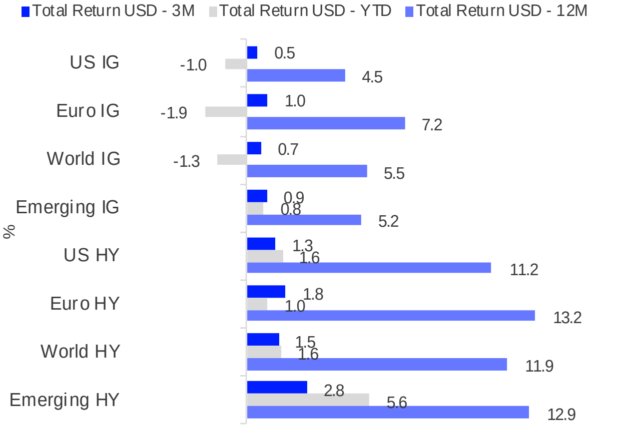


Chart 4: IG corporate spreads tightened YTD (22 bps in World). US IG spreads (89 bps) are now below pre-Covid lows (98 bps), but Euro IG spreads (97bps) are slightly higher than pre-Covid (86 bps) levels.

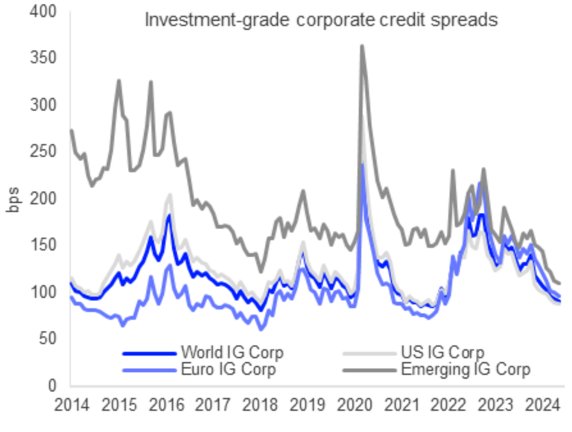
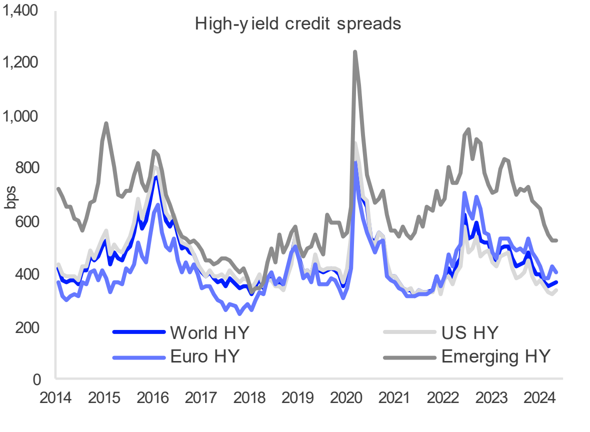


Chart 5: HY spreads globally have narrowed YTD (31 bps), and much more in EM (132 bps) than in Europe (48 bps) & US (20 bps). After the moves YTD, World HY spreads remain wider than in the US.



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Credit (Continued)

Valuations are lower in IG than in HY, and in sovereigns than corporates (in IG). Euro bond valuations remain attractive relative to the richly priced US and EM. Tight spreads indicate potentially lower forward returns.

Valuation spread percentiles indicate Euro bonds continue to have the lowest valuation in both IG & HY (Chart 2). US IG bonds rose to the most expensive pricing in the last 10 years, joining EM IG. Historically, cheaper valuations has led to better returns (Chart 1). These could imply more opportunities in European bonds.

Spread percentile (10-year history) for World IG corporates (8th percentile), World HY (22), World IG (30): indicate cheaper valuation in sovereigns than corporates within IG, and better in IG than HY.

Duration risk-adjusted yields remain higher for EM and Euro bonds than for US (Chart 3). However, considering the credit risk, Euro bonds currently offer the highest risk-adjusted returns.

Upgrade/downgrades and US liquidity conditions (Charts 4 & 5) have improved YTD. The CDS implies the 1-year default probability has fallen to 1.3% – a multi-year low.

Chart 1: US HY 1Y forward return by spread quintiles (since 2001) indicate lower valuation led to higher returns. Spreads have been relatively tight in 2024, potentially suggesting lower returns in the future.

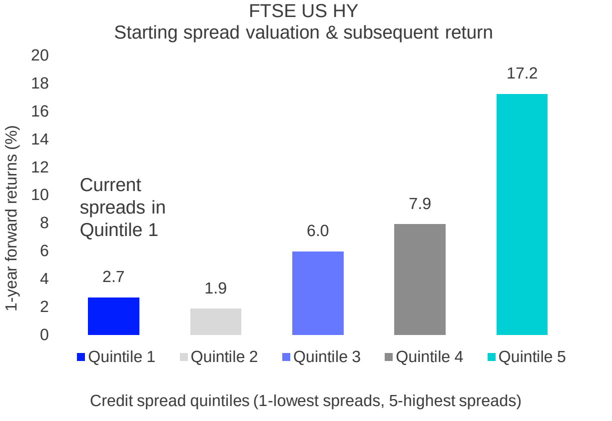


Chart 2: Euro corporate bonds have the most attractive valuations in both IG & HY. EM and US IG corporates are richly priced, followed by their HY counterparts.

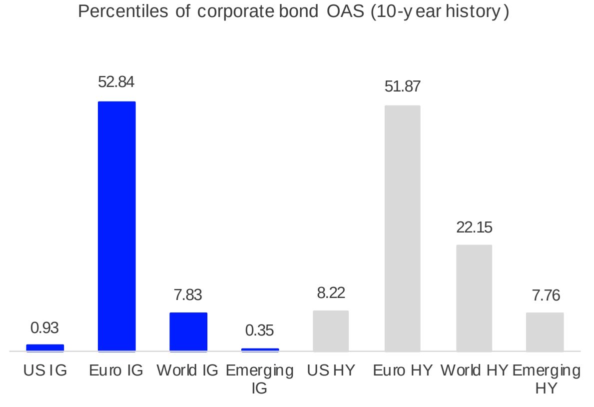


Chart 3: Return per unit of duration risk is highest in emerging markets (for both IG & HY) & higher in Europe than in the US. Dispersion among regions is now less significant, compared to 3M ago.

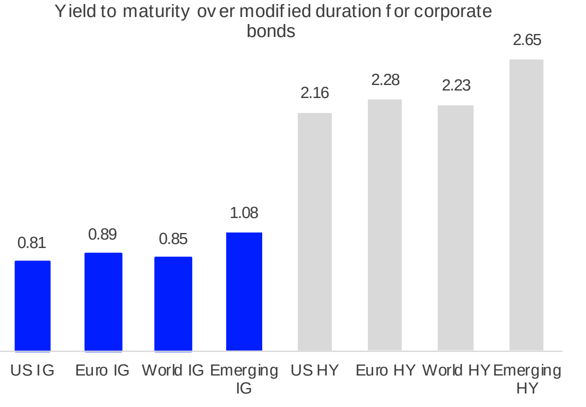


Chart 4: Upgrade/downgrade ratio improved YTD, despite about 2.5% downgrades in March and May. This is in line with falls in CDS implied 1-year default probability by May, after a spike in January.

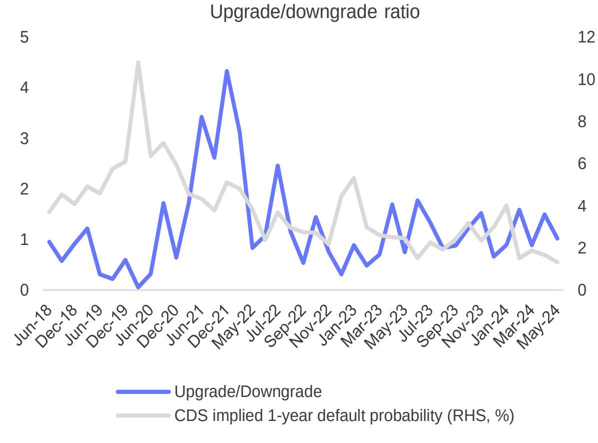
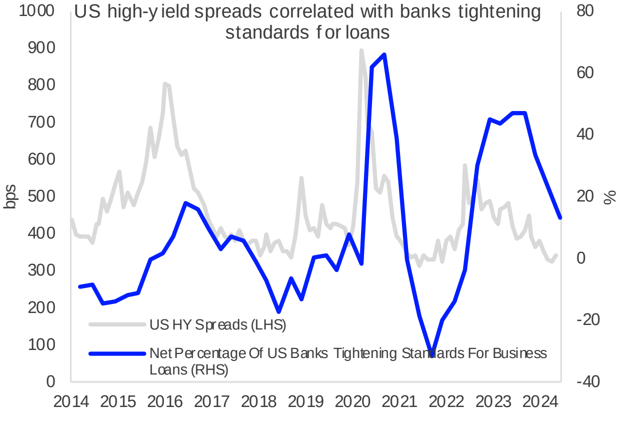


Chart 5: US lending conditions have eased further in 2024, while US HY spreads stabilized at ~340bps levels, tighter than liquidity would argue for. Spreads appear less volatile than lending conditions after Covid.



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Equities

Non-US equities catch up, with a rebound in growth in the UK and Europe and supportive policies in China.

Global equities saw a brief pullback in April on stickier inflation in Q1 but rallied in May. Over 3M, the UK outperformed peers followed by China and Europe. Japan posted a minor loss. YTD and over 12M, US equities sustained their lead (Chart 1). UK and European equities were likely helped by a growth rebound in Q1, while stimulative policies in China seemed to help investor sentiment and domestic equities. The US' stellar AI-fuelled equity run-up with stretched valuations saw a few wobbles on tech/mega cap earnings, raising questions about the degree of further upside in these areas of the market.

Realized equity volatility declined over 3M (Chart 2). Growth & Cyclicals continued to outperform Value & Defensives, respectively, after a reversal in April (Chart 3).

China's equity rebound meant that Developed/Emerging relative performance fell over 3M (Chart 4) and that the Emerging large-cap/small-cap ratio ticked up after reflecting the decline in Chinese large-caps since 2021 (Chart 5). Chart 4 also reflects the large differences within EM.

Chart 1: The UK led equity performance over 3M, followed by China which rebounded from Feb. The US retained YTD and 12M leadership. Japan pulled back in the last 3M after a strong performance in prior months.

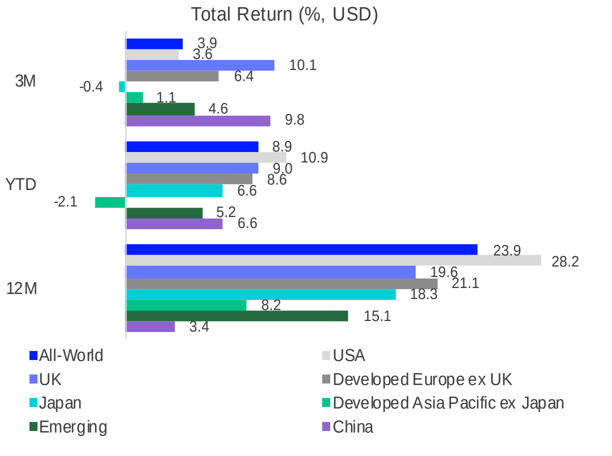


Chart 2: After a spike in 2023, realized volatility has declined in 2024, including in the last 3M. UK is an exception, where it increased modestly. Volatility is lowest in Japan and highest in China.

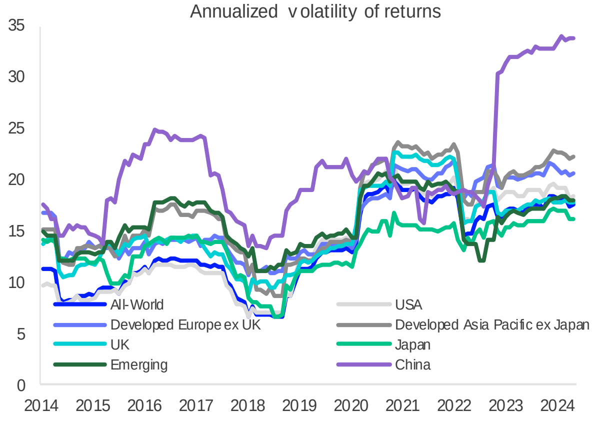


Chart 3: After a pullback in April, Growth's outperformance of Value and Cyclicals' outperformance of Defensives resumed in May. Growth and Cyclicals have outperformed YTD and over 12M.

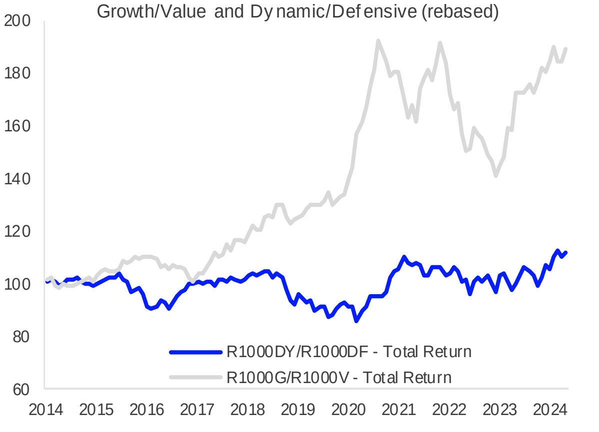


Chart 4: DMs' performance relative to EMs fell over 3M following China's equity rebound since February. DMs have continued to outperform Emerging, particularly if China is excluded.

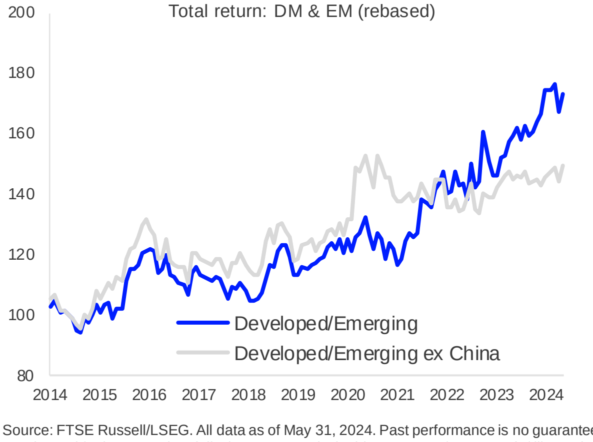
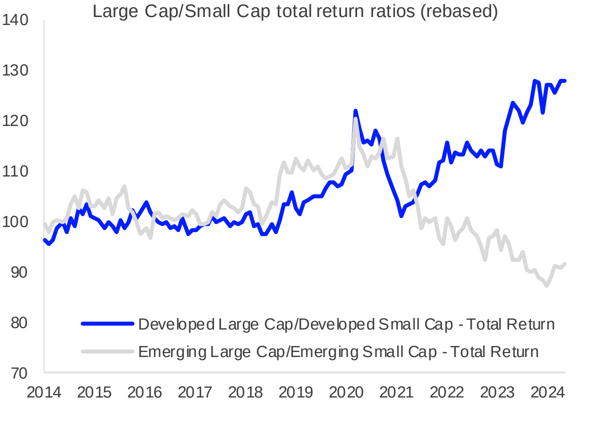


Chart 5: The dramatic DM large cap outperformance since early-2023 was largely driven by US large caps. Conversely, Emerging large cap underperformance was attributable to the pullback in China.



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Equities (continued)

AI spillovers and a rise in energy/commodity prices boost Energy and Utility industry returns amid a cyclical rally. Forecast earnings growth ticks lower and revisions stay neutral. However, the risk rally pushes more regions to trade above their long-term valuations.

Utilities shone as the best performing All-World industry over 3M. A closer looks suggests the market is diversifying its AI play to non-tech sectors that cater to AI computing needs, including utility/electricity providers. Cyclicals generally led industry performance, with an overlay of AI beneficiaries and energy/commodity-driven industries (Charts 1 & 2), as energy and commodity prices rose over the last 3M.

Two-year forecast earnings growth declined over 3M in the US and the broader Developed & Emerging regions (Chart 3), but is slightly up YTD. 12M forward EPS estimate revisions turned slightly positive in several regions (Chart 4).

Asia Pacific & Emerging equities joined the US & Japan in trading at forward valuations above their 10-year averages (Chart 5). All-World industry forward valuations indicate Technology is richly valued (24.9x), followed by Discretionary (19x). Energy & Financials have the lowest valuation (~11x).

Chart 1: AI spillovers helped Utilities shine in the All-World and several regions over 3M. Energy & Materials rounded out the top three industries in the All-World. Industry dispersion was highest in the UK, followed by Japan.

3M Regional Industry Returns (TR, USD)

	All-World	US	UK	Dev Eur ex UK	Japan	Dev AP ex JP	Emerging
Index Return	3.9	3.6	10.1	6.4	-0.4	1.1	4.6
Basic Materials	7.2	6.2	24.7	6.2	-5.7	3.3	7.2
Consumer Disc.	-2.1	-2.2	0.7	-1.4	-5.1	-2.2	0.9
Consumer Staples	2.4	3.3	4.3	3.7	-3.5	0.7	-1.8
Energy	9.2	9.7	13.5	11.5	15.9	-0.9	2.4
Financials	6.5	5.2	17.7	14.0	10.8	5.7	0.5
Health Care	1.0	-0.5	15.4	6.8	-5.3	-2.9	-5.5
Industrials	2.3	0.5	4.6	6.3	4.0	-3.8	7.8
Real Estate	-0.7	-2.8	8.1	13.8	1.3	-0.4	1.6
Technology	6.4	6.8	-7.3	0.8	-6.0	6.1	12.8
Telecoms	0.7	1.9	15.5	6.5	-7.9	-3.7	3.0
Utilities	13.1	17.0	-0.9	13.2	20.8	2.7	7.8
Range	15.2	19.7	32.0	15.4	28.7	9.9	18.1

Chart 2: Industry weights led to different macro sensitivities. The US is concentrated in Tech and Dev Asia Pacific in Financials; the UK, Europe, Japan and Emerging markets are more diversified.

Regional Industry Exposures (%)

	All-World	US	UK	Dev Eur ex UK	Japan	Dev AP ex JP	Emerging
Basic Materials	3.4	1.6	7.1	4.4	5.1	11.2	6.3
Consumer Disc.	14.2	14.4	12.0	13.9	23.4	9.2	12.1
Consumer Staples	5.4	4.6	15.5	7.6	5.9	3.3	6.0
Energy	4.5	3.8	12.1	3.8	0.8	3.3	7.1
Financials	14.3	10.3	17.9	17.8	12.2	27.9	23.1
Health Care	10.9	12.0	12.6	16.0	7.6	6.7	3.6
Industrials	13.2	11.9	15.6	18.5	24.5	10.9	8.2
Real Estate	2.3	2.3	1.3	1.0	3.2	6.9	2.2
Technology	26.3	34.6	1.0	10.7	12.0	5.8	23.7
Telecoms	2.8	2.1	1.1	2.8	4.0	11.8	4.0
Utilities	2.7	2.4	3.8	3.5	1.3	2.9	3.8

Chart 3: (IBES) Earnings growth forecasts (%) declined over 3M in the US and the broader Developed & Emerging markets (after increasing in the previous 3M). Slower earnings growth is in line with slowing macro growth.

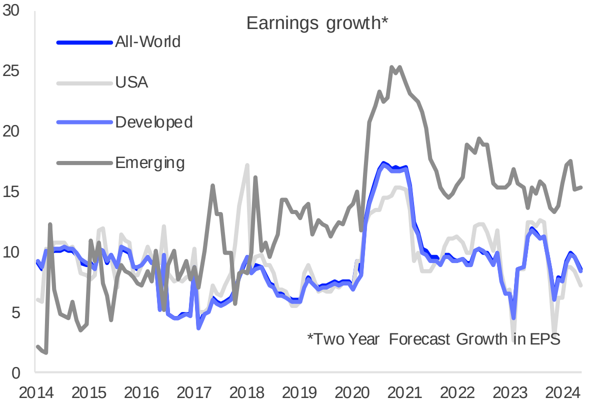


Chart 4: 12M forward EPS estimate revisions have hovered around zero. They turned slightly positive in the US, Europe and Asia Pacific regions, and slightly negative Japan over the last 3M.

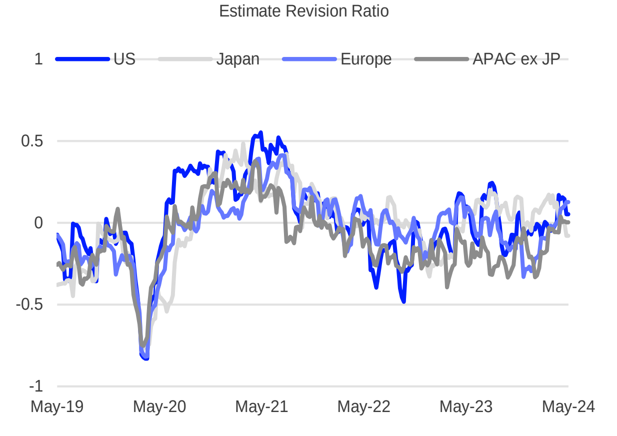
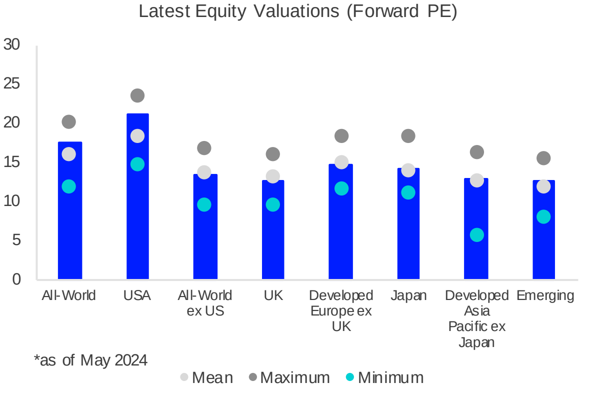


Chart 5: US, Japan, Asia Pacific and Emerging are trading at forward valuations > their 10Y mean. Both Europe and the UK are trading at a slight discount to their respective 10Y averages.



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Emerging Markets

EM growth has outpaced DMs, helped by structural reforms in countries like India, Brazil and Mexico, and supply chain shifts. Their excess growth relative to DM is forecast to widen further. In line with the diversified growth drivers, EM equities are also becoming less concentrated. But in fixed income, Chinese sovereign bonds extended their weight leadership to 63%.

EM annualized 5-year growth of 3.3% has outperformed DM growth of 1.4% (Chart 1), and the gap is expected to widen in 2024. EMs have drastically reduced their reliance on hard dollar debt since the currency crisis of the 1990s (Chart 2), making EMs less susceptible to the US dollar strengthening. Within fixed income sovereigns, EM (-0.5%) have outperformed DM (-4%) YTD & last 12M (EM 3.6% vs DM -0.7%). But EM lagged DM in equity returns, YTD (EM 5.2% vs DM 9.4%) & 12M (EM 15.1% vs DM 24.9%).

China remains the largest constituent in both equity and FI EM indices, with its lead getting narrower in equity but wider in FI (vs. 5 years back), as Chinese equity underperformed peers, while CGBs gained benefiting from easy monetary policy (Charts 4 & 5). The EM equity index has become far more diversified with the weight of India and Saudia Arabia increasing significantly.

Chart 1: EMs have been growing faster than DMs, as EM growth is not as dependent on China as it used to be, benefiting from structural reforms and the post-Covid supply chain diversification by DMs.

GDP Growth	EM	China	India	Brazil	Mexico	DM
5-year annualized (2019-2023)	3.3	4.9	4.1	1.7	0.7	1.4
2024 forecast	4.1	4.6	6.5	1.7	2.7	1.5

Chart 2: EM sovereigns in LCY have grown much faster than the dollar-denominated sov. debt, showing a higher weight vs USD debt. This has made EM less vulnerable to capital outflows and speculative FX trades.

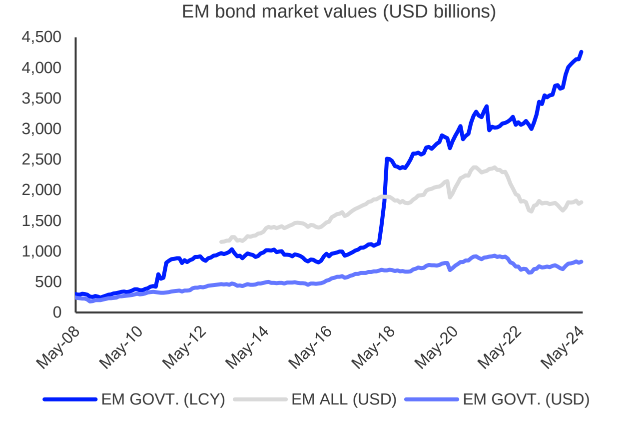


Chart 3: EM sovereigns have outperformed major G7 since 2022, led by Brazil and Mexico, helped by their stronger currency vs the US dollar. This is contrary to equities where EM lagged DM, dragged by China.

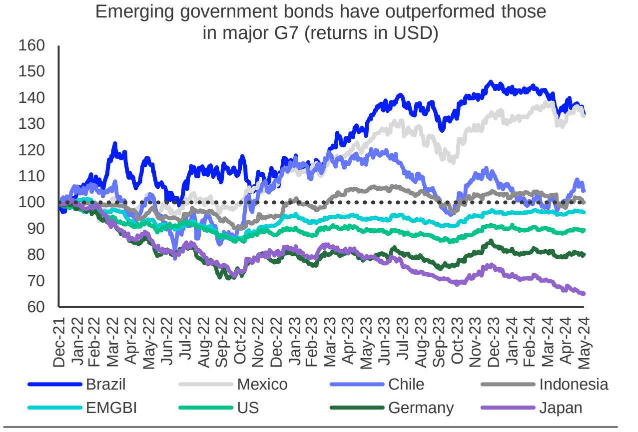


Chart 4: In the equity space, EM index is becoming more diversified, evidenced by a nearly-doubled weight in India and rapidly growing weight in Saudi Arabia, comparing latest data with five years ago.

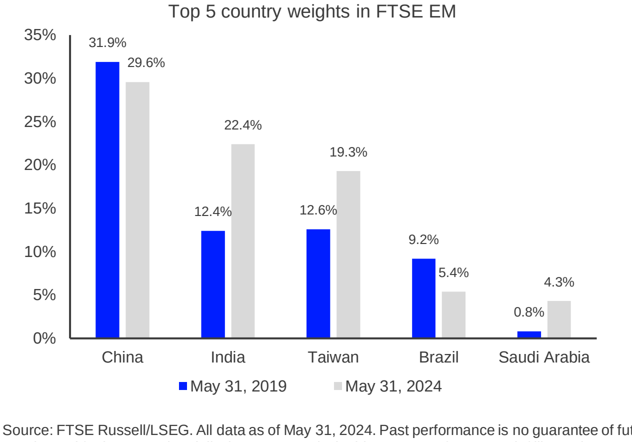
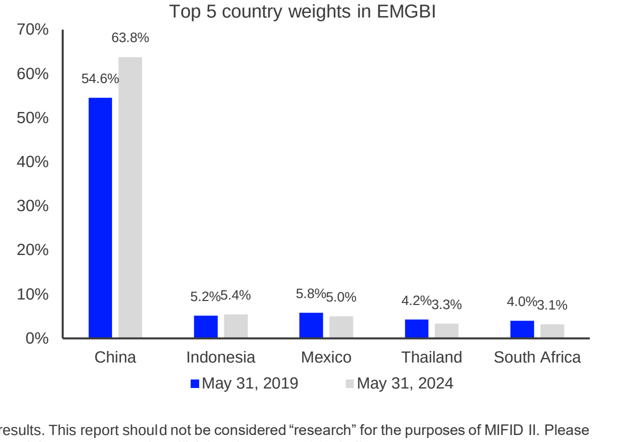


Chart 5: In contrast to the evolving equity index, tilting towards China in the fixed income index has intensified in recent years, helped by easing policy in China.



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Commodities

Forward and forex markets indicate healthy commodity returns could continue; geopolitical risks support gold, climate transition and AI support copper.

Commodities are heterogenous in their beta to growth and risk sentiment, and also reflect structural shifts.

Commodities are up 6.1% YTD and crude is up almost a similar amount (5.3%), but copper and gold are up much more (17.3% & 12.8% resp.). The shift upward in the oil forwards curve YTD indicates still healthy global growth and geopolitical risks. Gold being sharply up YTD and in the last 12M to reach record (nominal) highs, even with rising real yields, is supported by purchases by EM central banks (geopolitical risk hedging) and Asian consumers (World Gold Council). The sharp rise in copper reflects it being a beneficiary of AI and the green transition.

The historically negative correlation between commodity prices and the US dollar has broken down since 2022, reflecting more commodity trades in non-USD currencies.

Currency moves over 3M and YTD indicate expectations of healthy commodity returns over the medium term, which in-turn could continue the uptrend in commodity returns relative to equities, that started post 2020 (Charts 4 & 5).

Chart 1: Forward curve has moved up YTD indicating higher expectations for oil prices, though still in backwardation. Price at the end 2025 is now expected to be $71/ barrel (vs $67 expected at the end-2023).

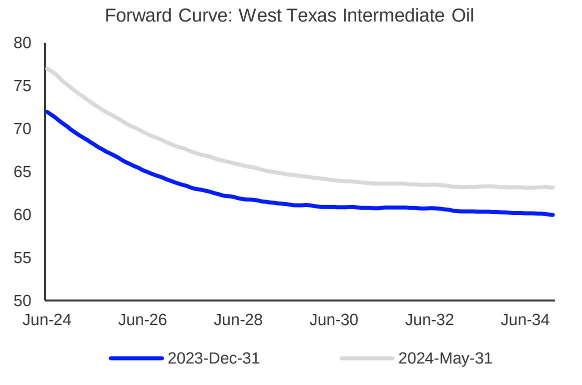


Chart 2: The diversified Commodity Index is up 6.1% YTD and crude is up similarly. The winners are beneficiaries of structural trends; more geopolitical risks (i.e., gold), AI and the green transition for copper.

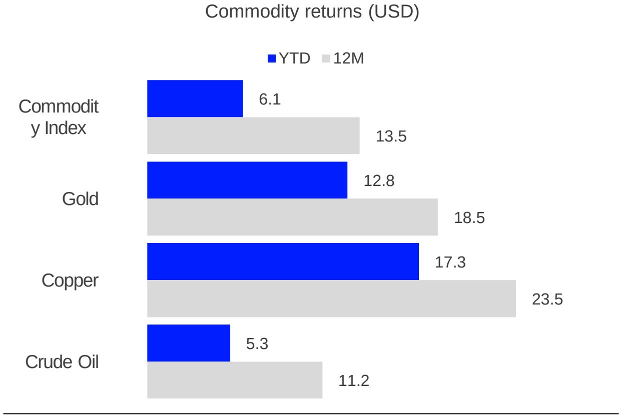


Chart 3: A breakdown in the historically negative correlation between commodities and the US dollar consistently since the Ukraine war. New structural trend of more commodity trading in non-USD currencies?

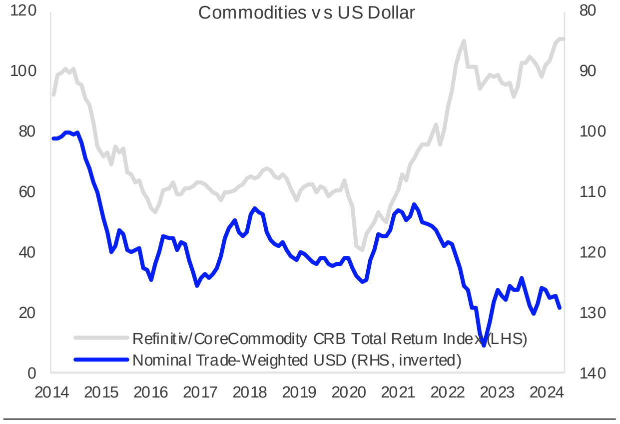


Chart 4: Commodities' returns vs equities have been on an uptrend since 2020 (reversing a long-term trough). Market expectations of continuing high commodity prices could maintain this new LT cycle.

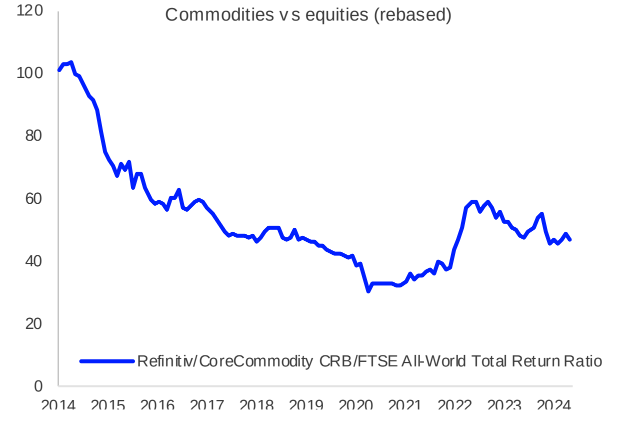
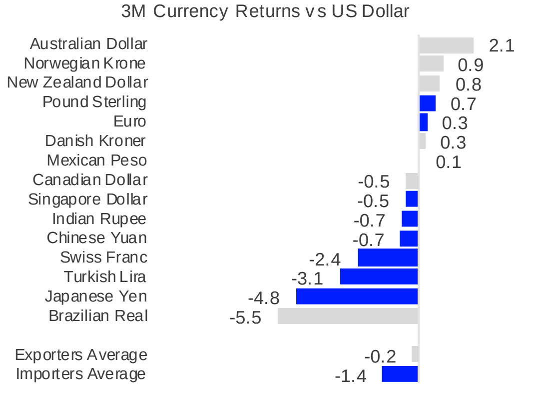


Chart 5: Currencies of commodity exporters outperformed vs importers (relative to US dollar) in the last 3M. YTD saw a similar trend.



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Real Assets: Listed Real Estate and Infrastructure

(Listed) Infrastructure has outperformed Real Estate in the last 3M and 12M, as rising yields in 2024 impacted real estate. Infrastructure benefited from large spending in US & in some EM, like India.

The rate sensitive real estate index was up barely 0.9% in 3M, as rising yields took their toll. The defensive nature of the Healthcare sector helped it perform the best, while Data Centers, Lodging & Industrial were impacted the most.

Regionally, in the last 3M and 12M, listed real estate did best in Europe and the UK. Except for these two regions, they underperformed broad equities, hurt by sensitivity to rising rates.

Listed infrastructure has outperformed real estate in both 3M & 12M, doing better in (high growth) emerging markets in last 12M and in Developed in the last 3M. With >50% weight of the global infrastructure index being in Railroads and Electricity, this asset class is a beneficiary of the Infrastructure Act and (renewables oriented) Inflation Reduction Act in the US, and India's push to improve its infrastructure.

Chart 1: The back-up in yields in 2024 impacted the rate-sensitive listed real estate. The Developed market index was up <1% in last 3M. Data Centres, Industrial & Lodging performed the worst, Healthcare did best.

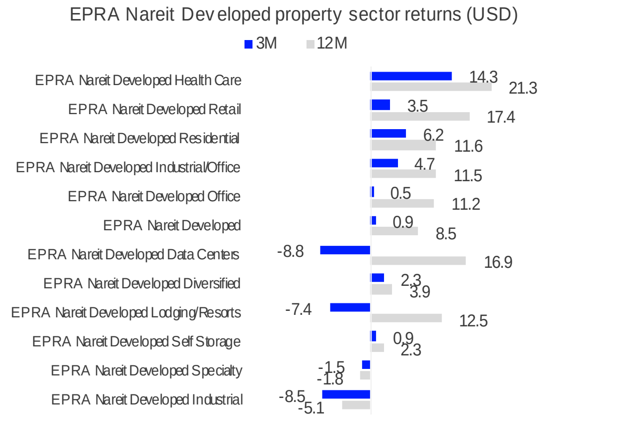


Chart 2: Listed real estate (LRE) did the best in Europe & UK in the last 3M & 12M. Developed APAC ex Japan was the weakest, and Japan did better than other developed markets in the region, in the last 3M & 12M.

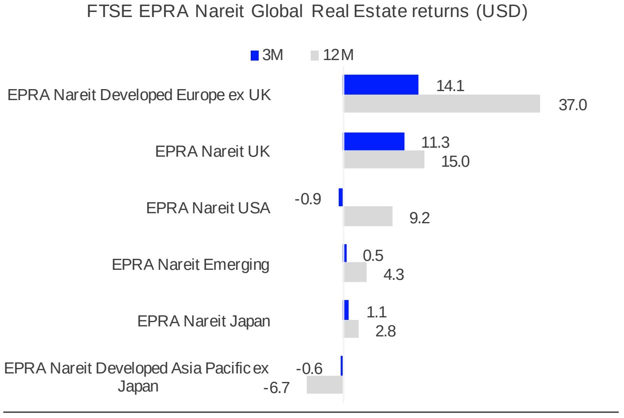


Chart 3: LRE outperformed equity only in Developed Europe in 3M and 12M, and marginally so in UK and Japan in 3M. It underperformed equities in 12M significantly in Developed APAC ex Japan & the US.

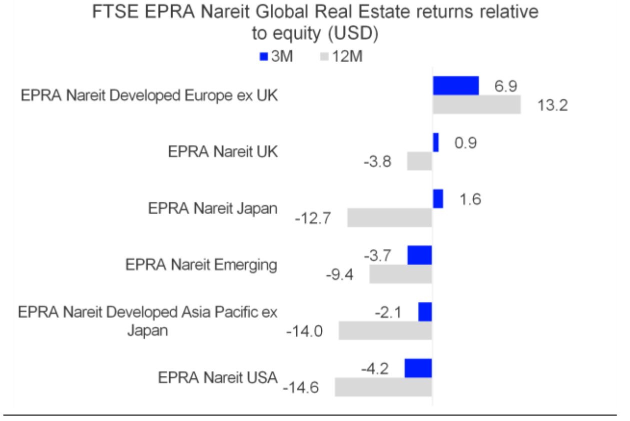


Chart 4: Infrastructure posted gains in the last 3M & 12M. It did better in EM over 12M and in DM over 3M. The US is heavily weighted in the DM and Global index, and its recent infrastructure spending is noteworthy.

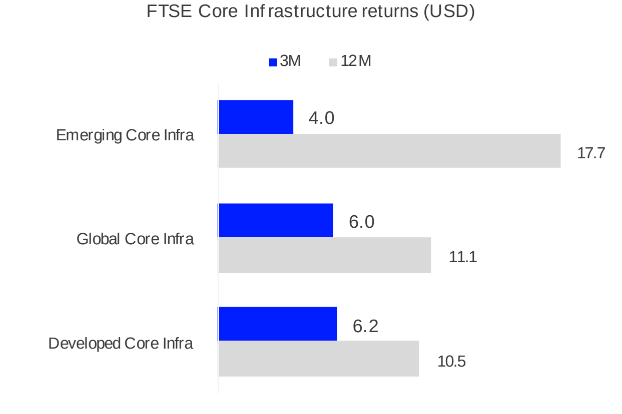
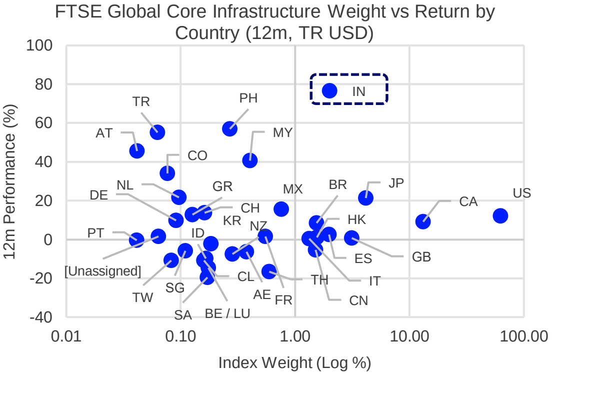


Chart 5: Railroads & Electricity are >50% of the Global Core Infrastructure, making this asset class a play on economic growth. The infrastructure growth in India in recent years & its high return is notable.



Currencies

FX moves were generally modest over 3M, with the US dollar strengthening against the yen, Chinese yuan, and Canadian dollar, while weakening against sterling and the Euro. Australasian currencies rallied in May, boosting 3M returns, helped by higher-than-expected inflation data.

The trade-weighted US dollar remained high, near the 130 level (~8% higher than its 10-year average) in 2024, as the FOMC June projections show expectations of fewer rate cuts (only one or two cuts) relative to March, alongside shallower cuts by end-2024. This is largely due to the inflation forecast moving up in Q2. With the Fed set to hold steady for longer and other G7 central banks already beginning cutting rates (BOC and ECB), the US dollar may not show a material downturn in the near term, although the long-term mean-reversion suggests a weaker dollar.

Short-term interest rate differentials are a key determinant of currency values (Charts 2-5), particularly for the yen, as US-Japan rate differentials have been the widest among major G7 markets. The Australian dollar recovered some of its YTD losses, as rate differentials narrowed in May.

Chart 1: The trade-weighted US dollar edged higher over 3M, as higher for longer rates narrative returned, although the US dollar gains were capped by declined inflation data for April. It is now below the Oct 22 peak level.

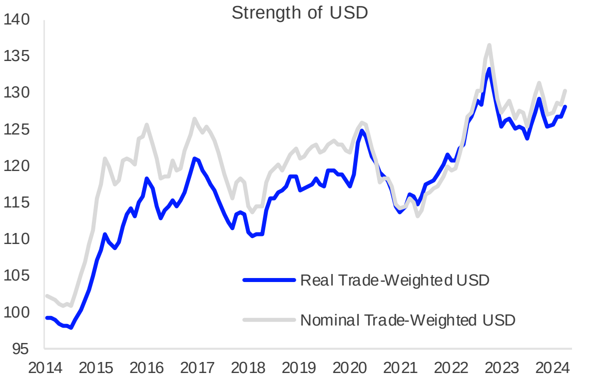


Chart 2: The Euro showed modest moves over 3M vs YTD losses of 1.7%. Rate differentials suggest the Euro may weaken further vs the US dollar, unless the ECB cut has been fully priced in by the market.

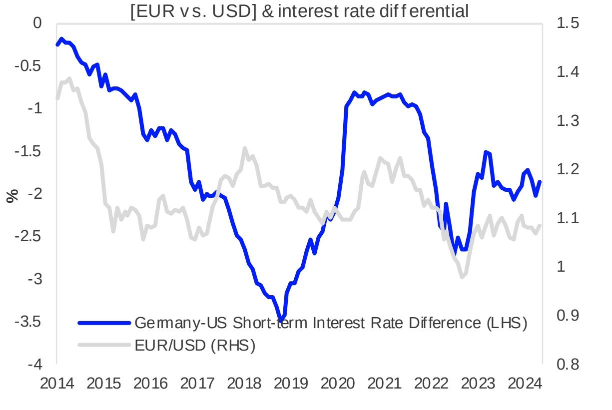


Chart 3: GBP strengthened vs USD over 3M, helped by May rallies as rate differentials narrowed. But the GBP/USD has stayed below the 10-year average, following 12M gains of 2.7%.

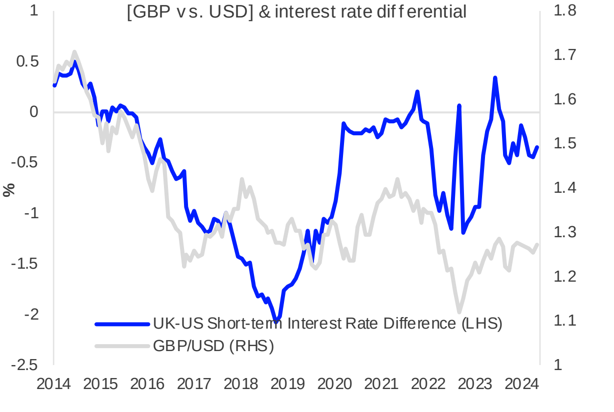


Chart 4: The yen extended YTD losses to 10.3% by end-May, despite the official's intervention after the yen dipped through Y160 per dollar. Expectations of rate differentials staying wide drove the yen lower.

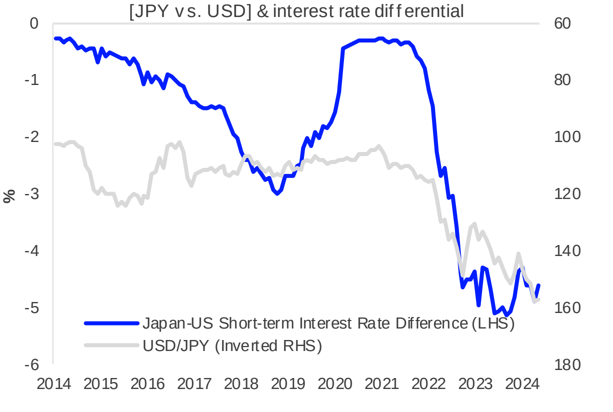
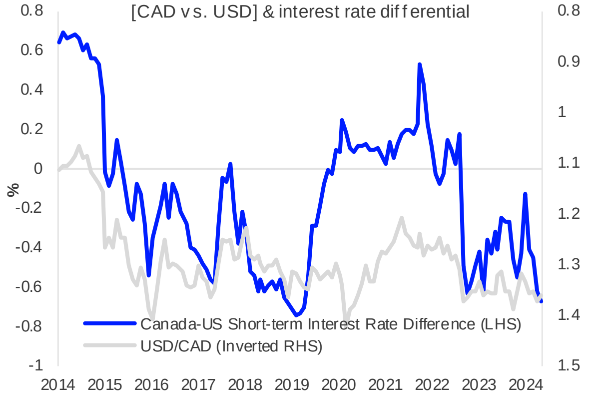


Chart 5: The CAD fell 3.3% vs USD YTD, as rate differentials remained below the 10-year average. The CAD may remain under pressure after the BOC reduced the policy rate in early June, ahead of the Fed's cut.



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Capital Flows

Mixed messages and volatility in capital flows points to continued uncertainty.

Global fund flows saw a moderate uptick over the last seven months, aided by a pause in rate hikes across most DM economies, though with high m/m volatility. The relative strength of bond flows over money market flows YTD suggests a recent preference for duration. However, over 12M, only money market flows were consistently positive every month, a sign of caution and appeal of attractive short term interest rates.

Regional equity flows have been led by EM YTD. North American equity flows lagged over 12M but turned positive on a 12M basis due to recent strength. European equity flows remain negative over 12M. Sector inflows (US equities) over 12M was dominated by technology while Healthcare saw the most outflows.

Regional bond flows have been positive across the board over 12M, with North American & EM flows leading. YTD, European bond flows saw renewed strength. Japanese bond flows remained positive both YTD & 12M. Improved risk sentiment since November helped both high yield & investment grade bond flows be in positive territory over 12M but flows to both sectors have been central bank date dependent & volatile m/m.

Chart 1: Strong flows into money market indicate continuing caution, alongside more risk-on flows into equity since November. The large money market balances could provide more upside to markets if deployed.

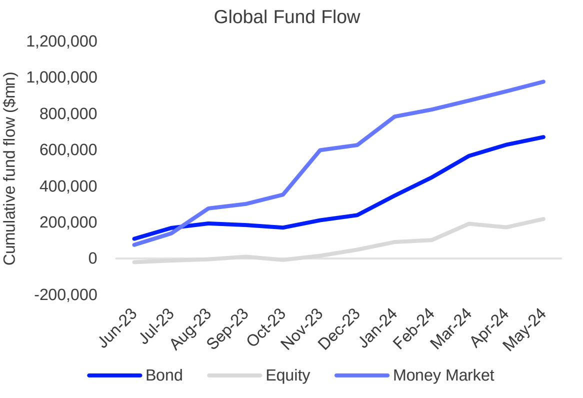


Chart 2: Positive 12M bond flows in all regions, with a sharp pick-up in flows into US bonds since November.

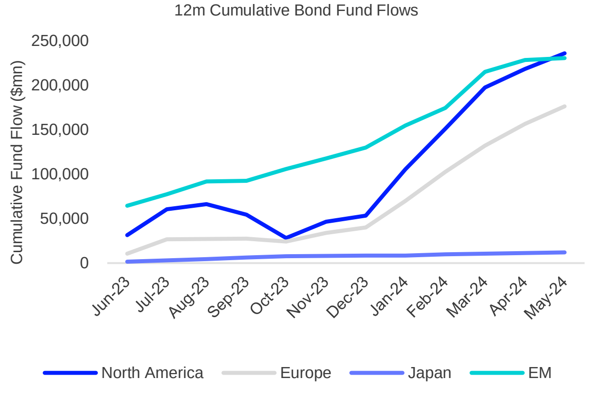


Chart 3: The last 12M equity flows reflect higher investor interest in EM and Japan and strong inflows into US since November 2023.

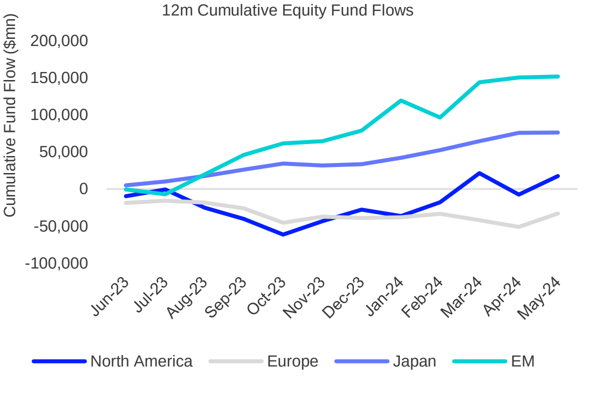


Chart 4: In the last 12M, US equity flows have been strongest in Tech, and weakest in rate-sensitive and defensive industries.

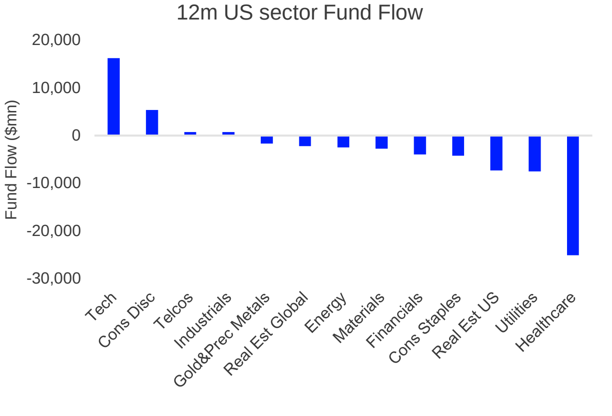
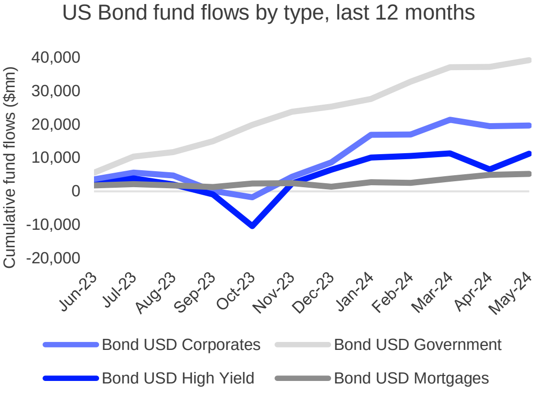


Chart 5: Still cautious (flows into rates) but more risk-on positioning, with inflows into credit and high yields since October.



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Cross-Asset: Equities and Fixed Income

Macro trends indicate rates might fall, evidenced by higher stock-bond relative valuations and below-50 PMI, while equities (especially in the US) could have correction risk. Lower US small cap implied volatility is inconsistent with other indicators. Stocks and bonds correlation recovered over 3M.

Following the equity gains in Q1, stock relative valuations, versus both the real economy and bonds (Charts 1 and 2), are at highs. Combined with divergence from the PMI, this indicates potential for lower bond yields and downside risk to equities. The stock-bond correlation ticked up again over 3M, alongside the pause in Fed's rate. Whether diversification benefits will return remains uncertain, but the beginning of rate cuts by some G7 may raise some hope.

Total stock capitalization/GDP ratio (macro measure of PE) increased to 19% above its 10-year average for All-World, while stayed elevated at 24% for the US (Chart 1). The equity risk premium dipped lower faster than that of HY (Chart 4), now showing negative risk premium. Charts 1, 2 & 4 indicate that equities remain overvalued, more so in the US, but lower implied volatility indicates markets remain calm.

Chart 1: Market cap relative to the real economy has increased globally YTD, despite equities' pullback in April. The ratio is 19% higher than its 10-year average globally, and 24% higher in the US (flat over 3M).

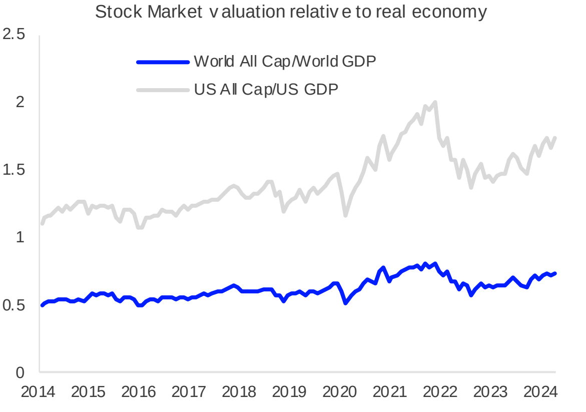


Chart 2: The gap between realized US stock/bond valuations and what macro data indicates has widened further into 2024, as the equity rally continued vs bond valuations remaining depressed by higher rates.

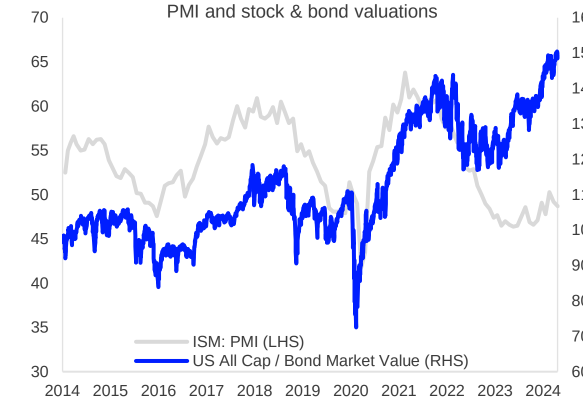


Chart 3: 12M rolling stock/bond correlation backed up to 0.82, from a Feb low of 0.75. It is now close to the cycle peak of 0.86 back in March 2023 – will it stabilize at these highs, reminiscent of the pre-mid-90's normal?

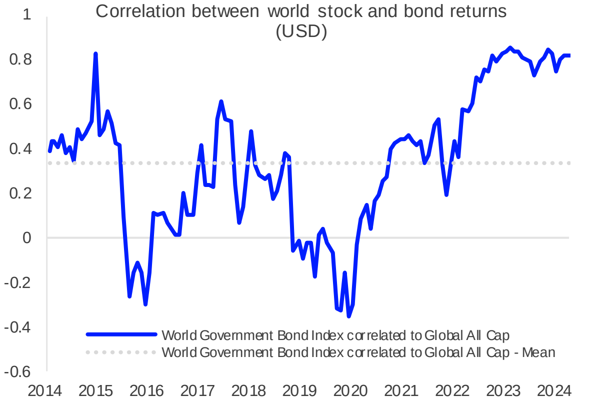


Chart 4: The US equity risk premium trended lower over 3M and YTD, widening the gap with HY credit spreads, increasing the downside risk for equities. US HY spread narrowing was capped by a reversal in May.

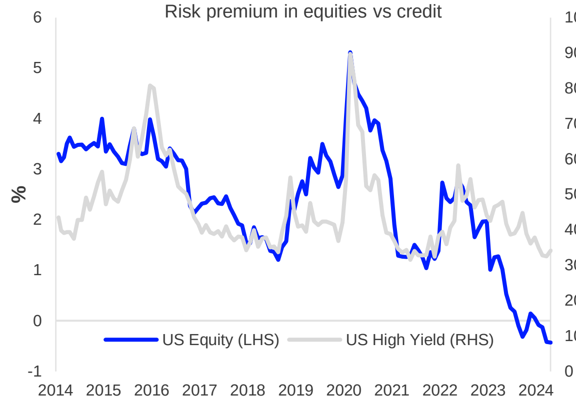
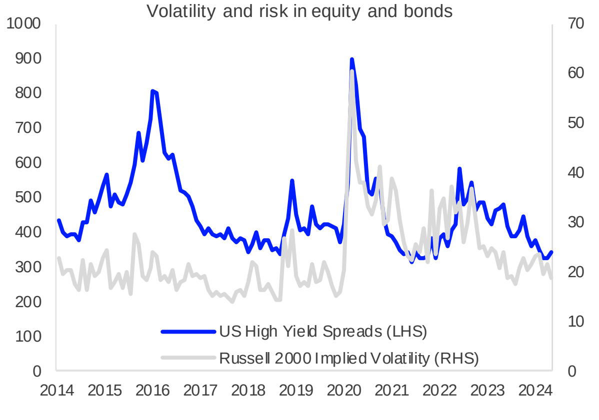


Chart 5: However, US small cap equity risk (implied vol) has eased to the lowest since mid-2023, helped by major improvement in May. US HY spreads also tightened YTD. Markets remain unfazed by macro risks.



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Cross Asset: Return and Risk

Optimal asset allocation is dependent on investor goals and (changing) risk-return of asset classes. In the changed rate environment of the last three years, both total return and income investing have been well supported.

The rate hikes since 2022 have made Fixed Income yields and return competitive and the asset class also has a low volatility. Income investing is back, with the often-quoted 4% withdrawal rate for retirement portfolios being now well-supported by the income yield in FI (4.2%), in listed real estate (4.4%) and listed infrastructure (3.6%) (Chart 1).

Reflecting sharp changes in valuation, the earnings yield (EY) is sharply down in real estate and (less so) in equities. The earnings yield in listed real assets varies, with a low in real estate (1.6%) and a high of 6.5% in infrastructure (Chart 3). EY in infrastructure is also significantly higher than in FI.

Based on the last 1-year data (when rates stabilized) for the broadest FTSE Russell indices in equities, fixed income, commodities, real estate and infrastructure; for total returns (Chart 1), equities were the clear outperformer (Chart 1), followed by commodities. Even with their high volatility, equities and commodities still had the highest return-per-unit-of-risk. Results are similar over the three year period.

Equities are known to have a place in total return investing, but they do generate significant income in some parts of the world. The income or dividend yield (DY) in Developed x US is more than twice that of US and is highest in Developed Europe and Emerging. The income yield in Developed Europe (3.1%) and EM equities (3.0%) was not too far below the 3.6% of listed infrastructure (Chart 2 & 1).

Income from equities (2.1%) is higher than sovereign rates (0.9%) in Japan (Chart 4), and slightly so in Developed Asia ex Japan (DY of 3.5% vs 7-10 years yields at 3.3%). Given home bias in investing, this is another tailwind for Japanese equities.

Chart 1: In the last 1Y, Equities & Commodities had the highest total return & return/risk, FI & listed real assets provides income yield of ~4%, enough to meet suggested withdrawal rates, while FI had the lowest volatility. The conclusions hold over the 3Y period too.

1Y Annual	USD Total Return %	Income Yield %	Risk	Return/ Risk
Equity	23.9	2.1	14.1	1.7
Fixed Income	1.3	4.2	8.3	0.2
Commodities	20.6	--	10.9	1.9
Real Estate	8.1	4.4	18.7	0.4
Infrastructure	11.1	3.6	13.4	0.8
3Y Annualised	**USD Total Return %**	**Income Yield %**	**Risk**	**Return/ Risk**
Equity	5.5	2.1	16.3	0.3
Fixed Income	-5.9	3.0	8.8	-0.7
Commodities	15.8	--	14.8	1.1
Real Estate	-4.4	4.0	18.8	-0.2
Infrastructure	2.5	3.3	16.0	0.2

Chart 2: Equities can generate significant income yield in many parts of the world. Dividend yields (DY) are high in Developed Europe (3.1%) and in EM (3.0%), and are the lowest in the US. DY is 2.1x for Dev ex US relative to US.

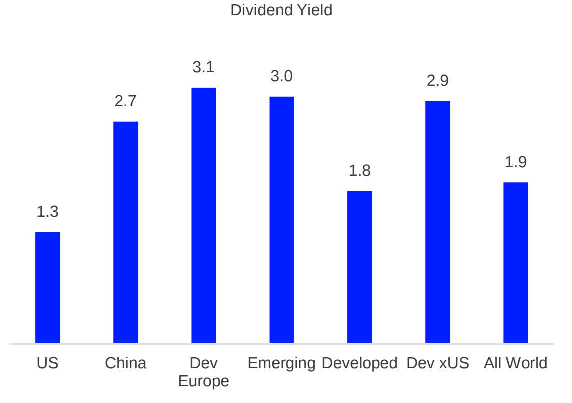


Chart 3: YTD, earnings yield (=E/P) is sharply down in real estate & (less so) in equities. EY increased sharply in infrastructure and is a little higher than in FI.

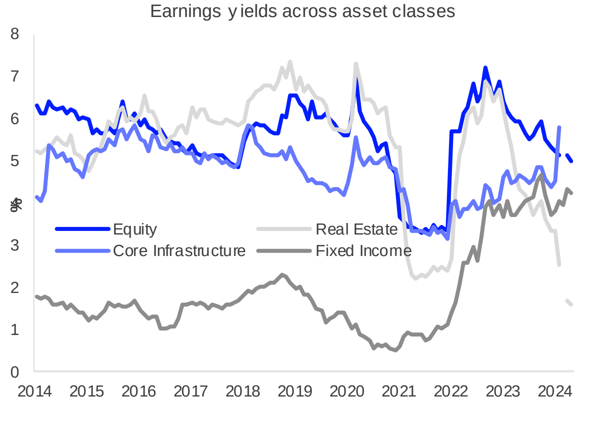
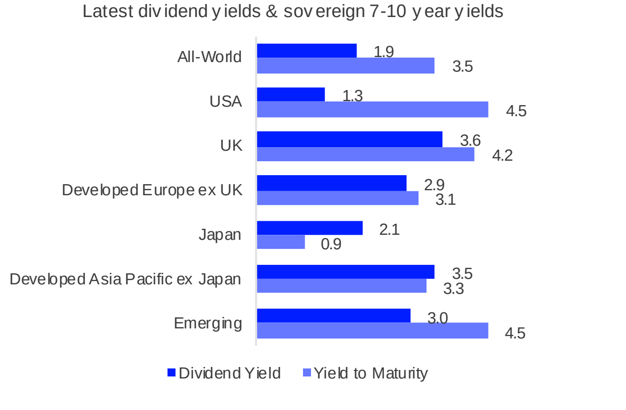


Chart 4: The rising rates in last 3Y have led to long yields exceeding dividend yields in most markets. The exceptions (income from equities higher than rates) are Japan & Asia Pac ex Japan, which is slightly positive.



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Cross Asset: Return and Risk (continued)

Return and risk has varied in the last 3 years as growth, inflation and rates have changed. US large caps remained the best performing assets. Commodities did well, HY outperformed IG, Infrastructure outperformed Real Estate (listed).

In the last 1Y, the rate environment went from steady hikes to either rate-pauses or rate cuts, leading to strong returns in risky assets. US large cap Russell 1000 led with 28.0%, ahead of the All-World 23.9% and Copper rose 23.5%. In real assets, Infrastructure (11.1%) outperformed real estate (8.1%).

Return per unit of risk over 1Y was high in risk assets: 1.9 for Russell 1000 and 1.8 for the US and World High Yield. Japanese equities had a return/risk of 1.4, slightly behind that of All-World equity of 1.7. Large caps had significantly superior return/risk profile both in the US & UK (Russell 1000 at 1.9 vs 0.9 for Russell 2000, FTSE 100 at 1.5 vs 0.9 for FTSE 250). Infrastructure outperformed real estate by a wide margin (0.8 vs 0.4).

In the last 3Y too (annualized returns), US large cap Russell 1000 was the best performing asset class with 8.5%. FTSE 100 did well with 5.8% and ahead of the All-World 5.5%. Commodities across the risk sentiment spectrum did well with Gold at 6.9% and Oil at 5.5%. In Fixed Income, only short duration High Yield had positive returns, while Government Bonds, Investment Grade Corporates and Inflation-Linked all had negative returns, both in the US and globally. Infrastructure had positive returns (2.5%), while Real Estate was in the red (-4.4%). In terms of return/risk over the last 3Y, the best performers were Gold, US and UK large caps and US High Yield.

Chart 1: One-Year Risk-Return – In terms of return in the last 12M, the best performing asset classes were US large cap Russell 1000 (28.0%), All-World equity (23.9%) and Copper (23.5%). For the more important return per unit of risk, the leaders were US large cap Russell 1000 (1.9). US & World High Yield (1.8), All-World equity (1.7), followed by Copper (1.5) and FTSE 100 (1.5). Gold (1.4) and Japanese equity (1.4)

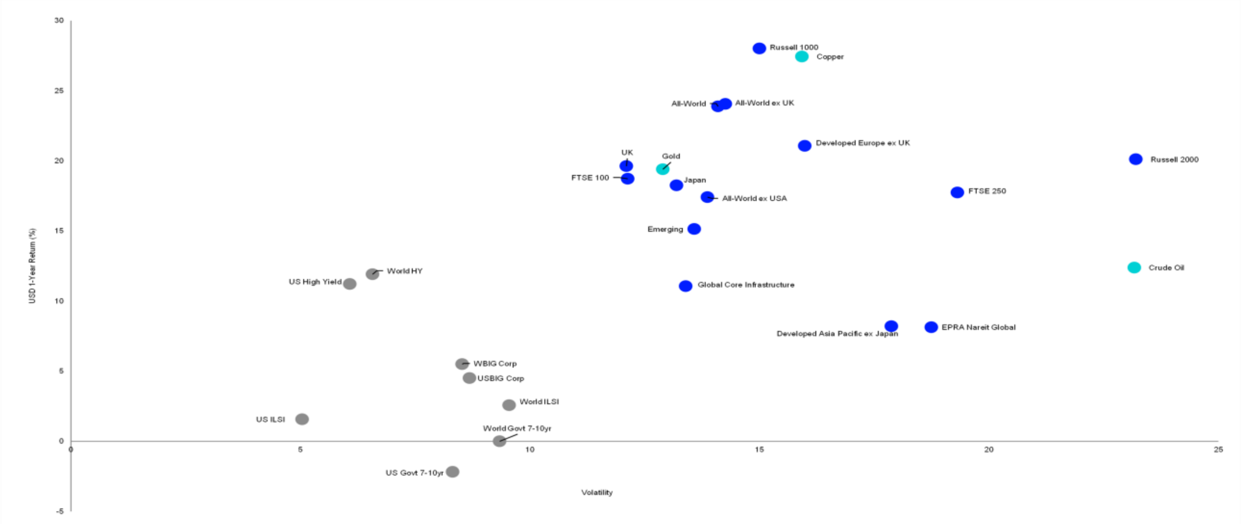
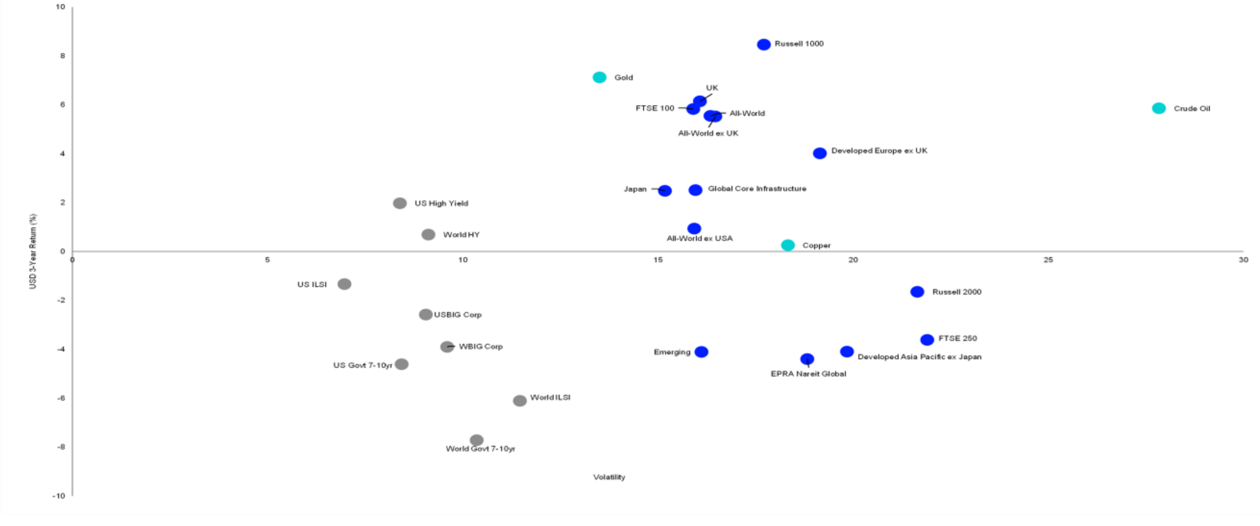


Chart 2: 3-Year Risk-Return – In the last 3Y, US large caps had the highest annualized return (8.5%) followed by Gold (6.9%). UK large cap FTSE 100 (5.8%) was ahead of the All-World equity (5.5%). On return/ risk, high uncertainty & volatility in the last 3Y kept return/ risk below 1 for all major classes, with Gold and Russell 1000 leading (0.5), followed by FTSE 100 (0.4), All-World equity (0.3) and US High Yield (0.2).



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Cross Asset: Correlations

With inflation a concern, real rates more than nominals, drove equities in the last 3Y. Correlation data suggests US equity markets are impacted more by global rates than US rate alone. EM equities show a higher correlation with World IG than with World HY over three year. Commodities provide strong diversification to both equities and fixed income. High yield has been more correlated to equities than parts of fixed income.

In the last 3Y: US large cap had a higher correlation with global 7-10-year bonds (0.73) than with US 7-10 year (0.65), a reflection of the open US economy & financial markets. They are most correlated with Developed Europe ex UK (0.89), followed by US HY and World HY (both at 0.87), and least with EM (0.60). This reiterates that HY is a risk-on asset with characteristics probably closer to equities than to investment grade bonds (World HY has a 0.91 correlation to All-World equity and a lower 0.83-with World Govt 7-10 years and inflation-linked, and 0.89 with World IG corporates).

Global equities were driven more by real rates (correlation of 0.86) than nominal (correlation of 0.79). Global equities had a very high correlation with World High Yield (0.91) and with IG corporates (0.85). EM equities were more correlated with IG than HY in the last 3Y, diverging from the pattern of 1Y and 5Y. Stock-bond diversification effect was less significant over 3Y than 5Y.

Irrespective of returns, commodities have a very low correlation to global equities (0.37 for gold and 0.04 for crude oil), particularly so by end-May as crude oil fell on 3M vs gains in global equities. Commodities also have a fairly low correlation with different parts of fixed income. This low correlation brings the benefit of volatility dampening in a diversified portfolio.

Chart 1: 3-Year Correlation – With rising rates, equities were driven more by real than nominal rates. US equities were driven more by global than US rates. Within equity, the correlation of US and All World was lowest with EM. Commodities, both the risk-on crude oil and risk-off gold, provided diversification to both equities and fixed income. Listed real assets, both real estate & infrastructure, remain highly correlated with equities.

Name	Russell 1000	Russell 2000	All-World	All-World ex USA	UK	Dev Europe ex UK	Japan	Dev Asia Pacific ex Japan	Emerging	US Govt 7-10yr	US ILSI	US High Yield	USBIG Corp	World Govt 7-10yr	World ILSI	World HY	WBIG Corp	Global Core Infrastructure	EPRA Nareit Global	Gold	Crude Oil
Russell 1000	1.00	0.89	0.98	0.85	0.75	0.89	0.79	0.80	0.60	0.65	0.79	0.87	0.76	0.73	0.83	0.87	0.79	0.84	0.87	0.29	0.03
Russell 2000	0.89	1.00	0.88	0.79	0.70	0.78	0.73	0.80	0.57	0.54	0.66	0.83	0.66	0.62	0.69	0.81	0.68	0.72	0.83	0.15	0.08
All-World	0.98	0.88	1.00	0.94	0.84	0.94	0.85	0.88	0.73	0.69	0.79	0.88	0.81	0.79	0.86	0.91	0.85	0.88	0.91	0.37	0.04
All-World ex USA	0.85	0.79	0.94	1.00	0.91	0.95	0.88	0.95	0.87	0.69	0.73	0.82	0.83	0.81	0.82	0.89	0.88	0.86	0.89	0.48	0.06
UK	0.75	0.70	0.84	0.91	1.00	0.92	0.72	0.84	0.71	0.57	0.66	0.77	0.68	0.71	0.74	0.83	0.77	0.81	0.84	0.44	0.25
Dev Europe ex UK	0.89	0.78	0.94	0.95	0.92	1.00	0.81	0.87	0.70	0.69	0.75	0.84	0.81	0.81	0.84	0.90	0.87	0.85	0.90	0.46	0.04
Japan	0.79	0.73	0.85	0.88	0.72	0.81	1.00	0.82	0.74	0.71	0.73	0.83	0.83	0.80	0.75	0.87	0.85	0.69	0.73	0.36	0.02
Dev Asia Pacific ex Japan	0.80	0.80	0.88	0.95	0.84	0.87	0.82	1.00	0.84	0.63	0.69	0.78	0.76	0.75	0.77	0.83	0.81	0.86	0.89	0.50	0.05
Emerging	0.60	0.57	0.73	0.87	0.71	0.70	0.74	0.84	1.00	0.54	0.48	0.55	0.68	0.65	0.61	0.63	0.71	0.68	0.68	0.46	-0.03
US Govt 7-10yr	0.65	0.54	0.69	0.69	0.57	0.69	0.71	0.63	0.54	1.00	0.86	0.69	0.95	0.94	0.86	0.71	0.91	0.59	0.69	0.44	-0.19
US ILSI	0.79	0.66	0.79	0.73	0.66	0.75	0.73	0.69	0.48	0.86	1.00	0.81	0.85	0.85	0.93	0.81	0.84	0.73	0.78	0.42	-0.04
US High Yield	0.87	0.83	0.88	0.82	0.77	0.84	0.83	0.78	0.55	0.69	0.81	1.00	0.80	0.77	0.80	0.98	0.83	0.71	0.82	0.24	0.08
USBIG Corp	0.76	0.66	0.81	0.83	0.68	0.81	0.83	0.76	0.68	0.95	0.85	0.80	1.00	0.95	0.88	0.84	0.98	0.69	0.80	0.41	-0.16
World Govt 7-10yr	0.73	0.62	0.79	0.81	0.71	0.81	0.80	0.75	0.65	0.94	0.85	0.77	0.95	1.00	0.92	0.83	0.97	0.69	0.76	0.56	-0.13
World ILSI	0.83	0.69	0.86	0.82	0.74	0.84	0.75	0.77	0.61	0.86	0.93	0.80	0.88	0.92	1.00	0.83	0.91	0.78	0.85	0.55	-0.09
World HY	0.87	0.81	0.91	0.89	0.83	0.90	0.87	0.83	0.63	0.71	0.81	0.98	0.84	0.83	0.83	1.00	0.89	0.75	0.85	0.34	0.05
WBIG Corp	0.79	0.68	0.85	0.88	0.77	0.87	0.85	0.81	0.71	0.91	0.84	0.83	0.98	0.97	0.91	0.89	1.00	0.74	0.83	0.50	-0.11
Global Core Infrastructure	0.84	0.72	0.88	0.86	0.81	0.85	0.69	0.86	0.68	0.59	0.73	0.71	0.69	0.69	0.78	0.75	0.74	1.00	0.88	0.48	0.10
EPRA Nareit Global	0.87	0.83	0.91	0.89	0.84	0.90	0.73	0.89	0.68	0.69	0.78	0.82	0.80	0.76	0.85	0.85	0.83	0.88	1.00	0.41	0.03
Gold	0.29	0.15	0.37	0.48	0.44	0.46	0.36	0.50	0.46	0.44	0.42	0.24	0.41	0.56	0.55	0.34	0.50	0.48	0.41	1.00	-0.14
Crude Oil	0.03	0.08	0.04	0.06	0.25	0.04	0.02	0.05	-0.03	-0.19	-0.04	0.08	-0.16	-0.13	-0.09	0.05	-0.11	0.10	0.03	-0.14	1.00

Chart 2: Equity Market Correlations – US equities are most correlated with Developed Europe ex UK. US equity correlation with EM is the lowest, remaining below its long-term average of 0.7.

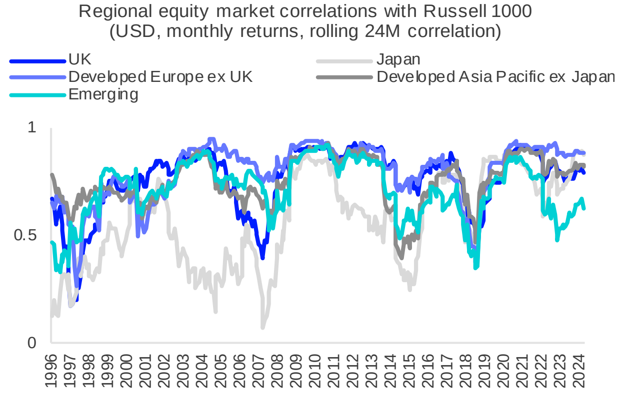
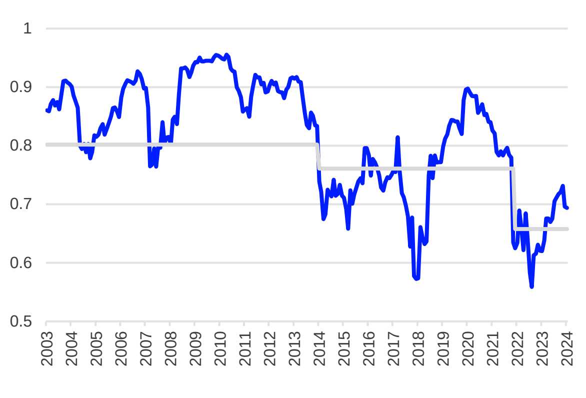


Chart 3: The correlation between DM and EM equities has been decreasing over the last 20 years. Further analysis shows that the drop in DM-EM correlation is led by China, most other EM closely track DM.



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Appendix 1: List of indices used in report

Name	Mnemonic/Code
World Government Bond Index 1-3yr	WGBI_1-3
World Government Bond Index 7-10yr	WGBI_7-10
World Inflation-Linked Securities Index 7-10yr	ILSI_7-10
US Treasury 1-3yr	US_TSY1-3
US Treasury 7-10yr	US_TSY7-10
Germany 1-3yr	DE_TSY1-3
Germany 7-10yr	DE_TSY7-10
World Broad Investment-Grade Bond Index Corporate	WBIG_CORP
US Broad Investment-Grade Bond Index Corporate	BIG_CORP
Euro Broad Investment-Grade Bond Index Corporate	EBIG_CORP
Emerging Markets Corporate Capped Extended Broad Bond Index – Investment-Grade	EMBBICCE_IG
US High-Yield Market Index	HY_MKT_US
European High-Yield Market Index	EUROPE_HYM
Emerging Markets Corporate Capped Extended Broad Bond Index – High-Yield	EMBBICCE_HY
US Inflation-Linked Securities Index 10 yr+	ILSI_US_10+
FTSE World Broad Investment-Grade Bond Index (WorldBIG®)	WBIG
FTSE US Broad Investment-Grade Bond Index (USBIG®)	BIG
FTSE Euro Broad Investment-Grade Bond Index (EuroBIG®)	EBIG
FTSE World High-Yield Bond Index	WHYM
Russell 1000 Index	R1000
Russell 2000 Index	R2000
FTSE Global All Cap Index	GEISLMS
FTSE All-World Growth Index	AWORLDSG
FTSE All-World Value Index	AWORLDSV
Russell 1000 Growth Index	R1000G
Russell 1000 Value Index	R1000V
FTSE USA Index	WIUSA
FTSE UK Index	WIGBR
FTSE Developed Europe ex UK Index	AWDEXUKS
FTSE Japan Index	WIJPN
FTSE Developed Asia Pacific ex Japan Index	AWDPACXJ
FTSE China Index	WICHN
FTSE Emerging Index	AWALLE
FTSE All-World Index	AWORLDS
FTSE Global Core Infrastructure Index	FGCII
FTSE EPRA Nareit Global Index	ENHG
FTSE Europe Ex UK Index	AWEXUKS
FTSE Asia Pacific Ex Japan Index	AWPACXJA
FTSE USA All Cap Index	LMSUSA
FTSE Developed Index	AWD
FTSE All-World Ex US Index	AWXUSAS
FTSE Global Large Cap Index	GEISLC
FTSE Global Small Cap Index	GEISSC
FTSE Developed Large Cap Index	LCD
FTSE Developed Small Cap Index	SCD
FTSE Developed Growth Index	DGWLD
FTSE Developed Value Index	DVWLD
Refinitiv Commodity Index	RTCI
Refinitiv Core/Commodity CRB® Index Total Return	TRCCRBTR

Appendix 2: Methodology Reference Guide

Report calculations

- Unless noted otherwise, all performance calculations are in US dollar.
- Methodology for calculation of Upgrade-Downgrade ratio in credit markets: Fallen angels, corporate bonds downgraded from IG − a minimum rating of BBB- with S&P, Moody's or Fitch - to a HY credit rating of BB+ or below, are not included in the calculation of downgrade ratio, as they were not included in the high yield index.
- All credit spreads are with reference to the US 7-10 year Treasury bond index.
- Risk premium in equity is calculated as the earnings yield (E/P) of the All-World Developed index minus the yield of US Treasury 7-10 years. Risk premiums in high yield are their credit spreads relative to yield of US Treasury 7-10 years.
- Equity volatility is measured as rolling 24-month annualized volatility using monthly observations.
- Correlation matrix among asset classes is calculated using monthly returns over the time frame of analysis mentioned in the chart heading.
- Earnings yield is calculated as the inverse of PE ratios for the indices in these four asset classes - equity, fixed income, listed real estate, listed infrastructure.
- In currencies, Euro and GBP are quoted as number of US dollars per unit of foreign currency. Yen and CAD are quoted as number of units of foreign currency per unit of US dollar.
- Currency exporters and importers classification is based on the commodity exposure in the macroeconomy of the country.
- Fund flow to geographic markets based on domicile of fund as defined by Lipper. Rebased cumulative fund flow commencing at the beginning of the 12 month period (sign inverted in rebasing if initial month flow is negative). Rebasing figure is sensitive to the first month's flow. Figures subject to revision.
- Page 15 uses the Refinitiv/CC CRB Total Return index (US $). Page 9 used the RFV Commodities Price index. The return for commodities is very dependent on the index used, given the huge return dispersion among different commodities and their differing weights in the indices
- For sustainable investment flows, the data used is the same as the Responsible Investment definition used by Lipper, a tighter definition than just the Ethical restriction.
- For US bond type flow data, the data used are the monthly bond fund flows in US domiciled USD bond funds, as defined by Lipper Global Fund Classification.
- In comparing equity dividend yields with sovereign 7-10 year yields, we are using the closest approximation. For Developed Europe ex UK that includes FTSE EMU Government Bond Index with 9 countries (DMs within Euro Area, namely Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands and Spain) and Developed APAC ex Japan is proxied by FTSE Asia Pacific Government Bond Index which apart from the 5 developed markets (Australia, NZ, Hong Kong, Korea and Singapore) also includes 5 EMs (China, Indonesia, Malaysia, Philippines, and Thailand).
- All data is as of May 31, 2024, with the exception of the most recent FOMC projections that was released June 12, 2024.

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