Invesco

The Big Picture

Global Asset Allocation 2024 Q4

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Further asset price gains over the last three months, and lower yields, lead us to expect lower returns and to continue derisking our Model Asset Allocation. We don't believe we will be rewarded for taking risk. Consequently, we boost government bonds and investment grade (both taken to further Overweight), while reducing real estate and commodities (both to Neutral). From a regional perspective we prefer UK and emerging market (EM) assets and continue to boost JPY exposure via hedges from USD.

Model asset allocation

In our view:

- Cash rates remain competitive on a risk-adjusted basis. We remain Overweight.
- Bank loans also offer an attractive risk-reward trade-off. We stay at the Maximum.
- Government bonds are defensive and we like the risk-reward trade-off. We go further Overweight.
- Corporate investment grade (IG) has a similar profile to government bonds. We go further Overweight.
- Real estate (REITS) has performed well. We reduce to Neutral.
- Commodities have suffered and we fear the effect of a global slowdown. We reduce to Neutral.
- Equities have performed very well and potential seems limited. We remain Underweight.
- Corporate high yield (HY) spreads are too tight. We remain at Zero.
- Gold may be helped by a weakening dollar and politics/geopolitics but is expensive. We remain at Zero.
- Regionally, we favour UK and EM and seek JPY exposure.
- US dollar is likely to weaken and we maintain the hedge into JPY.

Our best-in-class assets (based on 12m projected returns)

- EM government bonds
- European bank loans
- China equities

Figure 1 – Projected 1-year total returns versus risk for global assets and neutral portfolio
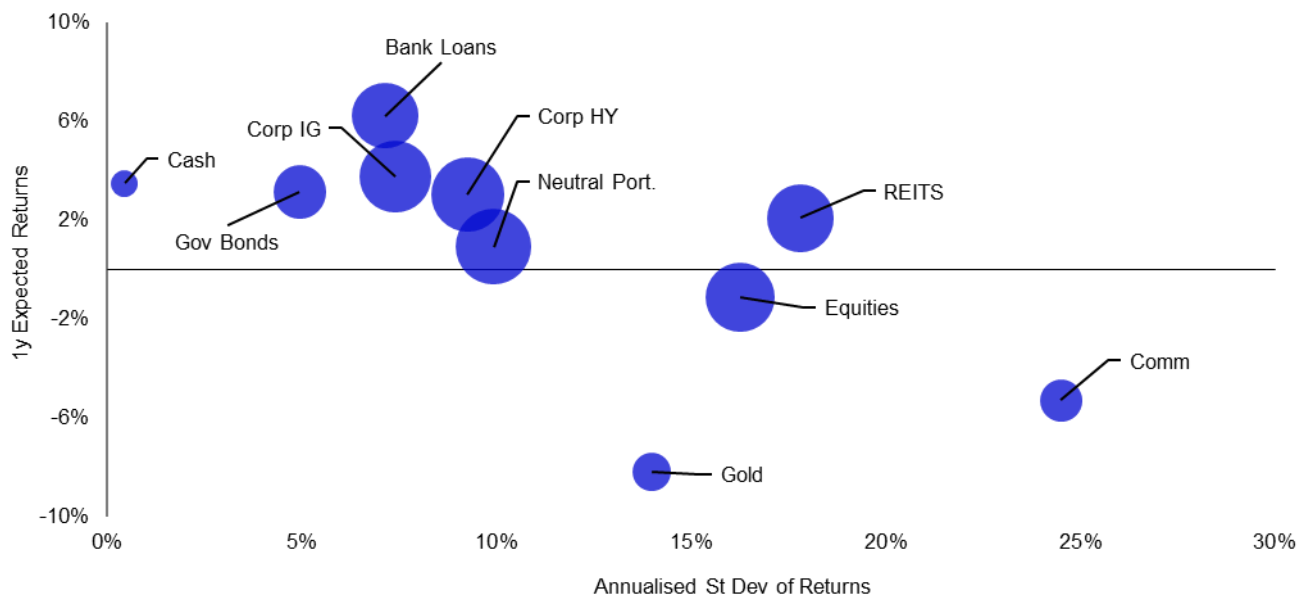
Based on annualised local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average 5-year pairwise correlation with other assets (hollow bubbles indicate negative correlation). Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in Figure 3. As of 30 August 2024. **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers.
Source: Credit Suisse/UBS, ICE BofA, MSCI, S&P GSCI, FTSE Russell, LSEG Datastream and Invesco Global Market Strategy Office

Table of contents

Summary and conclusions: Going more defensive

We add to government bonds and IG, while reducing real estate and commodities

Further asset price gains over the last three months, and lower yields, lead us to expect lower returns and to continue derisking our Model Asset Allocation. We don't believe we will be rewarded for taking risk. Consequently, we boost government bonds and investment grade (both taken to further Overweight), while reducing real estate and commodities (both to Neutral). From a regional perspective we prefer UK and emerging market (EM) assets and continue to boost JPY exposure via hedges from USD.

We expect aggressive Fed easing but also economic weakness; a more defensive stance is adopted

The good news is that we expect a rapid decline in central bank interest rates over the next 12 months (markets are currently pricing around 240 basis points of cuts from the Fed in that time). The bad news is that some cyclical assets appear to have already allowed for that, at a time when we think the global economy is slowing. There are also potential geopolitical and election risks, but we doubt they will have an enduring effect. Optimisations based on our 12-month projected returns push us to be more defensive, though we don't want to go too far in that direction. Hence, we boost the overweight allocations to some defensive assets (government bonds and investment grade), while reducing to neutral the allocations to real estate and commodities.

Underlying assumptions

Underpinning our projections for the next 12 months are the following assumptions:
- Global GDP growth will slow and then recover
- Global inflation will fall towards central bank targets
- Major central banks will ease policy (except the BOJ)
- Yield curves will mostly steepen (largely due to falling short rates)
- Credit spreads will widen (on the whole) and defaults rise
- Bank loan current yield spreads will narrow marginally but defaults rise
- Equity and REIT dividend growth will be minimal; yield movements will be mixed
- USD will weaken as the Fed eases, especially versus JPY (as the BOJ tightens)
- Commodities will weaken but later be aided by global recovery and USD weakness

Central banks are already easing and we expect the Fed to be among the most aggressive

The full set of assumptions is shown in **Appendix 4**, while the resultant market targets are shown in **Figure 24**. Projected returns for global assets are shown in **Figures 1** and **2**. Perhaps the single most important forecast is that most central banks will continue cutting rates and that the Fed is about to join them. We examine what might constitute a "normal" Fed policy rate. Though members of the Fed's FOMC recently suggested that normal would be 2.8% (median estimate of the mid-range rate, with most forecasts in the 2.5%-3.0% range), we think it is more likely to be in the 3.5%-4.0% range. This suggests a normal US 10-year yield of 4.5%-5.0%. In any case, we expect a lot of easing and believe yield curves will steepen back into positive territory, mainly due to lower short rates but also because we think 10-year yields could be slightly higher in 12 months.

We think dollar weakness could help EM and offset some commodity softness

We still expect the dollar to weaken (especially versus the yen), as the Fed has more easing to do than other central banks (in our opinion). This could help gold, cushioning the decline back to more reasonable levels (we think gold is expensive). We believe it could also offer support to other commodities. We think it will also help EM assets.

Projected returns scaled back, especially for cyclical assets

Our projected returns are tempered by the belief that a lot of good news is in the price. For example, high yield (HY) spreads are narrower than we would expect at this stage of the cycle, and equities are close to record highs in some markets. Hence, the expected returns shown in **Figures 1** and **2** are more modest than three months ago (especially for real estate/REITS and equities). Implicitly, we do not expect to be rewarded for taking risk over the next 12 months (see **Figure 1**). Our optimisation process (based on those projections) favours cash, government bonds, investment grade (IG) and bank loans (see **Figure 26**), while gold and cyclical assets are shunned.

Government bonds taken to further Overweight

Hence, within our Model Asset Allocation (see **Figure 3**), we boost government bonds and IG. We think **government bond** yields may rise slightly over the next 12-months (after initially falling) but we still expect better risk-adjusted returns than on cyclical assets (and note that government bonds usually outperform equities when yield curves steepen). We go from 27% to 30% (Neutral is 25%). We add to Japan (for the currency gain) but stay Underweight there, with our favoured regions being EM, UK and US.

Adding to IG accentuates defensive stance	Though we expect a slight widening of **IG** spreads, yields are sufficiently high to give attractive projected returns, when adjusted for the low volatility of the asset class (see **Figure 1**). We raise the allocation to 15% (from 12% and versus Neutral 10%). Across regions, we increase the Overweight in the US and raise Japan to Neutral (again to mitigate the risk of a sharp rise in the yen).
Real estate reduced to Neutral after a good run	**Real estate** (REITs) outperformed over the last three months (see **Figure 4**), and yields have fallen, so we are reducing the allocation to a Neutral 4% (from 8%). We reduce the US and EM allocations to Zero.
Commodities reduced to Neutral after poor run	**Commodities** have had a difficult few months, especially energy. We nevertheless reduce the allocation to a Neutral 2% (from 4%), as we fear a weakening global economy could depress prices further. We reduce the energy allocation to zero and are focused on agriculture (below historical norms in real terms) and industrial metals. The risk for us is that geopolitical tensions (Middle East and Russia/Ukraine) could boost energy prices but that factor has had little (if any) effect this year. Further out, if economies accelerate into 2025, there could be upside in industrial commodities.
We think gold is too expensive	We remain Zero allocated to **gold**, which is often good in a crisis and could benefit if Donald Trump were to win a second term as US president (as happened during his first term, in our view). However, we think the price is too high and fear 12-month downside.
We continue to favour cash and bank loans	No changes have been made to the cash or bank loan allocations, both of which remain Overweight. **Cash** continues to offer reasonable rates, especially considering its diversification profile (see **Figure 1**). **Bank loans** also offer a higher return than other assets (in our opinion), with volatility similar to that of IG. We were already maximum allocated to the asset class and maintain that position. It may seem odd to favour bank loans over HY when we expect policy rates to fall but we are attracted by the high current yield and relatively generous spreads (as measured by discount margins).
We remain Underweight equities but like China, EM and Europe	As for **equities**, we stick to an Underweight 35% (Neutral is 45%). The problem continues to be a US market that we think is too concentrated and too expensive (in a slowing economy). We prefer other markets and favour China, EM and European markets. Within Europe, we reduce the Eurozone allocation in favour of the UK, with both now Overweight.
We remain zero allocated to HY	We remain zero allocated to **HY**. Though defaults have remained low, we are concerned that spreads are pricing in a lot of good news about the economic cycle and few of the risks. We expect spreads to widen and default rates to rise (a bit) and our risk-adjusted 12-month projected returns are less appealing than for bank loans and IG, say.
EM and UK the preferred regions. We seek JPY exposure	Regionally, we are Overweight UK and EM assets. We maintain the partial hedge out of US dollar into Japanese yen, believing the latter will rally as the BOJ normalises.

Figure 2 – Expected global total returns (annualised, local currency) and Model Asset Allocation*

	Expected 1-year Total Return	Neutral Portfolio	Policy Range		Model Asset Allocation	Position Vs Neutral
Cash & Gold	-2.4%	5%	0-10%		6%	Overweight
Cash	3.5%	2.5%	0-10%		6%	Overweight
Gold	-8.2%	2.5%	0-10%		0%	Underweight
Government Bonds	3.1%	25%	10-40%	↑	30%	Overweight
Corporate IG	3.8%	10%	0-20%	↑	15%	Overweight
Corporate HY	3.0%	5%	0-10%		0%	Underweight
Bank Loans	6.2%	4%	0-8%		8%	Overweight
Equities	-1.1%	45%	25-65%		35%	Underweight
Real Estate (REITS)	2.1%	4%	0-8%	↓	4%	Neutral
Commodities	-5.3%	2%	0-4%	↓	2%	Neutral

*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers. **There is no guarantee that these views will come to pass**. Source: Invesco Global Market Strategy Office

Model asset allocation*

Figure 3 – Model asset allocation (15/09/2024)

	Neutral	Policy Range		Allocation	Position vs Neutral	Hedged Currency
Cash Equivalents	**5%**	**0-10%**		**6%**		
Cash	2.5%			6%		
Gold	2.5%			0%		
Bonds	**40%**	**10-70%**	↑	**45%**		
Government	25%	10-40%	↑	30%		
US	8%			16%		25% JPY
Europe ex-UK (Eurozone)	7%			3%		
UK	1%			2%		
Japan	7%		↑	5%		
Emerging Markets	2%			4%		
China**	0.2%			0%		
Corporate IG	10%	0-20%	↓	15%		
US Dollar	5%		↑	9%		50% JPY
Euro	2%			1%		
Sterling	1%			2%		
Japanese Yen	1%		↑	1%		
Emerging Markets	1%			2%		
China**	0.1%			0%		
Corporate HY	5%	0-10%	↓	0%		
US Dollar	4%		↓	0%		
Euro	1%		↓	0%		
Bank Loans	**4%**	**0-8%**		**8%**		
US	3%			6%		
Europe	1%			2%		
Equities	**45%**	**25-65%**		**35%**		
US	25%			10%		
Europe ex-UK	7%		↓	9%		
UK	4%		↑	5%		
Japan	4%			3%		
Emerging Markets	5%			8%		
China**	2%			4%		
Real Estate	**4%**	**0-8%**	↓	**4%**		
US	1%		↓	0%		
Europe ex-UK	1%			1%		
UK	1%			2%		
Japan	1%			1%		
Emerging Markets	1%		↓	0%		
Commodities	**2%**	**0-4%**	↓	**2%**		
Energy	1%		↓	0%		
Industrial Metals	0.3%			1%		
Precious Metals	0.3%			0%		
Agriculture	0.3%			1%		
Total	**100%**			**100%**		

Currency Exposure (including effect of hedging)					
USD	52%		↓	36%	
EUR	19%		↓	18%	
GBP	7%		↑	13%	
JPY	13%		↑	20%	
EM	9%		↓	14%	
Total	**100%**			**100%**	

*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. **China is included in Emerging Markets allocations. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Currency exposure calculations exclude cash. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers.
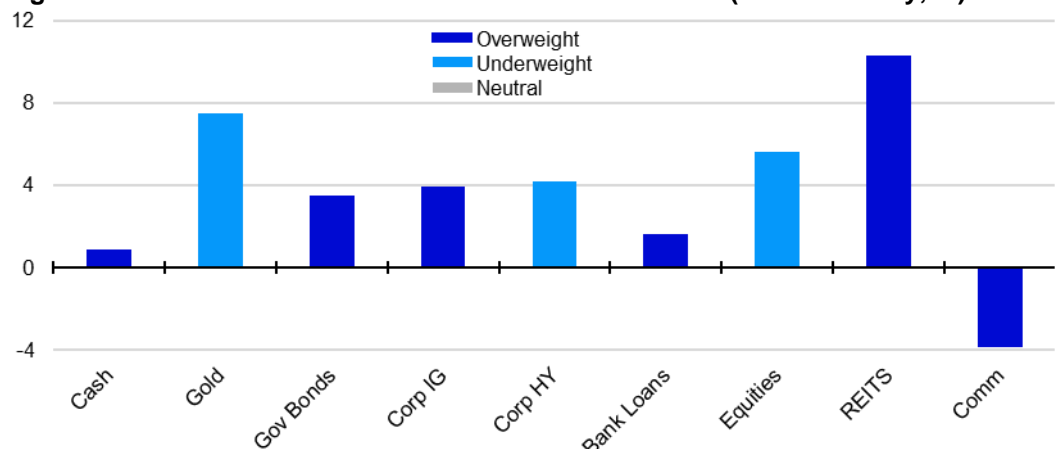Source: Invesco Global Market Strategy Office

Since we last wrote

In the last Big Picture document we boosted government bonds to Overweight within our Model Asset Allocation (see Big Picture 2024 Q3 published on 16 June 2024), and also added to real estate (to further Overweight), while reducing IG (still Overweight) and HY (to zero). From a regional perspective we favoured EM and European assets. **Figure 4** shows how global assets have performed since then (as of 30 August 2024). Full regional performance data is shown in **Appendix 2**.

REITS outperformed other assets but commodities suffered

Asset performance has again been broadly positive in the last three months (see **Figure 4**), with an improvement on the previous three months (despite the volatility of early August). Though we benefitted from the rebound in real estate (REITS), we missed the ongoing strength of gold and suffered from the weakness in other commodities. The focus on EM and Europe gave mixed results (see **Appendix 2**) but the partial hedge from USD to JPY helped us.

Figure 4 – Global asset class total returns since 31/05/24 (local currency, %) *
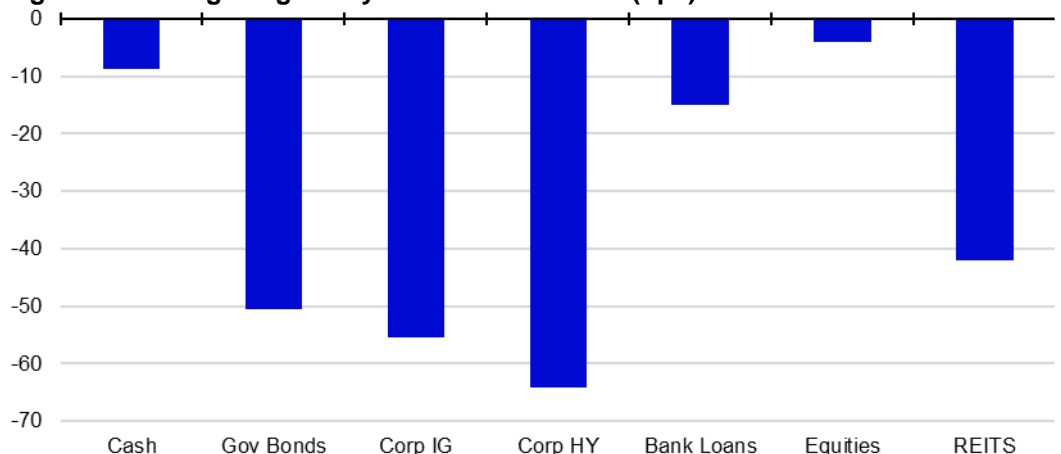

Past performance is no guarantee of future results. *31/05/2024 to 30/08/24. Colours represent model allocations during this period. See appendices for definitions and disclaimers.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Yields have fallen

The switch to central bank easing has allowed yields to fall across the board over the last three months (see **Figure 5**). The biggest declines were seen in fixed income assets. The fact that HY and IG yields fell more than government yields suggests that spreads narrowed once again, which implies market optimism about the state of the global economy (in our opinion). That apparent optimism was also reflected in the decline in REIT yields, though that could also reflect relief at the easing of financial conditions. The critical question is whether that optimism about the global economy is justified.

Figure 5 – Change in global yields since 31/05/24 (bps)

Past performance is no guarantee of future results. From 31/05/24 to 30/08/24. See appendices for definitions and disclaimers. Source: Credit Suisse, LSEG Datastream, Invesco Global Market Strategy Office

Invesco's 10-year CMAs
have been published

Taking a step back: focusing on the next decade using Invesco's CMAs

Before considering projections for the next year, it may be instructive to use longer term return projections as a guide. Invesco Solutions have just published their 10-year capital market assumptions. **Figure 6** shows their projected returns for global asset classes in a range of currency bases (their framework differs from ours, so we have had to adapt some of their categories – for instance, we use their US Treasury Short category to represent cash and precious metals for gold). A more detailed version showing regional projections is contained in **Appendix 3**.

Figure 6: Invesco 10-year capital market assumptions (global assets, % ann.)				
	USD	**EUR**	**GBP**	**CHF**
Cash & Gold	1.0	-0.9	0.8	-2.8
Cash - US Treasury Short	3.8	1.9	3.6	0.0
Gold	-1.8	-3.7	-2.0	-5.6
Government Bonds	5.1	3.2	4.9	1.3
Corporate IG	5.5	3.6	5.3	1.7
Corporate HY - US HY	6.5	4.6	6.2	2.6
Bank Loans (US)	6.4	4.5	6.1	2.5
Equities	5.9	4.0	5.7	2.0
Real Estate (REITS)	7.4	5.5	7.1	3.5
Commodities	5.2	3.3	5.0	1.4

Note: Estimates as of 30 June 2024 and based on the 10-year capital market assumptions published by Invesco Solutions in Long-Term Capital Market Assumptions (September 2024). The USD version of the CMAs is reproduced in Appendix 3. The above table uses the geometric expected return version for global asset classes ("gold" is based on the projections for precious metals and the "Cash & Gold" category shows the average of those two assets). These estimates reflect the views of Invesco Solutions, the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** Source: Invesco Solutions

HY and bank loans
dominate 10-year CMA
based optimal portfolios

The further we move along the risk spectrum, the higher the projected returns tend to be, though it is a relatively flat curve and commodities don't appear to offer enough return given the extra volatility. When it comes to CMA based optimal solutions, the only consistent overweighting across currency bases and objectives is for HY and bank loans (see **Figure 7**). At the other extreme, gold is always zero weighted, while equities and commodities are nearly always underweighted. Cash, government bond, IG and real estate allocations are mixed, with IG and real estate preferred when maximising return and cash/government bonds preferred when we maximise the Sharpe ratio.

Figure 7: Optimised global allocations based on Invesco's 10-year CMA projected returns										
	Neutral Portfolio	**Policy Range**	**Maximise Sharpe Ratio**				**Maximise Return**			
			USD	**EUR**	**GBP**	**CHF**	**USD**	**EUR**	**GBP**	**CHF**
Cash & Gold	5%	0-10%	10%	10%	10%	0%	0%	0%	1%	0%
Cash	2.5%	0-10%	10%	10%	10%	0%	0%	0%	1%	0%
Gold	2.5%	0-10%	0%	0%	0%	0%	0%	0%	0%	0%
Government Bonds	25%	10-40%	40%	40%	37%	40%	10%	11%	23%	12%
Corporate IG	10%	0-20%	7%	6%	6%	9%	4%	20%	20%	20%
Corporate HY	5%	0-10%	10%	10%	10%	10%	10%	10%	10%	10%
Bank Loans	4%	0-8%	8%	8%	8%	8%	8%	8%	8%	8%
Equities	45%	25-65%	25%	25%	25%	25%	60%	43%	27%	42%
Real Estate (REITS)	4%	0-8%	0%	0%	0%	8%	8%	8%	8%	8%
Commodities	2%	0-4%	0%	1%	4%	0%	0%	0%	4%	0%

Note: optimisations are based on the 10-year projected returns published by Invesco Solutions in Long-Term Capital Market Assumptions (September 2024), as shown in **Figure 6** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance matrices (for each currency). "Gold" is based on the projections for precious metals and the "Cash & Gold" category shows the sum of allocations for those two assets. "Maximise Sharpe Ratio" optimisations are performed by maximising the Sharpe Ratio subject not violating the constraints implied by the policy ranges shown in the table. "Maximise Return" optimisations are performed by maximising return subject to the policy range constraints but also subject to the standard deviation of returns not exceeding that of the Neutral Portfolio (as shown in **Figure 3**). Though based on the projected returns provided by Invesco Solutions, these optimal allocations do not represent their views, nor those of any other investment team at Invesco. See appendices for definitions, methodology and disclaimers. Source: Invesco Solutions and Invesco Global Market Strategy Office

Market behaviour and leading indicators suggest we are in a contraction regime

Key question #1: Where are we in the global economic cycle?

Figure 8 shows two proprietary indicators from Invesco Solutions, designed to help decide where we are in economic and market cycles. The Global LEI (leading economic indicator) measure suggests global growth is below trend (and fading), while the GRACI (Global Risk Appetite Cycle Indicator) suggests risk appetite is positive but deteriorating, which is interpreted as being typical of what happens in the contraction phase.

**Figure 8 – Global risk appetite and the global business cycle**

Note: **past performance does not guarantee future results**. Monthly data from January 1992 to August 2024 (as of 30 August). Both Global LEI (Leading Economic Indicator) and GRACI (Global Risk Appetite Cycle Indicator) are proprietary tools provided by Invesco Solutions. Global LEI is a weighted average of leading indicators for 23 countries (both developed and emerging). A reading above (below) 100 signals growth above (below) a long-term average. GRACI measures the average incremental return received per incremental unit of risk taken in global financial markets (i.e., incremental return received for moving from government bonds to credit, from credit to developed equities, from developed equities to emerging equities, etc.). It is calculated using country-level total return indices across fixed income and equity markets. A reading above (below) zero signals a positive (negative) compensation for risk taking in global capital markets in the recent past. A rising index signals improving market sentiment and vice-versa. Sources: Bloomberg L.P., Macrobond, MSCI, FTSE, JP Morgan and Invesco Solutions

PMIs add to evidence that the global manufacturing sector is slowing

In line with the above signalled weakness in leading economic indicators, manufacturing PMIs appear to be softening (see **Figure 9**). Looking across countries and regions, this appears to be a broad based phenomenon. For example, recent data shows that Chinese, German and US manufacturing PMIs have all trended lower over recent months (though services PMIs have improved). Financial markets appear to be more focused on the services data (see high yield spreads, for example), though we believe the manufacturing sector tends to lead. We worry that if a US soft landing does not materialise, financial markets will suffer more of the volatility seen in early August, and that it will be more enduring.

Figure 9 – World PMIs are mixed
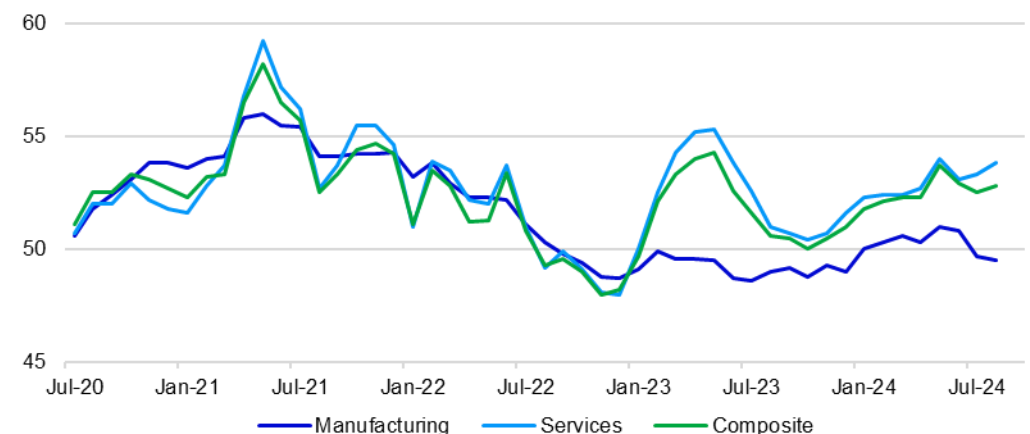
Note: based on monthly data from July 2020 to August 2024. Based on JP Morgan World PMIs (as provided by S&P Global). Source: S&P Global, LSEG Datastream and Invesco Global Market Strategy Office

Unemployment is rising on both sides of the Atlantic

Figure 10 shows that lacklustre growth is causing unemployment to rise on either side of the Atlantic. In fact, unemployment has been gently trending up in the US for two years. Much is made of the fact that rising US unemployment is not a sign of economic weakness but rather reflects a rise in labour supply due to illegal immigration. However, the recent 818,000 downward revision to US non-farm payrolls (for the 12 months to March 2024), suggests the labour market wasn't as robust as previously thought. Further, the US Office of Homeland Security estimates that 11.0 million unauthorised immigrants were living in the US at the start of 2022, up from 10.5 million at the start of 2020 but down from 11.6 million in 2010, which hardly suggests a massive inflow versus a July 2024 labour force of 167 million (US Bureau of Labor Statistics), especially given that some of them will be children.

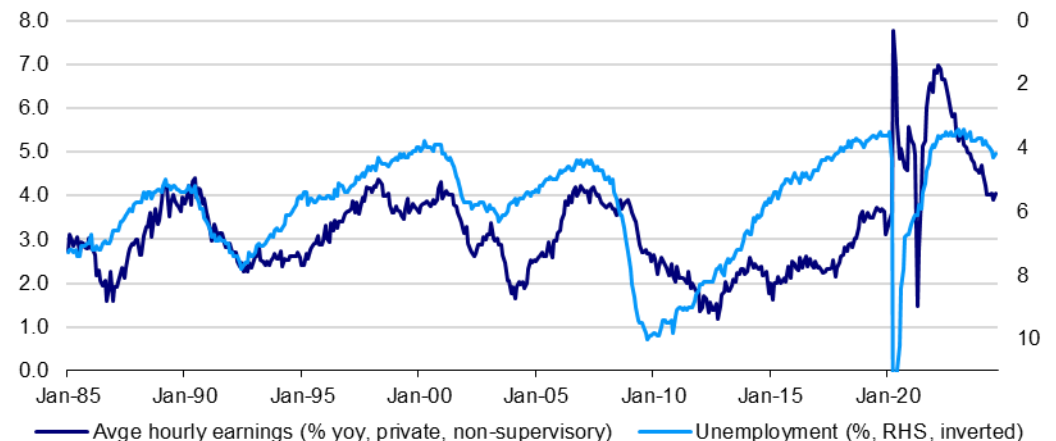**Figure 10 – Unemployment in the US and the UK (%)**
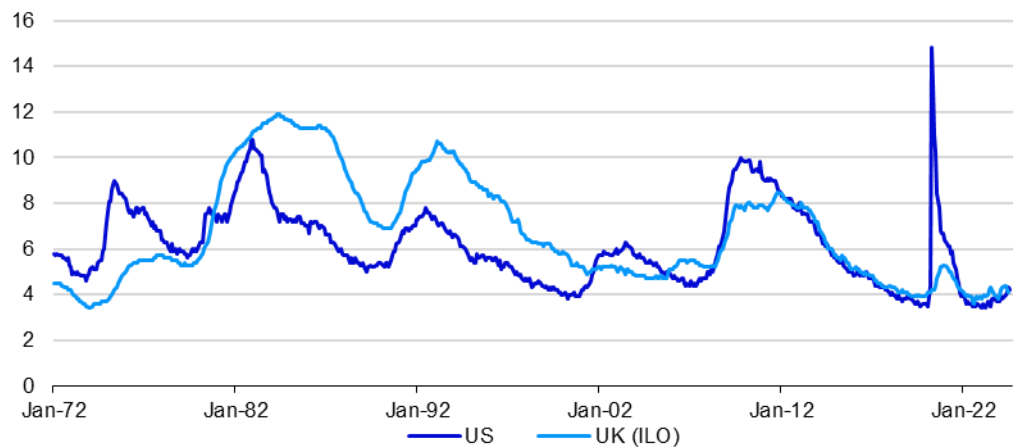
Notes: Monthly data from January 1972 to August 2024.
Source: LSEG Datastream and Invesco Global Market Strategy Office

This may be bad news for growth but could be good for inflation and policy rates

A climb in unemployment could point to a further slowdown in consumer spending (and we think that US consumer finances are stretched) but it is often a lagging, rather than leading, indicator of economic activity. Where we have more confidence is the downward pressure that it will impose on wage inflation (**Figure 11** suggests the Phillips Curve relationship still works in the US). The continued rise in unemployment brings hope of further downward pressure on wages and is one of the reasons why we think core price inflation will trend lower.

That is good news because it should allow the Fed to join other central banks in easing policy. We assume the Fed will cut its policy rate by 25 basis points (bps) on 18 September, the question then being how rapidly and how far it will cut thereafter.

Figure 11 – US unemployment and wage inflation

Note: monthly data from January 1985 to August 2024.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Key question #2: What should we expect from the Fed?

More than 40 central banks have cut rates in 2024

Major central banks have started to ease and more than 40 central banks have cut rates in 2024 (based on the CentralBankRates website). **Figure 14** shows that our measure of average global central bank policy rates has moved lower and we expect more.

Figure 12 – Weighted average global central bank policy rate (%)

Based on monthly data from April 2001 to August 2024 (as of 30 August 2024). Based on the 20 largest economies during each calendar year, according to nominal GDP in US dollars (based on data from the IMF World Economic Outlook April 2024).
Source: IMF, LSEG Datastream and Invesco Global Market Strategy Office

And the Fed appears set to join them

However, financial markets are focused on the US Federal Reserve, with the expectation of the first cut coming on 18 September 2024. The Fed has given strong hints that it will pull the trigger at that meeting and the only debate appears to be the size of the cut (25 bps versus 50 bps). We think that US inflation is heading in the right direction, with core PCE inflation around 2.6% in July, and there is evidence of a slowing economy (as mentioned in the previous section).

Markets are now predicting rapid Fed rate cuts and we agree

The market predicted path of Fed policy rates has changed a lot since we last wrote (see **Figure 13**), with futures markets suggesting 110 bps worth of cuts before the end of 2024 and 235 bps in less than 12 months. That may seem like a lot but is in line with recent rate cutting cycles (the Fed has cut rates by an average of around 180 bps in the first six months of rate cutting cycles since the mid-1990s). Given that the Fed tightened more than many central banks, and that it is an easing laggard, it is not surprising that markets are pricing in more cuts from the Fed than from other major central banks.

Figure 13 – The market implied path of central bank rates (%)
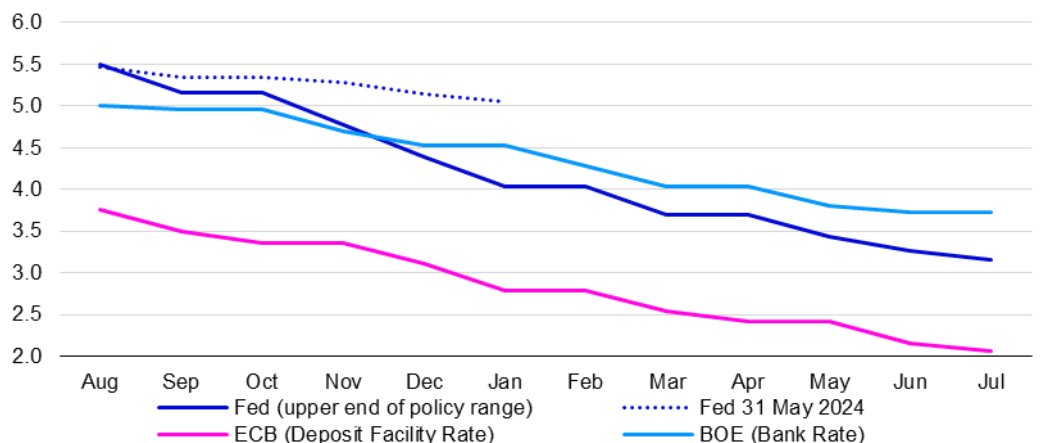
From August 2024 to July 2025. Based on Fed Funds Futures (for the Fed) and Overnight Index Swaps (for the BOE and ECB) as calculated by Bloomberg. Rates calculated for central bank policy meeting dates. For months where there is no meeting, we show the same rate as the month before. As of 12 September 2024. "Fed 31 May 2024" shows the market implied path as of 31 May 2024.
Source: Bloomberg and Invesco Global Market Strategy Office

Figure 14 – Fed policy rate versus US nominal GDP growth (%)
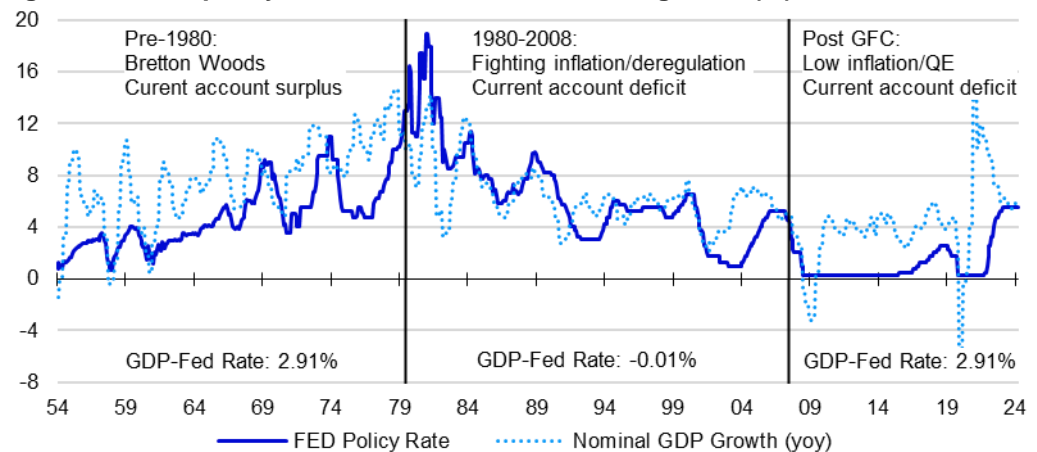
Note: Monthly data from July 1954 to August 2024 (as of 30 August 2024). Fed Policy Rate is the mid-point of the Fed's policy range. Nominal GDP growth in any month is the year-on-year growth rate for that quarter (it is the same value for each month in the quarter). "GDP-Fed Rate" shows the average gap between nominal GDP growth and the Fed Policy rate over the period concerned. "Bretton Woods" was a fixed exchange rate regime that ceased to function in the early 1970s. "GFC" is the Global Financial Crisis.
Source: LSEG Datastream and Invesco Global Market Strategy Office.

Markets are priced for big Fed rate cuts over the next year but what will be the "normal" Fed rate

How far will Fed policy rates fall? Markets are looking for a 240 bps decline over the next year (to around 3.10%) and a low for this cycle of around 2.90%. The Taylor Rule suggests the "neutral" rate should be around 2 percentage points above inflation, giving a neutral policy rate of 4% (if inflation is 2%). However, the June 2024 median FOMC member estimate of the long run policy rate (mid-point) was 2.8%, with most forecasts in the 2.5%-3.5% range (we suspect these forecasts will rise as recency bias fades).

The Fed says 2.8% is normal but we think something closer to 3.5%-4.0% may be neutral (with a "normal" 10-year yield closer to 4.5%-5.0%)

Figure 14 compares the Fed's policy rate with nominal GDP growth and suggests the comparison varies over time. The 1980-2008 period is the one most aligned with the Taylor Rule, a period when the Fed's policy rate was roughly equal on average to nominal GDP growth (which we expect to be around 4%). However, the policy rate has been well below nominal GDP growth for most of the period since 2008 but we think (hope) that was an abnormal period, as we think was the pre-1980 period of fixed exchange rates and US current account surpluses. Turning to the slope of the yield curve, **Figure 15** suggests that 10-year yields have exceeded policy rates by an average of around 1.15%-1.30% since 1980, giving a "normal" 10-year yield of 4.00%-5.00% (depending on whether the FOMC or we are right about the neutral Fed policy rate).

Figure 15 – Fed policy rate versus US 10 year yield (%)
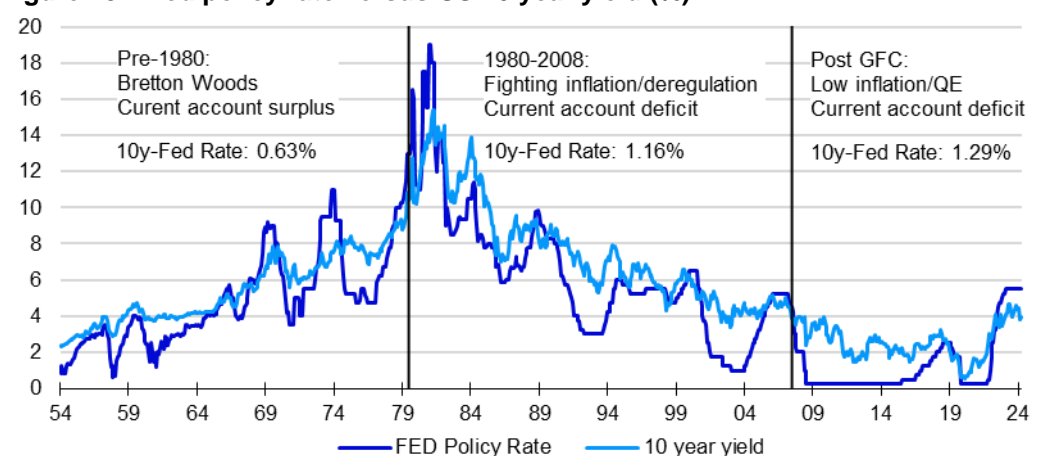
Note: **Past performance is no guarantee of future results.** Monthly data from July 1954 to August 2024 (as of 30 August 2024). Fed Policy Rate is the mid-point of the Fed's policy range. "10y-Fed Rate" shows the average gap between 10-year yields and the Fed Policy rate over the period concerned. "Bretton Woods" was a fixed exchange rate regime that ceased to function in the early 1970s. "GFC" is the Global Financial Crisis.
Source: LSEG Datastream and Invesco Global Market Strategy Office.

Key question #3: Could US elections impact markets?
We don't believe that elections have a durable effect upon financial markets (in normal circumstances). We have written extensively in the past about our historical analyses which suggest (against the received wisdom) that Democratic presidents have tended to be associated with better economic performance and stronger stock markets, while there is no relationship between the rate of corporate taxation and future stock market returns.

We don't think elections usually have a big effect on markets

Figure 16 – US presidential election opinion polls during 2024 (10-poll MA, %)
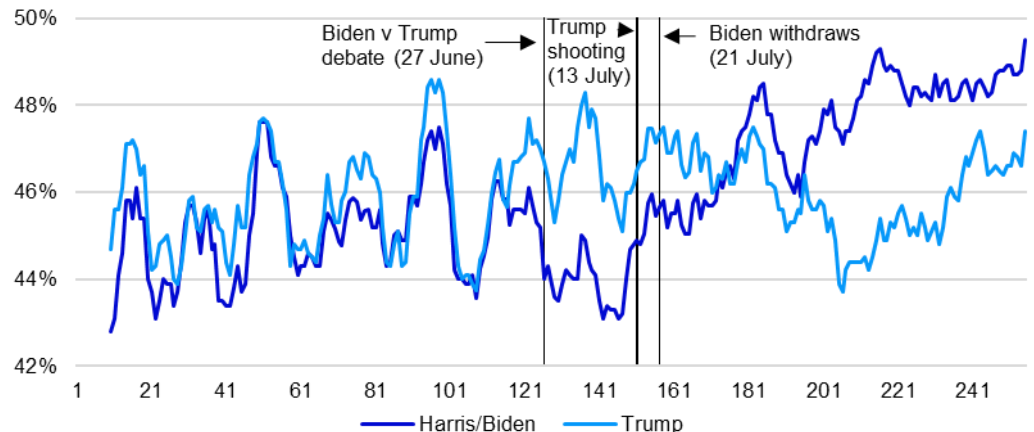
Note: Based on opinion polls from 31 December 2023 to 9 September 2024. The horizontal axis shows the number of opinion polls, rather than dates (though it is in date order).
Source: FiveThirtyEight, Wikipedia and Invesco Global Market Strategy Office

Nevertheless, we find ourselves watching US elections with interest. To the extent that we have the information, there are some clear differences between the candidates: we think that Donald Trump is frustrated by his lack of influence on the Fed, while we would expect Kamala Harris to continue respecting its independence; Trump would more likely favour lower taxes (both personal and corporate), while Harris seems more focussed on redistribution; we doubt that either would focus on reducing fiscal deficits, with Trump more likely to further widen the budget gap; neither would be good for international trade, but we think Trump would be the most destructive (with a dampening effect on the US economy); Trump would likely revert to favouring oil/gas/coal exploitation, which may sound good for those industries but could depress global energy prices.

But we are watching the US elections with interest

As for who will be the next president, **Figures 16** and **17** show that the race is very tight, whether looking at national opinion polls or those focused on swing states. If anything Kamala Harris has a slight advantage but we think it is too close to call.

For now the outcome is too close to call

Figure 17 – Swing state opinion polls since 25 July 2024 (10-poll MA, %)
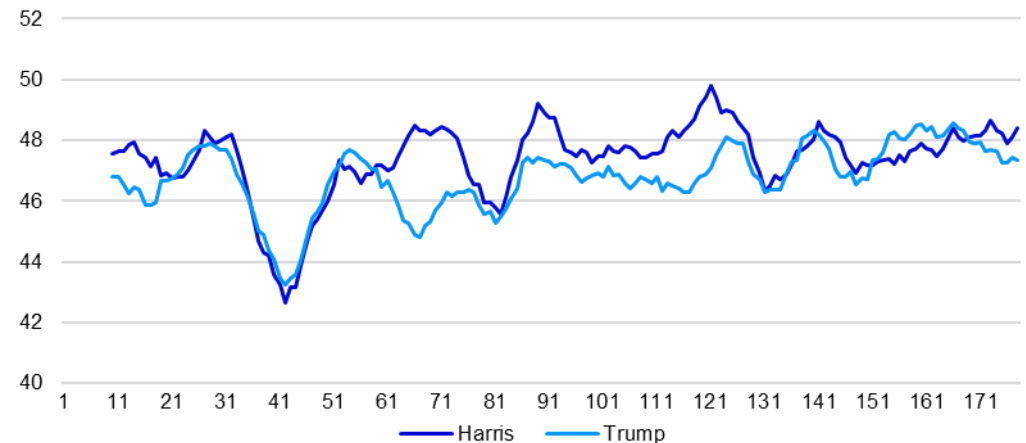
Notes: Based on opinion polls from 25 July 2024 to 8 September 2024 for the US presidential election. Swing states are Arizona, Georgia, Michigan, Nevada, North Carolina, Pennsylvania and Wisconsin (as defined by 270toWin as being too close to call). The horizontal axis shows the number of opinion polls, rather than dates (though it is in date order). Source: FiveThirtyEight, 270toWin and Global Market Strategy Office

Cash rates and bank loan yield remain higher than normal, so being defensive isn't that costly (in our view)

Key question #4: What is priced in?

Despite the recent movements shown in **Figure 5**, asset class yields are largely in line with historical norms, when averaged across regions (see **Figure 18**). Exceptions are cash and bank loans (above norms) and HY and equities (slightly below norms). **Appendix 1** shows that it is the US that is depressing the global equity dividend yield, while Chinese equity yields are well above historical norms.

Figure 18 – Global asset yields within historical ranges (%)
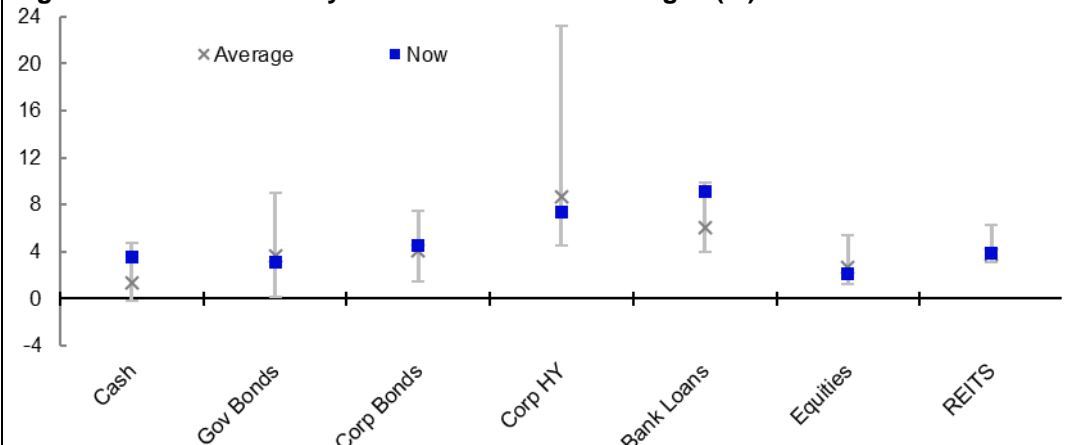
Start dates for historical ranges are Cash 1/1/01; Gov Bonds 31/12/85; Corp Bonds 31/12/96; Corp HY 31/12/97; Bank Loans 31/01/98; Equities 1/1/73; REITs 18/2/05. See appendices for definitions, methodology and disclaimers. As of 30 August 2024.
Source: Credit Suisse Indices/UBS, LSEG Datastream and Invesco Global Market Strategy Office

Yield curves expected to steepen as central banks ease

Based on 10y-3m sovereign spreads, **Figure 19** shows that yield curves remain inverted (except in Japan). We expect yield curves to steepen into upward sloping terrain as central banks ease, with most of the movement at the short end of the curve. Japan could be an exception, with bear steepening (long rates rising more than policy rates).

IG spreads more attractive than those on HY; equity yield spreads wider than usual in China, Japan and the UK

IG spreads appear in line with or just below historical norms, while HY spreads remain tighter than usual (which is one of the reasons we prefer IG to HY). We continue to like bank loans, based on the high current yield shown in **Figure 18**, while the spread (discount margin) is close to historical norms (see **Figure 19**). As central banks ease, we anticipate that bank loans will become less attractive as loan current yields fall. Equity yield spreads (versus government bonds) are globally close to historical norms, though more attractive than usual in China, Japan and the UK.

Figure 19 – Yield spreads by region within historical ranges (basis points)
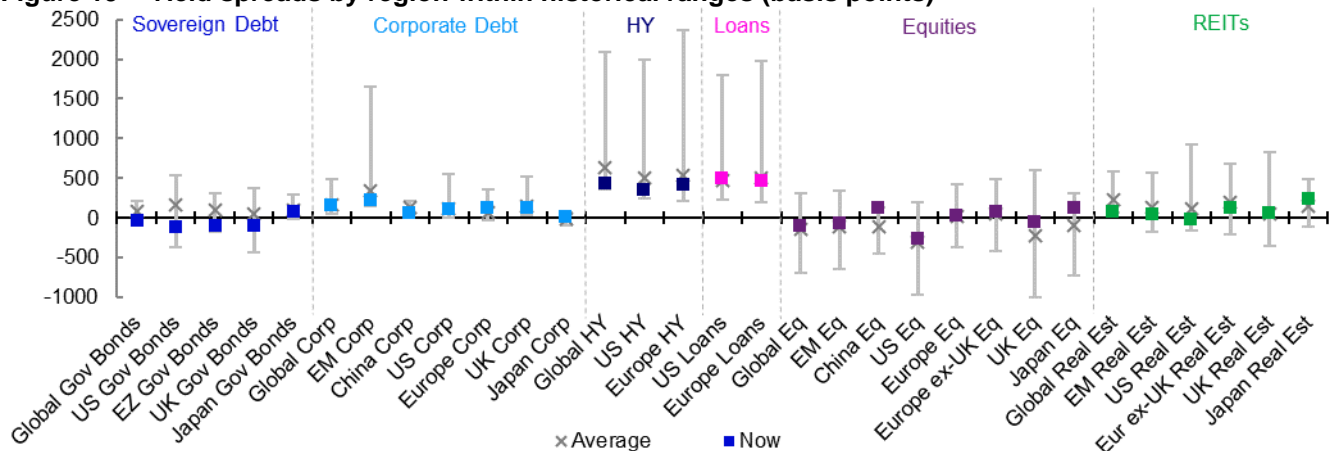
Notes: **Past performance is no guarantee of future results**. As of 30 August 2024. "Sovereign Debt" is 10-year yield minus 3-month government rate. "Corporate Debt" is the investment grade yield minus local government bond yield. "HY" is the yield on high yield minus the local government bond yield. "Loans" is the discount margin on bank loans (3-year life). "Equities" is dividend yield minus local government bond yield. "REITs" is the REIT dividend yield minus local government yield. See appendices for definitions, methodology and disclaimers.
Source: Bloomberg, Credit Suisse Indices/UBS, ICE BofA, FTSE Russell, LSEG Datastream and Invesco Global Market Strategy Office.

Figure 20 – Cyclically adjusted PE ratios within historical ranges
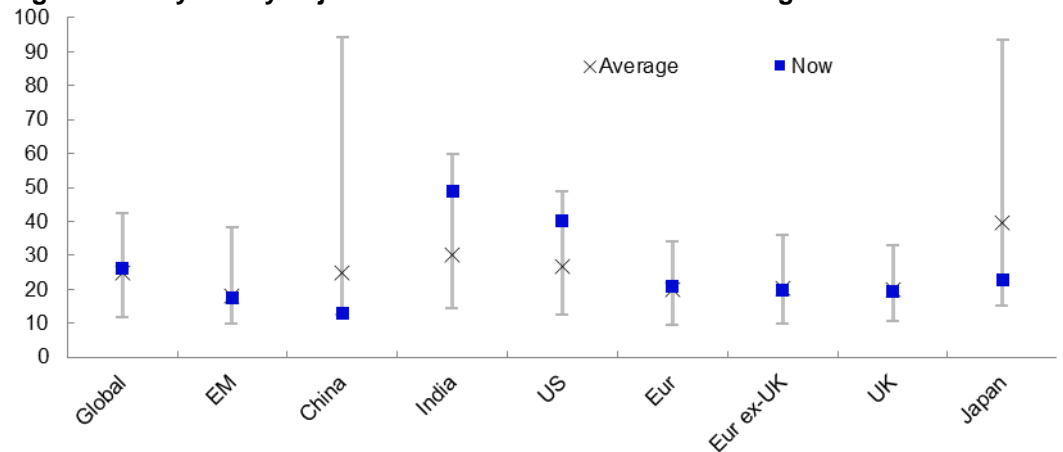
Note: Cyclically Adjusted Price/Earnings and uses a 10-year moving average of earnings. Based on daily data from 3 January 1983 (except for China from 1 April 2004, India from 31 December 1999 and EM from 3 January 2005), using Datastream indices. As of 30 August 2024.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Chinese equity valuations are close to those of the US in early March 2009

Appendix 2 shows that equity markets reverted to old habits in the three months to end-August 2024, with US stocks leading the way and the Chinese market lagging. This exacerbated the valuation gap between the two largest markets in the world (see **Figure 20**). The cyclically adjusted PE ratio (CAPE) for China (13.1) is close to its historical low (12.4). It is also close to the US low seen in March 2009 (12.2), when the S&P 500 bottomed at 666. In the meantime, the US market has risen to a CAPE of 40.2 (the peak was the 48.8 seen at the height of the TMT bubble in March 2000).

Buy low, sell high still works…

…which we think will favour Chinese stocks over US stocks over the long haul

We put so much emphasis on valuations as we believe they are an important determinant of long term returns. We use CAPEs to smooth out the volatility of simple PE ratios that we believe renders them of little use as predictors of future returns. **Figure 21** suggests a historical inverse correlation between the Shiller PE (a form of CAPE) and future returns on US equities. In essence, investing in US equities when the Shiller PE is low has tended to be associated with healthy future returns, while buying when the Shiller PE is high has tended to deliver disappointing results. Admittedly, the relationship may have changed, in that the Shiller PE appears to have moved to a higher range over recent decades. But higher valuations still seem to be associated with lower returns. Based on the current valuation of the US equity market, we fear that future returns will be limited (if not negative), while we suspect Chinese equities will deliver attractive long term returns.

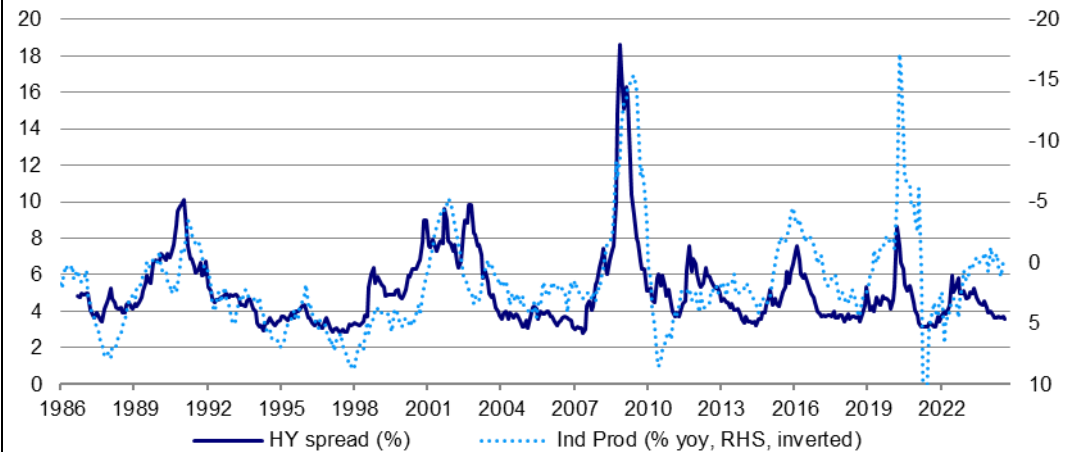**Figure 21 – US Shiller PE and future US equity returns**
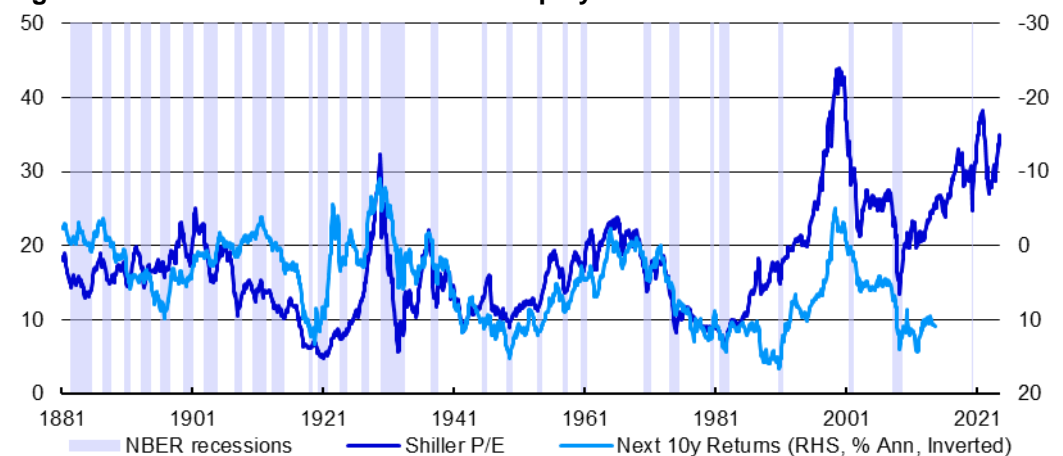
Note: **Past performance is no guarantee of future results**. Monthly data from January 1881 to August 2024 (as of 30 August 2024). "NBER recessions" are periods of US recession, as defined by the National Bureau of Economic Research. See appendices for definitions and disclaimers.
Source: Robert Shiller, LSEG Datastream and Invesco Global Market Strategy Office

Tight HY spreads continue to worry us

Figure 5 suggests that HY spreads versus government yields have again narrowed over the last three months. At the same time, **Figure 22** suggests that US high yield spreads are usually only this tight when the economy is strong (which we don't think it is). Hence, we struggle to explain why spreads are so tight and worry they are pricing in an economic recovery that may not happen. In our 12-month projections, we assume that spreads will widen (and that defaults will rise), though not dramatically (see the 12-month assumptions in **Appendix 4**).

Figure 22 – US high yield spread and industrial production growth

Notes: **Past performance is no guarantee of future results**. Monthly data from January 1986 to August 2024 (as of 30 August 2024). HY spread is the difference between the yield to maturity on the ICE BofA US High Yield Index and the US 10-year treasury yield.
Source: LSEG Datastream and Invesco Global Market Strategy Office

REITS have outperformed, removing some of the attraction

In the last edition of the Big Picture we boosted the allocation to real estate (REITS) to the maximum allowed. This was partly on the assumption that real estate is a part of the economy that will feel relief as interest rates decline and partly on the observation that REIT yields were unusually generous compared to equity dividend yields (suggesting to us that a lot of bad news was in the price). As discussed earlier (see **Figure 4**), REITS have recently performed well, which has removed some of valuation advantage versus equities. Hence, though we still think that real estate is an attractive asset class, we believe that some of the anticipated outperformance has been realised, which has depressed yields, which makes us a little more cautious, especially as we consider it to be a cyclical asset class (see the assumptions in **Appendix 4**).

Figure 23 – Global real estate and equity dividend yields (%)
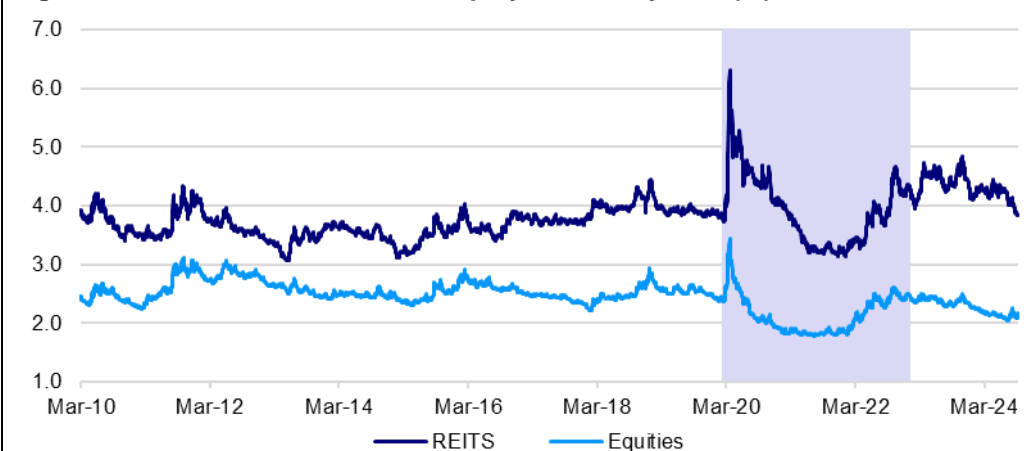
Note: **Past performance is no guarantee of future results**. Daily data from 2 March 2010 to 6 September 2024. REITS dividend yield is based on FTSE EPRA/NAREIT Global Index. Equity dividend yield is based on the Datastream World Index. Shaded area shows the Covid-19 pandemic period (from 1 February 2020 to end-2022). Source: FTSE EPRA/NAREIT, LSEG Datastream and Invesco Global Market Strategy Office

The yen remains weak, despite the recent rebound

Among developed world currencies, the Japanese yen has been the weakest over recent years (see **Figure 22**). While almost every other central bank in the world tightened aggressively during 2022 and 2023, the BOJ made no changes from a very loose stance (negative interest rates and continued asset purchases). The upshot was an extreme weakening of the yen, which has fallen by around 30% versus the US dollar since December 2020 (even after the recent rally).

Figure 22 – Real effective exchange rates* relative to historical norms
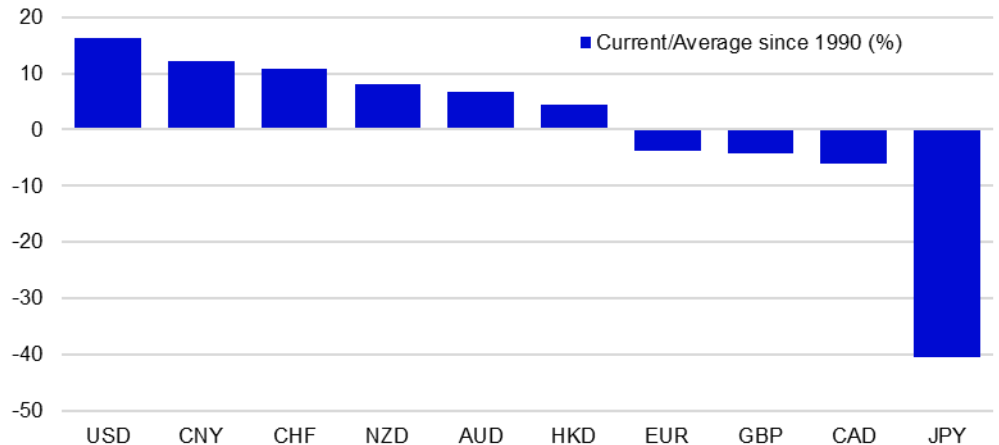
*Currency indices measured against a trade-weighted basket of currencies and adjusted for inflation differentials (based on JP Morgan Real Trade Weighted Indices). As of 30 August 2024.
Source: JP Morgan, LSEG Datastream and Invesco Global Market Strategy Office

The unwinding of carry trades boosted the yen

However, after USDJPY touched 161 at the end of June, it has since fallen to around 141 (as of 13 September). This strengthening of the yen was easy to foresee, though it took longer than we expected. **Figure 23** shows that the spread between US and Japanese three-month rates has started to narrow (partly because the BOJ has initiated its tightening and partly because markets are anticipating Fed easing). That spread narrowing came as data seemed to confirm that the US economy was weakening, which may have contributed to the rise in currency volatility (see **Figure 23**). Taken together the narrowing of interest rate spreads and the rise in implied volatility reduced the potential reward/risk ratio on carry trades from JPY into USD and the unwinding of such trades probably contributed to the strengthening of the yen.

We expect more gains for the yen (and downward pressure on Japanese equities)

Given the expected rapid decline in Fed rates (and the expected slight rise in BOJ rates), we suspect that yen strengthening and generalised USD weakness will continue (see our forecasts in **Figure 24**). We doubt that will be good for Japanese equities.

Figure 23 – The unwinding of yen carry trades

Note: **Past performance is no guarantee of future results**. Based on monthly data form January 1995 to August 2024 (as of 30 August 2024). 3m implied volatility is based on 3m currency options between the US dollar and Japanese yen. Source: LSEG Datastream and Invesco Global Market Strategy Office

Projections for the next year

We think the global economy is still decelerating, bringing short-term risk for the more cyclical assets, especially after recent strong performance. However, we have a 12-month forecast horizon, within which we expect most central banks to ease, which we think could help economies and assets (though we worry that is already in the price).

Underpinning our projections for the next 12 months are the following assumptions:
- Global GDP growth will slow and then recover
- Global inflation will fall towards central bank targets
- Major central banks will ease policy (except the BOJ)
- Yield curves will mostly steepen (largely due to falling short rates)
- Credit spreads will widen (on the whole) and defaults rise
- Bank loan current yield spreads will narrow marginally but defaults rise
- Equity and REIT dividend growth will be minimal; yield movements will be mixed
- USD will weaken as the Fed eases, especially versus JPY (as the BOJ tightens)
- Commodities will weaken but later be aided by global recovery and USD weakness

The assumptions behind our projections are laid out in **Appendix 4**, while **Figure 24** shows the implied market targets. Perhaps the single most important forecast is that major central bank policy rates will be markedly lower in 12 months. Exceptions are the PBOC and the BOJ. We expect yield curves to steepen, though largely because short rates fall (we expect 10-year yields to fall initially but to be slightly higher in 12 months). We predict the US dollar will weaken, which we think could cushion commodities and EM assets, especially as the global economy improves later in 2025.

Yields on equities and real estate will face competing forces: slowing economies could push them to the upside (perhaps balanced by falling bond yields) but they could then fall as economies recover. Overall, we expect little change, except for Chinese equities (yields expected to fall) and US, Japanese and EM REITS (yields to rise). Equity and REIT dividend growth is expected to be in low single digits in most cases.

Margin notes:
- Economies to slow and then recover…but that recovery seems already priced in
- We assume that lower growth and inflation will allow central banks to continue easing, bringing eventual recovery
- Most central banks expected to ease aggressively and yield curves to steepen
- Equity and REIT yields face conflicting influences

Figure 24 – Market forecasts

		Current (30/08/24*)	Forecast 12-month
Central Bank Rates	US	5.50	3.50
	Eurozone	3.50	2.50
	China	3.35	3.20
	Japan	0.25	0.75
	UK	5.00	3.50
10yr Bond Yields	US	3.92	4.10
	Eurozone	2.23	2.50
	China	2.18	2.20
	Japan	0.90	1.20
	UK	4.02	4.00
Exchange Rates/US$	EUR/USD	1.10	1.15
	USD/CNY	7.09	7.00
	USD/JPY	146.18	125.00
	GBP/USD	1.31	1.35
	USD/CHF	0.85	0.83
Equity Indices	S&P 500	5648	5150
	Euro Stoxx 50	4958	5100
	FTSE A50	11763	12790
	Nikkei 225	38648	35250
	FTSE 100	8377	8625
Commodities (US$)	Brent/barrel	80	70
	Gold/ounce	2505	2300
	Copper/tonne	9118	9000

Notes: * except for central bank rates which take account of subsequent changes. **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 25 – Projected 12m return versus risk for global assets
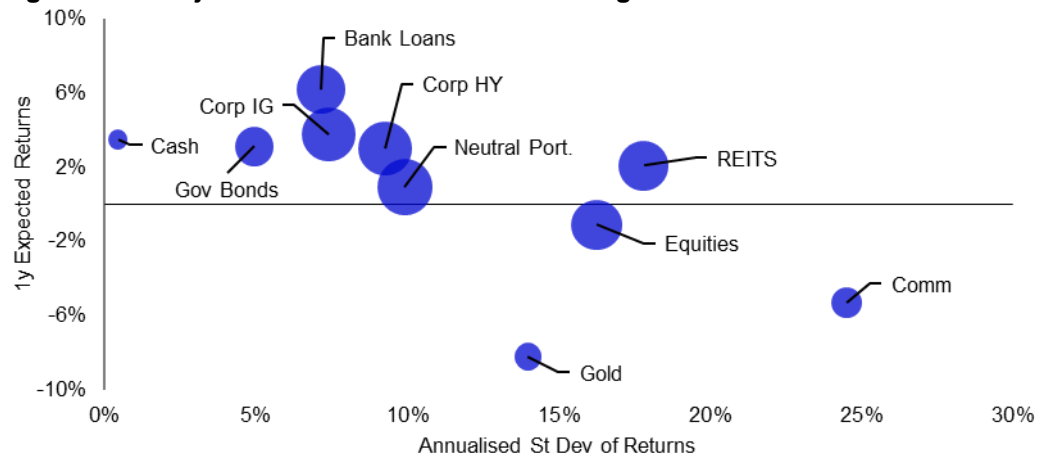
Notes: based on local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets (hollow bubbles indicate negative correlation). Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights are shown in **Figure 3**. As of 30 August 2024. **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers. Source: ICE BofA, Credit Suisse Indices/UBS, FTSE Russell, MSCI, S&P GSCI, LSEG Datastream and Invesco Global Market Strategy Office

Changes to projected returns largely reflect the drop in yields (rise in prices)

Most of the return projections shown in **Figure 25** are lower than in the last edition (especially equities and REITS). The changes since last time broadly reflect the intervening rise in prices and fall yields (see **Figure 5**) and a more pessimistic view about the short term economic outlook (with a particular effect on commodities). Though the forecast return on bank loans is lower than last time (because of the fall in yields), it still looks attractive to us on a risk-reward basis (see **Figure 25**).

Optimisation favours cash, government bonds, IG and bank loans

We use an optimisation process to help balance risk and reward and **Figure 26** shows the results. The outcome favours cash, government bonds, IG and bank loans, while shunning cyclical assets and gold. This is unsurprising given the broad inverse correlation between reward and risk implicit in the forecasts shown in **Figure 25**.

We reduce real estate and commodities, while boosting government bonds and IG

Within our Model Asset Allocation, we follow the output of the optimiser, in direction if not magnitude. We were already quite defensive in our allocations and don't want to go much further in that direction, though that is what the optimiser is suggesting (based on our projections). We reduce commodities and real estate (REITS) to Neutral (from Maximum allocations) and boost government bonds and IG (both to further Overweight).

Figure 26 – Optimised allocations for global assets (using local currency returns)

	Neutral Portfolio	Policy Range	Projected Returns	Optimisations Sharpe Ratio	Max Return	Model Asset Allocation*
Cash & Gold	5%	0-10%	-2.4%	10%	10%	6%
Cash	2.5%	0-10%	3.5%	10%	10%	6%
Gold	2.5%	0-10%	-8.2%	0%	0%	0%
Govt Bonds	25%	10-40%	3.1%	40%	37%	↑ 30%
Corporate IG	10%	0-20%	3.8%	17%	20%	↑ 15%
Corporate HY	5%	0-10%	3.0%	0%	0%	0%
Bank Loans	4%	0-8%	6.2%	8%	8%	8%
Equities	45%	25-65%	-1.1%	25%	25%	35%
Real Estate	4%	0-8%	2.1%	0%	0%	↓ 4%
Commodities	2%	0-4%	-5.3%	0%	0%	↓ 2%

Notes: *This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Based on local currency returns (for both the one-year projected returns and five-year historical covariance matrix). Cash is an equally weighted mix of USD, EUR, GBP and JPY. "Sharpe Ratio" shows the results of maximising the Sharpe Ratio. "Max Return" maximises returns while not exceeding the volatility of the Neutral Portfolio. **There is no guarantee that these views will come to pass.** See appendices for definitions, methodology and disclaimers. Source: Invesco Global Market Strategy Office

Model Asset Allocation: Going more defensive

We reduce risk by boosting government bonds and IG, while reducing real estate and commodities

Further asset price gains over the last three months, and lower yields, lead us to expect lower returns and to continue derisking our Model Asset Allocation. We don't believe we will be rewarded for taking risk. Consequently, we boost government bonds and IG (both taken to further Overweight), while reducing real estate and commodities (both to Neutral). From a regional perspective we prefer UK and EM assets and continue to boost JPY exposure via hedges from USD.

A lot of good news is already priced-in, hence the need to reduce risk

As outlined earlier, we think that cyclical assets such as equities and HY have priced in a positive economic scenario. Hence, we believe that some valuations are challenging (leaving limited scope for returns) and we fear the possibility of short term volatility as the global economy slows. However, we expect a rapid decline in central bank interest rates over the next 12 months, which may limit the downside. There are potential geopolitical and election risks, but we doubt they will have an enduring effect.

Boosting government bonds to further Overweight

Though we expect long rates to be marginally higher in 12 months (after falling in the short term), we think that risk-adjusted government bond returns will be relatively attractive compared to more cyclical assets (see **Figure 25**). Hence, we raise **government bonds** from an already Overweight 27% to 30% within our Model Asset Allocation (Neutral is 25%). This is done by raising the allocation to Japan, though it remains Underweight. This is not because we expect good returns on Japanese government bonds but rather that we want to limit the damage as the Japanese yen appreciates (which we expect). EM, UK and US remain our favoured regions (in that order), largely reflecting their yields. Full regional allocations are shown **Figure 3**.

IG boosted on better risk-reward trade-off than riskier assets

Another addition to defensive assets comes in the form of **investment grade**, which is taken from an already Overweight 12% to 15% (Neutral is 10%). Though better risk-reward trade-offs may be found among other defensive assets, we think that IG is better placed than riskier assets (see **Figure 25**). Though spreads are expected to widen slightly in some regions, the starting yield is high enough to offer attractive carry. We expect the best returns on UK and EM IG but are already maximum allocated in those regions, so add to the US (further Overweight) and Japan (to Neutral), again for fear of being hurt by an appreciating yen.

Real estate reduced after a strong three months

After strong performance over the last three months (see **Figure 4**), we reduce **real estate** to Neutral (we think there could be some consolidation after a large fall in yields in some regions). This is achieved by reducing the US and EM allocations to zero. The UK is our favoured region (the UK REIT yield is 4.6%).

Commodities lowered on concern about the global economy

Despite the poor performance over the last three months, we also reduce **commodities** to Neutral. We had focused on raw materials as the one cyclical asset class that had been lagging but a deteriorating global economic environment makes us more cautious about the short term outlook. We reduce the energy allocation to zero (from Overweight) but maintain Overweight allocations to industrial metals and agriculture.

No changes to cash or bank loans

There are no changes to **cash** or **bank loans**, both of which remain Overweight. In our opinion they offer among the best risk-reward trade-offs across assets (see **Figure 25**).

Equities remain Underweight

Equities have again performed relatively well over the last three months and we remain at an Underweight 35% (versus a Neutral 45%). In the dominant US market, we remain concerned about concentration and valuations. Within the asset class we rebalance in Europe, away from Europe ex-UK towards the UK (leaving them both Overweight).

Likewise HY

We make no changes to **high yield**, which remains Zero allocated. Spreads are much narrower than we would expect at this stage of the economic cycle. We expect spreads to widen and defaults to rise (towards but not reaching cyclical norms).

Regional favourites are UK and EM (and JPY exposure)

Regionally, we are Overweight UK and EM assets and particularly Underweight US assets (and the US dollar). We maintain the partial hedge out of US dollar into Japanese yen, believing the latter will continue to rally as the Fed eases and the BOJ normalises.

We expect low volatility, size and value to outperform over the next year

Equity factors and sectors

Mega-cap growth stocks were far ahead of most others during the first half of 2024 maintaining their momentum even when yields rose during Q2 2024. Size (small caps) was the worst performer, which meant that our equal-weighted factor indices underperformed their market capitalisation weighted benchmark (see **Figure 27** for the US as an example). However, since the beginning of Q3, there has been a rotation into low volatility (reflecting concerns about the economy), size and value (the most rate-sensitive factors, in our view). In the short term, we expect equity markets to keep being influenced by these opposing forces until we get more clarity on the economic outlook.

Figure 27 – United States factor relative total returns (%)
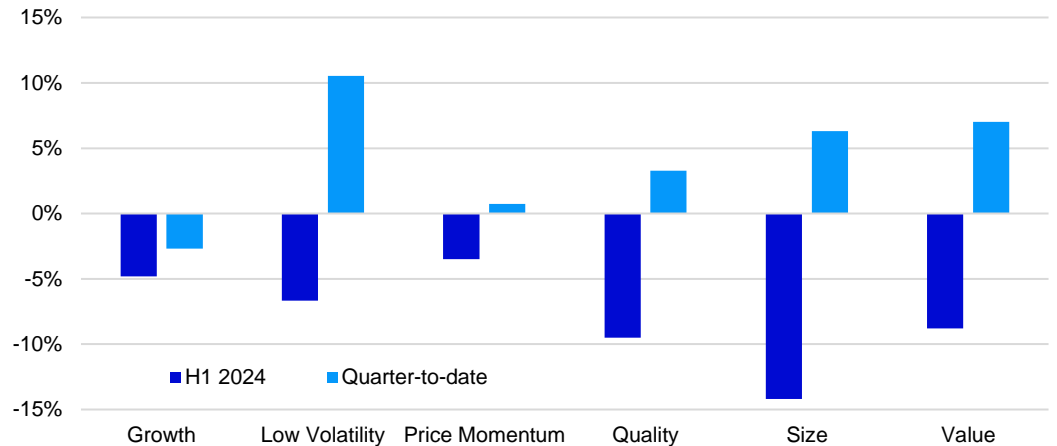
Note: **Past performance is no guarantee of future results.** As of 30 August 2024. Returns are relative to the S&P 500 (US). H1 2024 data is from 31 December 2023 to 30 June 2024. Quarter-to-date data is from 30 June to 30 August 2024. See appendices for methodology and disclaimers.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Barbell approach of defensives and financials favoured

In our latest Strategic Sector Selector we maintained the view that global equities could continue to progress further in the mid-cycle stage of the market cycle. At the same time, we recognised the short-term risks and tactically reduced our allocations to cyclical sectors, while raising our exposure to defensives slightly. Until we get more clarity on the economic outlook, we view our current approach of staying Overweight both most defensive sectors (consumer staples and healthcare) alongside rate sensitive financials as appropriate (especially those that look undervalued on our models - see **Figure 28**).

Figure 28 – Global sectors valuation matrix
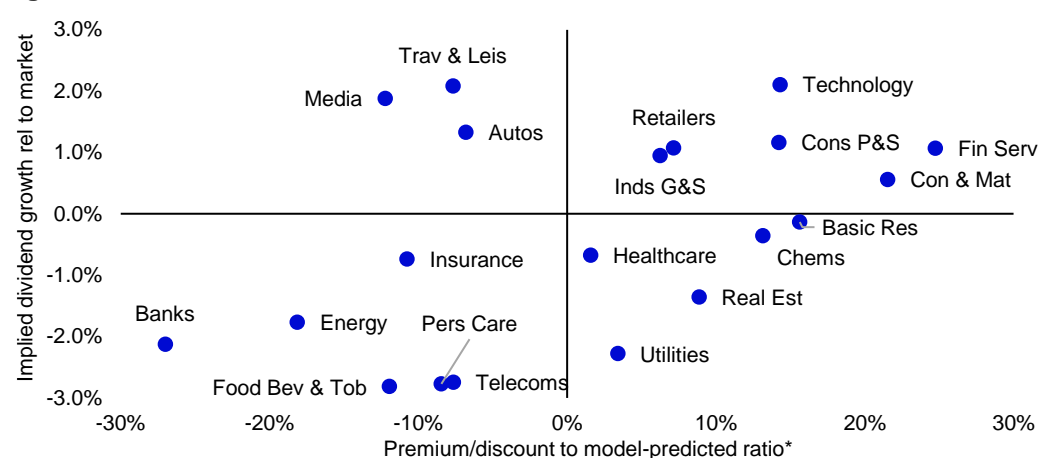
Notes: On the horizontal axis, we show how far a sector's valuation is above/below that implied by our multiple regression model (dividend yield relative to market). The vertical axis shows the perpetual real growth in dividends required to justify current prices relative to that implied for the market. We consider the sectors in the top right quadrant expensive on both measures, and those in the bottom left are considered cheap. See appendices for methodology and disclaimers. Data as of 30 August 2024.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Appendices

Appendix 1: Global valuations vs history

Regional yields within historical ranges (%)
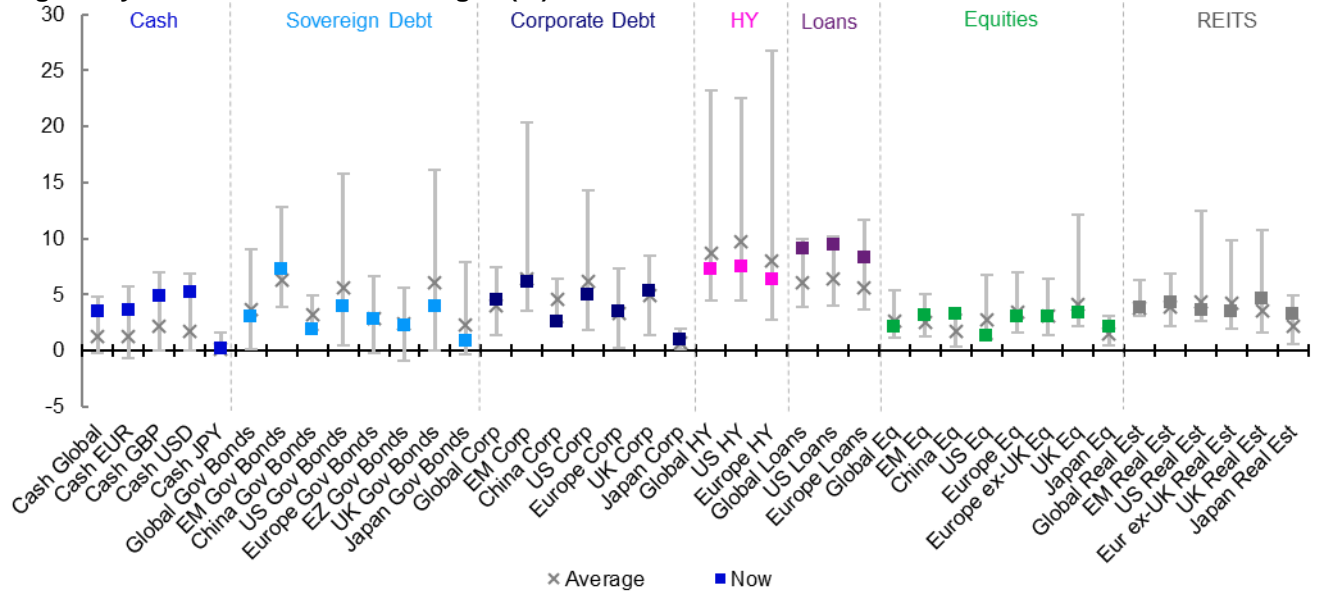
Notes: **Past performance is no guarantee of future results.** As of 30 August 2024. "Corporate Debt" is investment grade credit and "Loans" are bank loans. See appendices for definitions, methodology and disclaimers. Source: Bloomberg, Credit Suisse Indices/UBS, FTSE Russell, ICE BofA, LSEG Datastream and Invesco Global Market Strategy office

Appendix 2: Asset class total returns

Data as at 30/08/2024	Index	Current Level/RY	Total Return (USD, %)				Total Return (Local Currency, %)			
			3m	YTD	12m	5y*	3m	YTD	12m	5y*
Equities										
World	MSCI	834	7.2	16.3	23.7	12.7	6.2	16.8	23.4	13.1
Emerging Markets	MSCI	1100	5.2	9.9	14.6	5.2	4.8	12.4	15.9	7.0
China	MSCI	57	-3.5	4.6	-3.0	-3.2	-4.0	4.4	-3.9	-3.2
US	MSCI	5373	8.2	19.1	27.0	15.9	8.2	19.1	27.0	15.9
Europe	MSCI	2219	4.3	13.0	19.5	10.1	1.3	12.3	16.9	9.2
Europe ex-UK	MSCI	2750	3.8	12.3	19.0	10.5	0.8	12.5	16.8	9.8
UK	MSCI	1312	6.3	15.1	21.0	8.7	3.0	11.7	17.2	7.1
Japan	MSCI	4139	7.0	13.2	21.3	8.5	-0.5	16.9	21.1	15.6
Government Bonds										
World	BofA-ML	3.07	6.0	0.5	5.1	-3.2	3.7	1.1	4.5	-1.8
Emerging Markets (USD)	BBloom	7.22	7.0	8.9	18.7	0.6	7.0	8.9	18.7	0.6
China	BofA-ML	1.92	4.3	5.3	9.4	4.8	2.0	5.3	6.3	4.7
US (10y)	Datastream	3.92	6.2	2.3	5.6	-1.3	6.2	2.3	5.6	-1.3
Europe	Bofa-ML	2.82	5.3	0.9	7.0	-2.6	3.1	0.7	5.6	-2.7
Europe ex-UK (EMU, 10y)	Datastream	2.23	6.0	0.0	6.1	-4.0	3.8	-0.2	4.8	-4.1
UK (10y)	Datastream	4.02	7.2	2.7	12.4	-2.3	3.9	-0.4	8.8	-3.8
Japan (10y)	Datastream	0.90	9.7	-4.4	-0.5	-6.9	1.9	-1.3	-0.7	-0.9
IG Corporate Bonds										
Global	BofA-ML	4.58	5.1	3.6	9.7	0.4	4.3	3.6	9.1	0.4
Emerging Markets (USD)	BBloom	6.19	6.7	10.9	19.1	1.5	6.7	10.9	19.1	1.5
China	BofA-ML	2.57	3.5	3.6	7.6	4.1	1.3	3.6	4.6	4.0
US	BofA-ML	5.01	5.0	4.0	9.6	0.8	5.0	4.0	9.6	0.8
Europe	BofA-ML	3.53	5.0	2.8	9.1	-0.8	2.8	2.6	7.7	-0.9
UK	BofA-ML	5.35	6.5	5.1	14.6	0.4	3.2	1.9	10.9	-1.1
Japan	BofA-ML	1.05	8.2	-3.3	0.4	-6.3	0.6	-0.1	0.3	-0.2
HY Corporate Bonds										
Global	BofA-ML	7.33	4.8	6.8	13.5	3.6	4.3	6.8	13.1	3.6
US	BofA-ML	7.47	4.8	6.3	12.6	4.3	4.8	6.3	12.6	4.3
Europe	BofA-ML	6.32	5.1	5.9	13.4	2.6	3.0	5.6	11.9	2.5
Cash (Overnight LIBOR)										
US		5.34	1.3	2.9	5.5	2.2	1.3	2.9	5.5	2.2
Euro Area		3.66	3.5	0.9	1.8	0.1	1.0	2.1	3.9	0.8
UK		5.20	5.7	4.9	5.4	2.5	1.3	2.8	5.3	1.9
Japan		0.08	-2.9	-10.6	-12.3	-7.4	0.0	0.0	0.0	-0.1
Real Estate (REITs)										
Global	FTSE	1724	13.9	8.3	16.7	1.5	11.5	8.1	15.3	1.4
Emerging Markets	FTSE	1208	1.5	-2.1	-0.2	-6.2	-0.6	-2.3	-1.5	-6.3
US	FTSE	3361	18.2	12.1	20.2	4.6	18.2	12.1	20.2	4.6
Europe ex-UK	FTSE	2628	8.2	6.0	30.1	-1.7	6.0	5.8	28.4	-1.8
UK	FTSE	900	4.2	4.4	20.9	1.4	1.0	1.2	17.1	-0.1
Japan	FTSE	2271	12.6	7.1	12.0	-2.0	4.7	10.6	11.8	4.3
Commodities										
All	GSCI	3525	-4.7	5.3	-1.3	8.4	-	-	-	-
Energy	GSCI	621	-3.4	7.2	-2.2	7.0	-	-	-	-
Industrial Metals	GSCI	1674	-9.8	4.6	6.8	7.1	-	-	-	-
Precious Metals	GSCI	2789	4.7	20.4	26.3	9.2	-	-	-	-
Agricultural Goods	GSCI	473	-11.3	-7.8	-12.2	8.6	-	-	-	-
Currencies (vs USD)**										
EUR		1.10	2.0	0.1	1.1	0.1	-	-	-	-
JPY		146.18	7.3	-3.5	0.1	-6.2	-	-	-	-
GBP		1.31	3.2	3.1	3.3	1.5	-	-	-	-
CHF		1.18	6.3	-1.0	3.3	3.1	-	-	-	-
CNY		7.09	2.0	0.1	2.7	0.2	-	-	-	-

Notes: **Past performance is no guarantee of future results**. *Five-year returns are annualised. **The currency section is organised so that in all cases the numbers show the movement in the mentioned currency versus USD (+ve indicates appreciation, -ve indicates depreciation). Please see appendix for definitions, methodology and disclaimers. Source: LSEG Datastream and Invesco Global Market Strategy Office.

Appendix 3: Invesco 10-year Capital Market Assumptions (USD version)

	Asset Class	Index	Expected geometric return %	Expected arithmetic return %	Expected Risk %	Arithmetic return to risk ratio
Fixed income	US Treasury Short	BBG US Treasury Short	3.8	3.8	1.5	2.56
	US Treasury Intermediate	BBG US Treasury Intermediate	4.4	4.5	4.6	0.98
	US Treasury Long	BBG US Treasury Long	5.2	5.9	12.2	0.48
	US TIPS	BBG US TIPS	5.3	5.4	5.7	0.95
	US Bank Loans	CSFB Leverage Loan Index	6.4	6.7	7.8	0.85
	US Aggregate	BBG US Aggregate	5.2	5.4	6.1	0.88
	US Inv Grd Corps	BBG US Investment Grade	5.5	5.8	7.8	0.74
	US MBS	BBG US MBS	5.6	5.8	6.7	0.87
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	5.1	5.7	11.6	0.49
	US High-Yield Corps	BBG US High Yield	6.5	6.9	9.6	0.72
	US Muni	BOA ML US Muni	4.2	4.4	7.0	0.64
	US Muni (Taxable)	ICE BOA US Taxable Muni Securities Plus	5.4	5.7	8.0	0.71
	US HY Muni	BBG US Muni Bond HY	4.7	5.0	8.4	0.60
	Global Aggregate	BBG Global Aggregate	5.1	5.4	8.1	0.67
	Global Aggregate-Ex US	BBG Global Aggregate- Ex US	5.1	5.7	11.6	0.49
	Global Treasury	BBG Global Treasuries	5.1	5.5	9.6	0.58
	Global Sovereign	BBG Global Sovereign	5.2	5.6	9.0	0.62
	Global Corporate	BBG Global Corporate	5.5	5.9	8.9	0.66
	Global Inv Grd	BBG Global Corporate Inv Grd	5.5	5.9	9.1	0.65
	Eurozone Corporate	BBG Euro Aggregate Credit - Corporate	5.3	6.4	14.9	0.43
	Eurozone Treasury	BBG Euro Aggregate Government - Treasury	5.5	6.4	14.2	0.45
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	5.4	5.8	8.9	0.65
	EM Aggregate	BBG EM Aggregate	6.4	7.3	14.1	0.52
	EM Agg IG	BBG EM USD Agg IG	5.4	5.9	9.6	0.61
	China Policy Bk & Tsy	BBG China PB Tsy TR	4.5	4.6	4.0	1.15
	China RMB Credit	BBG China Corporate	5.1	5.1	3.5	1.46
Equities	World Equity	MSCI ACWI	5.9	7.2	17.0	0.42
	World Ex-US Equity	MSCI ACWI Ex-US	7.0	8.6	18.8	0.46
	US Broad	Russell 3000	4.9	6.3	17.5	0.36
	US Large Cap	S&P 500	5.2	6.5	16.8	0.39
	US Mid Cap	Russell Midcap	7.0	8.7	19.5	0.45
	US Small Cap	Russell 2000	8.3	10.5	22.7	0.46
	MSCI EAFE	MSCI EAFE	6.4	8.0	18.6	0.43
	MSCI Europe	MSCI Europe	7.0	8.5	18.8	0.46
	Eurozone	MSCI Euro X UK	6.8	8.5	19.8	0.43
	UK Large Cap	FTSE 100	7.0	8.8	19.9	0.44
	UK Small Cap	FTSE Small Cap UK	8.8	11.6	25.5	0.45
	Canada	S&P TSX	6.9	8.7	20.2	0.43
	Japan	MSCI JP	4.0	6.3	22.3	0.28
	Emerging Market	MSCI EM	8.6	11.2	24.6	0.45
	Asia Pacific Ex JP	MSCI APXJ	8.4	11.1	24.8	0.45
	China Large Cap	CSI 300	10.8	15.5	34.0	0.46
Alternatives	Global Infra	DJ Brookfield Global Infra	9.6	10.6	14.8	0.72
	Global REITs	FTSE EPRA/NAREIT Developed Index	7.9	9.5	18.8	0.51
	Hedge Funds	HFRI HF Index	6.7	7.1	8.6	0.83
	Commodities	S&P GSCI	5.2	7.8	23.7	0.33
	Agriculture	S&P GSCI Agriculture	5.1	7.1	21.2	0.34
	Energy	S&P GSCI Energy	6.6	12.2	36.8	0.33
	Industrial Metals	S&P GSCI Industrial Metals	4.4	6.9	23.9	0.29
	Precious Metals	S&P GSCI Precious Metals	-1.8	-0.2	18.3	-0.01

Notes: Estimates as of 30 June 2024, as published in Long-Term Capital Market Assumptions (September 2024). These estimates reflect the views of Invesco Solutions; the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** TIPS = treasury inflation protected securities, MBS = mortgage-backed securities. Source: Invesco Solutions

Appendix 4: Key assumptions

Key assumptions for 1-year projected returns

	US	Eurozone/ Europe ex-UK	UK	Japan	EM	China
Central bank rates (%)	3.50	2.50	3.50	0.75	-	3.20
Sovereign spreads vs rates (bps)	50	50	50	50	-	-
Corporate IG spread vs sovereign (bps)	140	70	150	10	-	-
Corporate HY spread vs sovereign (bps)	450	450	-	-	-	-
Bank Loan spread vs 3M cash rates (bps)	420	440	-	-	-	-
Corporate HY default rates (%)	1.5	2.0	-	-	-	-
Corporate HY recovery rates (%)	40	20	-	-	-	-
Bank Loan default rates (%)	3.0	2.0	-	-	-	-
Bank Loan recovery rates (%)	40	40	-	-	-	-
Equities dividend growth (%)*	5.0	3.0	3.0	0.0	2.0	2.0
Equities dividend yield (%)*	1.5	3.0	3.4	2.3	3.2	3.0
Real estate (REITS) dividend growth (%)*	2.0	8.0	2.0	5.0	0.0	-
Real estate (REITS) dividend yield (%)*	3.9	3.6	4.5	3.5	4.5	-

Notes: *assumptions for Europe ex-UK. One-year assumptions are based on our analysis of how current values compare to historical norms (assuming some degree of reversion to the mean, except where our analysis suggests historical norms are unlikely to be a guide to the future), adjusted for our view about the development of the economic and financial market cycles over the next year in each region.
There is no guarantee that these views will come to pass.
Source: Invesco Global Market Strategy Office

Appendix 5: Methodology for asset allocation, expected returns and optimal portfolios

Portfolio construction process

The optimal portfolios are theoretical and not real. We use optimisation processes to guide our allocations around "neutral" and within prescribed policy ranges based on our estimations of expected returns and using historical covariance information. This guides the allocation to global asset groups (equities, government bonds etc.), which is the most important level of decision. For the purposes of this document the optimal portfolios are constructed with a one-year horizon.

Which asset classes?

We look for investibility, size and liquidity. We have chosen to include equities, bonds (government, corporate investment grade and corporate high yield), bank loans, REITs to represent real estate, commodities and cash (all across a range of geographies). We use cross-asset correlations to determine which decisions are the most important.

Neutral allocations and policy ranges

We use market capitalisation in USD for major benchmark indices to calculate neutral allocations. For commodities, we use industry estimates for total ETP market cap + assets under management in hedge funds + direct investments. We use an arbitrary 5% for the combination of cash and gold. We impose diversification by using policy ranges for each asset category (the range is usually symmetric around neutral).

Expected/projected returns

The process for estimating expected returns is based upon yield (except commodities, of course). After analysing how yields vary with the economic cycle, and where they are situated within historical ranges, we forecast the direction and amplitude of moves over the next year. Cash returns are calculated assuming a straight-line move in short term rates towards our targets (with, of course, no capital gain or loss). Bond returns assume a straight-line progression in yields, with capital gains/losses predicated upon constant maturity (effectively supposing constant turnover to achieve that). Forecasts of corporate investment-grade, high-yield and bank loan spreads are based upon our view of the economic cycle (as are forecasts of credit losses). Coupon/interest payments are added to give total returns. Equity and REIT returns are based on dividend growth assumptions. We calculate total returns by applying those growth assumptions and adding the forecast dividend yield. No such metrics exist for commodities; therefore, we base our projections on US CPI-adjusted real prices relative to their long-term averages and views on the economic cycle. All expected returns are calculated in local currency and then, where necessary, converted into other currency bases using our exchange rate forecasts.

Optimising the portfolio

Using a covariance matrix based on monthly local currency total returns for the last 5 years and we run an optimisation process that maximises the Sharpe Ratio. Another version maximises Return subject to volatility not exceeding that of our Neutral Portfolio. The optimiser is based on the Markowitz model.

Currency hedging

We adopt a cautious approach when it comes to currency hedging as currency movements are notoriously difficult to accurately predict and sometimes hedging can be costly. Also, some of our asset allocation choices are based on currency forecasts. We use an amalgam of central bank rate forecasts, policy expectations and real exchange rates relative to their historical averages to predict the direction and amplitude of currency moves.

Appendix 6: Definitions of data and benchmarks

Sources: we source data from LSEG Datastream unless otherwise indicated.

Cash: returns are based on a proprietary index calculated using the Intercontinental Exchange Benchmark Administration overnight LIBOR (London Interbank Offer Rate). From 1st January 2022, we use the Refinitiv overnight deposit rate for euro, British pound and Japanese yen. The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1 January 2001 with a value of 100.

Gold: London bullion market spot price in USD/troy ounce.

Government bonds: Current values in the market forecast table (**Figure 24**) use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK and the Thomson Reuters China benchmark 10-year yield for China. Historical and projected yields and returns (**Figures 1, 2, 4, 5, 18, 19, 24, 25, 26**) are based on Bank of America Merrill Lynch government bond indices with historical ranges starting on 31 December 1985 for the Global, Europe ex-UK, UK and Japanese indices, 30 January 1978 for the US and 31 December 2004 for China. The emerging markets yields and returns are based on the Bloomberg emerging markets sovereign US dollar bond index with the historical range starting on 28 February 2003. The same indices are used to construct **Appendix 1**.

Corporate investment grade (IG) bonds: Bank of America Merrill Lynch investment grade corporate bond indices with historical ranges starting on 31 December 1996 for the Global, 31 January 1973 for the US dollar, 1 January 1996 for the euro, 31 December 1996 for the British pound, 6 September 2001 for the Japanese yen and 31 December 2004 for the China indices. The emerging markets yields and returns are based on the Bloomberg emerging markets corporate US dollar bond index with the historical range starting on 28 February 2003.

Corporate high yield (HY) bonds: Bank of America Merrill Lynch high yield indices with historical ranges starting on 29 August 1986 for the US dollar, and 31 December 1997 for the Global and euro indices.

Bank Loans: Credit Suisse Leveraged Loan Indices with historical ranges starting on 31 January 1992 for the US index, 31 January 1998 for the Western Europe Index and 31 January 1998 for the Global Index (the global index is constructed by Invesco Global Market Strategy Office as a weighted average of the US and Western European indices, using market capitalisation as the weighting factor). **Figure 18** and **Appendix 1** are based on current yield. Data is sourced from Credit Suisse Indices/UBS and Bloomberg.

Equities: We use MSCI benchmark indices to calculate projected returns and calculate long-term total returns with historical ranges starting on 31 December 1969 for the Global, US, Europe ex-UK, UK and Japanese indices, 31 December 1987 for the emerging markets index and 31 December 1992 for the China index (**Figures 1, 2, 24, 25, 26**). Equity index valuations (**Figures 4, 5, 18, 19 and Appendix 1**) are based on dividend yields and price-earnings ratios using Datastream benchmark indices with historical ranges starting on 1 January 1973 for the Global, US, Europe ex-UK and Japanese indices, 31 December 1969 for the UK index, 2 January 1995 for the Emerging Markets index, 26 August 1991 for the China A-Shares index.

Real estate: We use FTSE EPRA/NAREIT indices with historical ranges starting on 29 December 1989 for the US, Europe ex-UK, UK and Japanese indices, 18 February 2005 for the Global index, and 31 October 2008 for the Emerging Markets index.

Commodities: Goldman Sachs Commodity Index with historical ranges starting on 31 December 1969 for the All Commodities and Agriculture indices, 31 December 1982 for the Energy index, 3 January 1977 for the Industrial Metals index, and 2 January 1973 for the Precious Metals index. "Industrial commodities" is oil & gas and industrial metals.

Definitions of data and benchmarks for Appendix 2

Sources: we source data from LSEG Datastream unless otherwise indicated.

Cash: returns are based on a proprietary index calculated using the Intercontinental Exchange Benchmark Administration overnight LIBOR (London Interbank Offer Rate). From 1st January 2022, we use the LSEG overnight deposit rate for the euro, the British pound and the Japanese yen. The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1 January 2001 with a value of 100.

Gold: London bullion market spot price in USD/troy ounce.

Government bonds: Current levels, yields and total returns use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK, and the Bank of America Merrill Lynch government bond total return index for China, the World and Europe. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index.

Corporate investment grade (IG) bonds: Bank of America Merrill Lynch investment grade corporate bond total return indices and the Barclays Bloomberg emerging markets corporate US dollar bond total return index for emerging markets.

Corporate high yield (HY) bonds: Bank of America Merrill Lynch high yield total return indices

Equities: We use MSCI benchmark gross total return indices for all regions.

Commodities: Goldman Sachs Commodity total return indices

Real estate: FTSE EPRA/NAREIT total return indices

Currencies: Global Trade Information Services spot rates

Definition of US equity benchmark used to generate long-term returns (Figure 21)
To generate US equity returns we have calculated a total return index for broad US stocks based on index and dividend data from US academic Robert Shiller and LSEG Datastream. The index prior to 1926 is Robert Shiller's recalculation of data from Common Stock Indexes by Cowles & Associates. From 1926 to 1957, the Shiller data is based on the S&P Composite Index and thereafter is based on the S&P 500 as we know it today.

Definitions of data and benchmarks for Figure 19 (yield spreads)

We calculate spreads for government bonds by deducting 3-month government yields from redemption yields for government bond indices within each region. For other assets we deduct government bond yields from redemption yields for corporate bond indices (both investment grade and high yield) and dividend yields for equity and real estate indices. Based on daily data.

3-month government yields: we use the Refinitiv Government Benchmark 3-month yields for the Eurozone, United Kingdom and Japan, and the United States Treasury Bill 3 Month yield for the United States. The series start on 1 January 1980 for the United States and the United Kingdom, on 1 June 1994 for Japan and 4 January 1999 for the Eurozone.

Government bonds: We use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK. The global government bond spread is based on an average of the Eurozone, Japanese, UK and US three month rates deducted from the redemption yield on the Intercontinental Exchange Bank of America Global Government Index. Historical ranges start on 4 January 1999.

Corporate investment grade (IG) bonds: we use Bank of America Merrill Lynch investment grade corporate bond total return indices and the Barclays Bloomberg emerging markets corporate US dollar bond total return index for emerging markets. The spread for Europe uses Eurozone government bond yields. The spread for emerging markets uses the US 10-year government yield. Historical ranges start on 31 May 1984 for the US data, 31 December 1996 for the Global and the UK, 4 January 1999 for Europe, 3 January 2000 for Japan, 28 February 2003 for Emerging Markets and 31 December 2004 for China.

Corporate high yield (HY) bonds: we use redemption yields on Bank of America Merrill Lynch high yield indices. The spread for Europe uses Eurozone government bond yields. Historical ranges start on 30 September 1986 for the US data, 31 December 1997 for Global and 4 January 1999 for Europe.

Bank loans: we use the 3-year discount margin on Credit Suisse Leveraged Loan Indices with historical ranges starting on 31 January 1992 for the US index, 31 January 1998 for the Western Europe Index.

Equities: we use Datastream Total Market indices. The dividend yield gap for Europe uses yields on the Intercontinental Exchange Bank of America European Union Government Index Eurozone government bond yields. Europe ex-UK yields gaps use Eurozone government bond yields. The dividend yield gap for emerging markets uses the US 10-year government yield. Historical ranges start on 1 January 1980 for the US and UK data, 2 January 1984 for Japan, 31 December 1985 for Global, 2 January 1995 for Emerging Markets, 3 September 1996 for Europe, 4 January 1999 for Europe ex-UK and 31 December 2004 for China.

Real estate: FTSE EPRA/NAREIT total return indices. The dividend yield gap for Europe ex-UK uses Eurozone government bond yields. The dividend yield gap for emerging markets uses the US 10-year government yield. Historical ranges start on 29 December 2000 for Europe ex-UK, 28 February 2001 for UK, 31 October 2001 for the US and Japan, 22 December 2008 for Emerging Markets and 2 March 2010 for Global.

Appendix 7: Sector classifications, valuation methodology, sector name abbreviations (Figure 28) and equity factor definitions (Figure 27)

We use a sector classification created by merging the two main systems used by Standard & Poor's (S&P) for the US and Stoxx for Europe. We have decided to classify our 10 top level industries using categories that most closely resemble the Global Industry Classification Standard (GICS) and at the level below that (super sectors) we are using the Industry Classification Benchmark (ICB). The former is used for the S&P 500 index and the latter for the Stoxx 600, our benchmark indices for this document. The two systems overlap in most cases and the only material difference seems to be in the consumer sectors. Therefore, we define consumer staples as the aggregate of personal & household goods and food & beverage, while consumer discretionary includes automobiles & parts, media, retail and travel & leisure. For the rest, we assume 100% overlap for the corresponding top-level sectors.

Autos = Automobiles & parts
Basic Res = Basic Resources
Chem = Chemicals
Con & Mat = Construction & Materials
Fin Serv = Financial Services
Food & Bev = Food & Beverage
Ind G&S = Industrial Goods & Services
Pers & Hh Gds = Personal & Household Goods
Real Est = Real Estate
Tech = Technology
Telecoms = Telecommunications
Trav & Leis = Travel & Leisure

Multiple regression analysis
We have run a multiple regression analysis to examine how macroeconomic factors influence sector valuations. We have used the dividend yield relative to market as the dependent variable and have run the regressions with the following independent variables:

Monthly series since 31/01/1991:
- 1-year change in: industrial production, consumer price index
- The level of: real oil price (US CPI adjusted), real copper price (US CPI adjusted), consumer confidence index, manufacturing confidence index, 10-year benchmark government bond yield, net debt/EBITDA (only for non-financial sectors), return on equity

We calculate a global measure of industrial production growth, consumer price index growth, consumer confidence, manufacturing confidence and government bond yields using data from four regions or countries representing 65% of global Gross Domestic Product: United States, Europe, Japan and China. The global measures are weighted averages using Datastream global index market capitalisations as weights.

This analysis shows us which independent variables have a statistically significant relationship with sector valuation ratios. In addition, the regression coefficients tell us how much each independent variable influences those ratios. Finally, we use those coefficients to calculate what the valuation ratios should be, based on the model, and compare them to currently observed valuations. In theory, this allows us to determine whether a sector is undervalued or overvalued based on the macroeconomic factors we have used.

Leverage and profitability ratios
We calculate Net Debt/EBITDA from sector and market level aggregates supplied by LSEG Datastream. They define Net Debt as Total Debt minus Cash, where Cash represents Cash & Due from Banks for Banks, Cash for Insurance companies and Cash & Short Term Investments for all other industries. We tend to exclude Financials from

Net Debt/EBITDA comparisons for it is difficult to distinguish debt they sell as a product and debt they incur during the operation of the business. In addition, LSEG Datastream define EBITDA – Earnings before Interest, Taxes and Depreciation – as the earnings of a company before interest expense, income taxes and depreciation. It is calculated by taking the pre-tax income and adding back interest expense on debt and depreciation, depletion and amortisation and subtracting interest capitalised.

Implied perpetual growth models
A valuation cross-check is sought by calculating the perpetual real growth in dividends required to justify current prices. This then allows an evaluation of whether those implied growth rates are realistic.

We use a simple perpetual growth model to calculate implied growth. If Price = Dividend/(Discount Factor - Growth), then Growth = Discount Factor – Dividend Yield. The Discount Factor is equal to Risk Free Rate + (Beta x Market Risk Premium). Everything is expressed in real terms to eliminate the distorting influence of inflation, the output being growth in real terms. The important ingredients are derived as follows:
- The risk-free rate is an equity market capitalisation weighted average of US, UK, Eurozone, Japanese and Chinese 10-year real yields.
- Sector betas are calculated using five years of weekly price movements relative to the global market index.
- The risk premium is derived from US equity and treasury market returns since 1871.
- The dividend yield for each sector is the 12-month trailing yield calculated by Datastream.

Equity factor index definitions

All indices are subsets of the S&P 500 index for the US and the Stoxx 600 for Europe, they are rebalanced monthly, use data in US dollars and are equal-weighted.

Growth includes stocks in the top third based on both their 5-year sales per share trend and their internal growth rate (the product of the 5-year average return on equity and the retention ratio).

Low volatility includes stocks in the bottom quintile based on the standard deviation of their daily returns in the previous three months.

Price momentum includes stocks in the top quintile based on their performance in the previous 12 months.

Quality includes stocks in the top third based on both their return on invested capital and their EBIT to EV ratio (earnings before interest and taxes to enterprise value).

Size includes stocks in the bottom quintile based on their market value in US dollars.

Value includes stocks in the bottom quintile based on their price to book value ratios.

Appendix 8: Invesco Solutions Capital Market Assumptions methodology (Figure 6 & Appendix 3)

We show a summary of the Capital Market Assumptions produced by Invesco's Solutions team (Solutions) and this is a summary of their methodology.

Invesco Solutions employ a fundamentally based "building block" approach to estimating asset class returns. Estimates for income and capital gain components of returns for each asset class are informed by fundamental and historical data. Components are then combined to establish estimated returns. This is a summary of key elements of the methodology used to produce long-term (10-year) and medium term (5-year) estimates.

Fixed income returns are composed of the average of the starting (initial) yield and expected yield for bonds, estimated changes in valuation given changes in the Treasury yield curve, roll return which reflects the impact on the price of bonds that are held over time, and a credit adjustment which estimates the potential impact on returns from credit rating downgrades and defaults.

Equity returns are composed of: a dividend yield, calculated using dividend per share divided by price per share, buyback yield, calculated as the percentage change in shares outstanding resulting from companies buying back or issuing shares, valuation change, the expected change in value given the current Price/Earnings (P/E) ratio and the assumption of reversion to the long-term average P/E ratio, and the estimated growth of earnings based on the long-term average real GDP per capita and inflation.

Alternative returns are composed of a variety of public versus private assets with heterogenous drivers of return given their distinct nature. They range from a beta driven proxy to public markets or a bottom up, building block methodology like that of fixed income or equities, depending on whether they are more bond like or stock like.

Volatility estimates for the different asset classes are derived using rolling historical quarterly returns of various market benchmarks. Given that benchmarks have differing histories within and across asset classes, volatility estimates of shorter-lived benchmarks are normalised to ensure that all are measured over similar time periods.

For the full Capital Market Assumptions methodology, please contact the Solutions team.

Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested.

Important information

Data as of 30 August 2024 unless stated otherwise.

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