

Uncommon truths

The sustainability of US debt and gold

I believe US government debt is unsustainable on current trends. That could be changed by a mix of reduced primary deficits, stronger GDP growth and lower interest rates. If the difficult choices are not made, I think gold could be ever more attractive.

We have recently seen examples of the US dollar falling at the same time that treasury yields have risen. I reckon this could be due to concerns about the ability of the US to finance itself when markets lose faith in the Fed. There are many strands to this, including White House pressure on the Fed to cut rates, but I think the basic problem is excessive debt.

Bank for International Settlements (BIS) data suggests that credit to the US non-financial sector was 252% of GDP in 2024 Q3 (compared to 189% at the end of 1999). A decent portion of US liabilities are held by overseas investors, as evidenced by a net international investment position of -90% of GDP in 2024.

Of course, the main focus is upon government debt. The US Congressional Budget Office (CBO) estimates that the general government net debt to GDP ratio was 98% at the end of 2024. The gross debt to GDP ratio was 122% (slightly above where it was at the end of the second world war according to our calculations based on data from Global Financial Data). In the CBO's long term projections, those ratios are projected to rise to 156% and 169%, respectively, by 2055. Even worse, the CBO also estimates that if the 2017 tax cuts were not reversed in 2025 as planned (and some other revenues were lower), the net debt to GDP

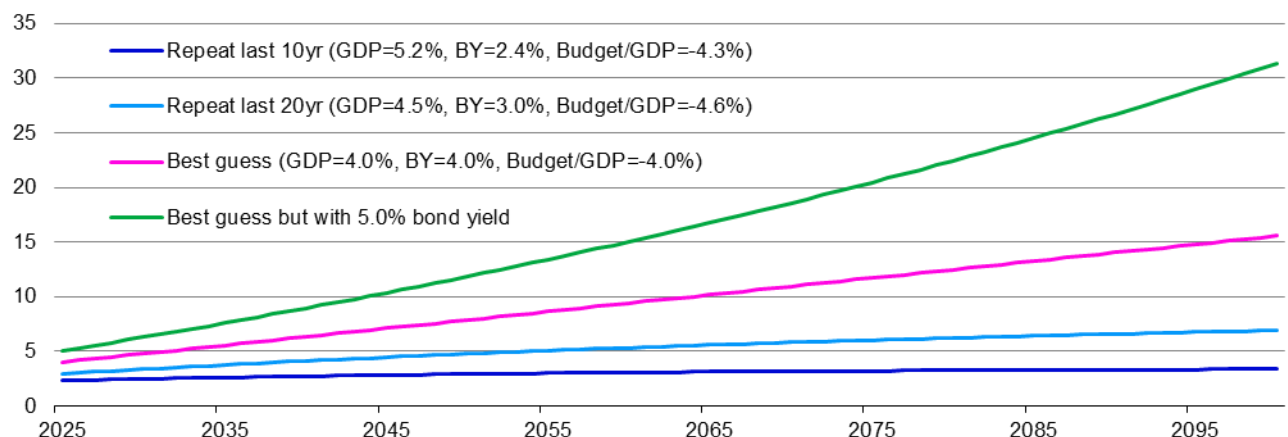
ratio would be 220% in 2055 (versus 156% otherwise).

Even without the extension of the 2017 provisions, those are enormous debt to GDP ratios, taking them well beyond anything seen in the history of the US (the previous peak came in 2020 when the gross debt to GDP ratio briefly exceeded 132%, according to OECD data). It would also take US government debt far beyond what economists used to think was sustainable (I used to think 80% of GDP was the ceiling). Perhaps sustainability is better judged by net interest costs as a share of GDP. The CBO suggests that ratio will be 3.2% in 2025, rising to 5.4% by 2055 (or 8%-9% if the 2017 tax cuts are not reversed, according to my calculations). CBO data suggests the highest post-war interest cost to GDP ratio was 3.2% (in 1991).

Unfortunately, I consider some of the CBO's assumptions to be optimistic. For example, the primary budget deficit is expected to be below 2% in most years to 2055, while the average since 2000 has been 3.0% (it has rarely been below 3% during the Trump and Biden administrations). Further, the average interest rate on debt is expected to peak at 3.6%, while between 2001 and 2007 it was between 4.5% and 6.6% (though lower cost inflation protected bonds were then a smaller part of the total).

Figure 1 shows my own projections of the future path of the net interest to GDP ratio. I consider a number of scenarios that are differentiated by the assumptions about the primary budget deficit, nominal GDP growth and the average interest cost of debt.

Figure 1 – Projected net interest on US general government debt from 2025 to 2100 (% of GDP)



Note: Annual data from 2025 to 2100. Projections are based on a starting point of the net general government debt to GDP ratio in 2024 (using OECD data), with future debt to GDP depending on assumptions about primary budget deficits, nominal GDP growth and the average interest rate on US government debt (historical data provided by the US Department of the Treasury). "GDP" is nominal GDP growth. "BY" is bond yield (or assumed average interest rate on outstanding debt). "Budget/GDP" is the primary budget balance (i.e. before interest costs) divided by GDP. "Repeat last 10yr" is a scenario where all parameter values are in line with the average of the last 10 years. "Repeat last 20yr" uses the averages of the last 20 years. "Best guess" is our best guess of the future parameter values. For reference the US Congressional Budget Office estimates the net interest to GDP ratio will be 3.2% in 2025. **These views may not come to pass.** Source: OECD, US Department of the Treasury, US Congressional Budget Office, LSEG Datastream and Invesco Global Market Strategy Office

The closest to the CBO's baseline scenario (in terms of 2055 outcomes) is the one that uses parameter values based on the average of the last 20 years. Under this scenario, net debt to GDP would be 171% in 2055 (156% under the CBO baseline) and net interest costs would be 5.1% of GDP (3.6% under the CBO baseline). Net debt to GDP would then rise to 232% in 2100, with net interest costs at 6.9% of GDP. This would be almost unprecedented for a stable developed economy (there was a brief 15-year period from 1983 when Italy's net interest cost to GDP ratio exceeded 6.9%, according to OECD data).

Unfortunately, I think a scenario based on the last 20 years is too optimistic. First, I expect nominal GDP growth to be lower over the coming decades, as a result of less favourable demographics (in my "Best guess" scenario, I assume 4.0% growth rather than the 20-year average of 4.5%). Second, I believe the average interest cost of debt will be higher than in the last 20 years (I assume 4.0%, rather than the 20-year average of 3.0%). Offsetting those factors, I assume the primary budget deficit will be an average of 4.0%, versus a 20-year average of 4.6%. This "Best guess" scenario envisages that by 2055 net debt will be 216% of GDP and that net interest payments will be 8.6% of GDP. That is very close to the 220% and 8%-9%, respectively, implied by the CBO's alternative scenario under which the 2017 tax cuts are not reversed.

Unfortunately, it doesn't stop there. My "Best guess" scenario suggests that debt/GDP will be 389% in 2100, with net interest/GDP at 16% and rising. That sounds unsustainable to me. Even worse, I fear that bond yields would rise even more under such a scenario. Hence, the final scenario in **Figure 1** shows what happens if we assume the "Best guess" scenario but with an average interest rate on government debt of 5%, rather than 4%. In this case, debt/GDP would be

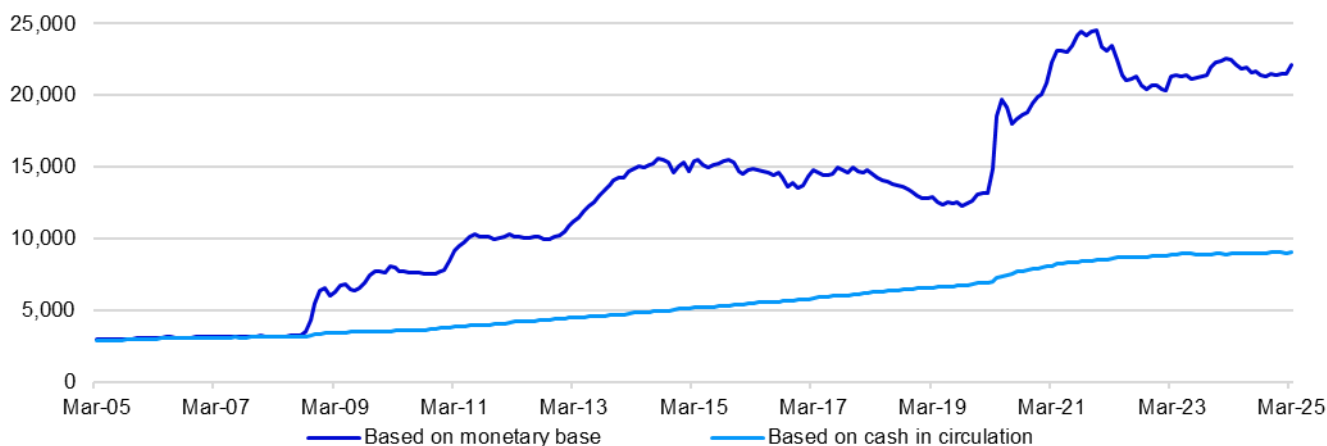
627% in 2100 and net interest/GDP would be 31%.

Neither the "Best guess" nor the "Best guess with 5% bond yield" scenarios sound sustainable to me. So, how could such outcomes be prevented? First, the US government could reduce the primary deficit by reducing spending (DOGE exercise, for example), increasing revenues (raising tax rates, for example) or boosting real GDP growth (immigration, deregulation and/or measures to boost productivity). Second, nominal GDP growth could be boosted by encouraging inflation, though in my opinion that would cause an offsetting rise in bond yields. Third, financial suppression could be made a permanent feature, with the Fed expanding its balance sheet to effectively buy all treasury bonds, though that could imply loss of control of the financial system. Finally, the US government could renege on its debt but I think that would make the situation even worse.

I think the only viable solution is for the US government to do less (cut spending), create more revenue (raise taxes), improve demographic trends via immigration and keep interest rates low. A combination of raising nominal GDP growth to 5%, limiting the primary budget deficit to 2% and the average cost of debt to 3% would stabilise debt. However, none of that would be easy, so we need to consider what happens if the difficult choices are not made. One obvious outcome could be a radical shake up of the financial system, which is where the idea of a return to the gold standard comes from. **Figure 2** shows the price of gold required for US gold reserves to fully back US notes and coins in circulation (\$9,051 per ounce, as of March 2025) or the monetary base (\$22,085). Gold is up a lot and I think it is expensive but this sort of analysis could be one reason why it is becoming more popular.

All data as of 25 April 2025, unless stated otherwise.

Figure 2 – Theoretical price of gold assuming the US adopts the gold standard (USD/oz)



Note: This is a theoretical simulation and there is no guarantee that these views will come to pass. Monthly data from March 2005 to March 2025. The chart shows the price of gold that would equate the value of official US gold reserves to the value of cash in circulation or the monetary base (cash in circulation plus bank reserves at the Fed). Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 3 – Asset class total returns (%)

Data as at 25 Apr 2025			Total Return (USD, %)					Total Return (Local Currency, %)				
	Index	Current Level/RY	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	825	4.0	-3.1	-0.1	-1.3	11.3	4.1	-4.1	-1.2	-3.2	9.9
Emerging Markets	MSCI	1097	2.7	-2.6	-0.1	2.9	9.9	2.6	-3.2	-1.0	1.7	11.0
China	MSCI	70	3.5	-5.7	-4.6	9.8	28.8	3.4	-5.8	-4.8	9.6	28.0
US	MSCI	5272	4.7	-4.3	-1.3	-5.8	11.1	4.7	-4.3	-1.3	-5.8	11.1
Europe	MSCI	2254	3.3	-0.1	3.1	14.1	13.4	3.2	-4.6	-1.6	4.7	5.9
Europe ex-UK	MSCI	2795	3.6	-0.2	3.6	15.0	12.9	3.7	-5.2	-1.6	4.7	5.3
UK	MSCI	1333	2.3	0.3	1.3	11.1	14.9	1.7	-2.4	-1.8	4.5	7.9
Japan	MSCI	4012	1.9	-1.6	2.7	3.2	8.1	3.1	-5.4	-1.2	-5.5	0.0
Government Bonds												
World	BofA-ML	3.19	0.2	3.6	3.0	6.0	7.9	0.4	1.2	0.6	1.4	4.4
Emerging Markets	BBloom	6.92	1.8	-0.2	0.3	3.0	14.0	1.8	-0.2	0.3	3.0	14.0
China	BofA-ML	1.63	0.1	0.9	0.7	0.5	5.4	-0.1	1.2	1.1	0.3	6.0
US (10y)	Datastream	4.26	0.7	0.8	-0.1	3.9	8.0	0.7	0.8	-0.1	3.9	8.0
Europe	BofA-ML	2.63	0.4	7.6	7.1	10.5	11.5	0.2	2.2	1.8	0.6	5.0
Europe ex-UK (EMU, 10y)	Datastream	2.44	0.1	8.3	7.7	9.7	10.2	0.0	2.9	2.3	0.0	3.9
UK (10y)	Datastream	4.48	1.4	5.5	5.1	8.8	10.7	0.8	2.6	1.9	2.3	3.9
Japan (10y)	Datastream	1.31	-1.6	6.5	5.5	7.6	6.0	-0.4	2.4	1.6	-1.4	-2.0
IG Corporate Bonds												
Global	BofA-ML	4.61	0.8	1.9	1.7	4.6	9.3	0.8	0.3	0.1	1.7	7.4
Emerging Markets	BBloom	6.79	1.5	-1.3	-1.4	2.6	12.6	1.5	-1.3	-1.4	2.6	12.6
China	BofA-ML	2.35	0.2	0.5	0.2	0.7	3.7	0.0	0.8	0.7	0.4	4.2
US	BofA-ML	5.25	1.0	0.0	-0.3	2.0	7.7	1.0	0.0	-0.3	2.0	7.7
Europe	BofA-ML	3.15	0.4	6.6	6.3	11.1	13.1	0.3	1.3	1.0	1.2	6.6
UK	BofA-ML	5.53	1.5	4.0	4.1	7.8	12.5	0.9	1.2	0.9	1.5	5.6
Japan	BofA-ML	1.37	-1.4	4.9	4.5	8.9	7.6	-0.1	0.9	0.6	-0.3	-0.4
HY Corporate Bonds												
Global	BofA-ML	7.65	1.2	0.3	1.0	3.0	10.5	1.2	-0.7	-0.1	1.1	9.1
US	BofA-ML	7.94	1.2	-0.7	0.1	1.0	9.2	1.2	-0.7	0.1	1.0	9.2
Europe	BofA-ML	6.04	1.1	5.2	5.6	10.8	14.7	1.0	-0.1	0.3	1.0	8.1
Cash (Overnight rates)												
US		4.32	0.1	0.4	0.3	1.3	5.0	0.1	0.4	0.3	1.3	5.0
Euro Area		2.42	1.3	5.8	5.7	11.2	10.7	0.0	0.2	0.1	0.8	3.3
UK		4.46	0.8	3.6	3.5	8.0	13.3	0.1	0.4	0.3	1.4	5.0
Japan		0.48	1.2	5.5	5.9	11.2	9.6	0.0	0.0	0.0	0.1	0.2
Real Estate (REITs)												
Global	FTSE	1599	0.7	-0.2	-0.2	1.4	11.0	0.6	-5.2	-5.2	-7.6	4.6
Emerging Markets	FTSE	1196	2.6	2.4	3.5	2.7	7.3	2.4	-2.7	-1.7	-6.5	1.1
US	FTSE	3059	0.6	-2.8	-3.8	-2.9	12.9	0.6	-2.8	-3.8	-2.9	12.9
Europe ex-UK	FTSE	2589	1.0	12.2	10.3	13.1	18.6	0.9	6.6	4.8	3.0	11.8
UK	FTSE	870	1.1	7.5	7.1	12.6	6.7	0.6	4.6	3.9	6.0	0.1
Japan	FTSE	2239	-2.1	2.4	5.1	17.2	7.1	-0.9	-1.5	1.2	7.4	-0.9
Commodities												
All	GSCI	3633	-0.3	-3.8	-5.3	-0.6	-4.1	-	-	-	-	-
Energy	GSCI	590	-2.1	-8.5	-11.6	-7.3	-13.1	-	-	-	-	-
Industrial Metals	GSCI	1680	3.0	-6.3	-3.0	2.0	-5.8	-	-	-	-	-
Precious Metals	GSCI	3656	0.9	9.1	5.8	25.1	39.7	-	-	-	-	-
Agricultural Goods	GSCI	524	0.9	2.1	3.1	1.8	-0.2	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.14	-0.2	5.3	5.1	9.8	5.9	-	-	-	-	-
JPY		143.70	-1.1	4.3	4.4	9.4	8.3	-	-	-	-	-
GBP		1.33	0.6	2.8	3.1	6.3	6.5	-	-	-	-	-
CHF		1.21	-1.4	6.6	6.8	9.6	10.2	-	-	-	-	-
CNY		7.29	0.2	-0.4	-0.4	0.2	-0.7	-	-	-	-	-

Notes: **Past performance is no guarantee of future results.** *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

Figure 4 – Global equity sector total returns relative to market (%)

Data as of 25 Apr 2025	Global				
	1w	1m	QTD	YTD	12m
Energy	-2.2	-2.9	-6.0	-1.2	-15.9
Basic Materials	-1.4	1.1	0.7	6.7	-11.9
Basic Resources	-1.3	1.0	1.5	9.6	-10.1
Chemicals	-1.5	1.4	-0.4	2.5	-14.4
Industrials	-0.7	-0.1	0.3	1.8	-1.6
Construction & Materials	-0.8	2.1	3.7	4.9	-0.5
Industrial Goods & Services	-0.6	-0.4	-0.2	1.4	-1.7
Consumer Discretionary	1.4	1.2	2.2	-2.8	0.5
Automobiles & Parts	5.2	0.2	5.4	-12.7	-2.4
Media	3.7	4.3	6.0	7.2	15.8
Retailers	0.8	1.6	1.1	-2.6	6.6
Travel & Leisure	-0.4	-0.7	-0.4	-4.8	-4.3
Consumer Products & Services	0.1	1.3	1.8	3.3	-8.2
Consumer Staples	-4.1	6.7	1.8	10.5	-0.7
Food, Beverage & Tobacco	-3.8	6.5	1.9	11.6	-1.6
Personal Care, Drug & Grocery Stores	-4.8	7.0	1.7	8.8	1.0
Healthcare	-1.3	-1.5	-3.1	1.1	-8.5
Financials	-0.5	0.4	-0.4	7.0	10.8
Banks	-0.1	0.4	-0.2	8.4	11.3
Financial Services	0.2	-0.1	-0.1	3.2	8.6
Insurance	-2.5	1.3	-1.6	10.3	13.7
Real Estate	-2.7	3.2	0.4	3.8	2.0
Technology	3.7	-2.8	1.0	-9.4	2.0
Telecommunications	-3.7	1.4	-1.1	8.2	10.1
Utilities	-2.6	6.7	2.0	7.6	3.9

Notes: **Past performance is no guarantee of future results.** Returns shown are for Datastream sector indices versus the total market index. Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 5a – US factor index total returns (%)

Data as at 25 Apr 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	5.3	-4.1	0.1	-5.7	0.4	0.7	0.1	1.6	0.0	-9.5
Low volatility	0.4	-2.1	-3.5	1.7	11.2	-4.0	2.3	-2.0	7.9	0.2
Price momentum	2.7	-3.2	-0.8	-4.1	9.5	-1.8	1.1	0.6	1.7	-1.3
Quality	2.7	-3.8	-3.0	-3.1	-0.2	-1.8	0.4	-1.5	2.8	-10.1
Size	3.5	-4.8	-4.4	-5.8	0.9	-1.0	-0.6	-3.0	-0.1	-9.1
Value	3.2	-5.6	-4.8	-2.0	8.4	-1.3	-1.4	-3.4	3.9	-2.3
Market	4.6	-4.3	-1.5	-5.7	10.9					
Market - Equal-Weighted	3.0	-4.4	-3.3	-3.9	5.1					

Notes: **Past performance is no guarantee of future results.** All indices are subsets of the S&P 500 index, 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. The market represents the S&P 500 index. Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 5b – European factor index total returns (%)

Data as at 25 Apr 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	3.1	-4.1	-0.6	-0.2	3.4	0.0	1.0	1.4	-3.9	-3.5
Low volatility	1.5	0.0	0.7	9.5	18.1	-1.5	5.3	2.7	5.4	10.3
Price momentum	3.1	-2.9	1.0	9.7	19.9	0.0	2.2	3.0	5.6	12.0
Quality	3.0	-3.9	0.2	4.2	7.7	-0.1	1.2	2.2	0.3	0.5
Size	2.8	-4.1	-0.2	0.6	4.1	-0.2	0.9	1.8	-3.2	-2.8
Value	4.0	-2.5	0.5	8.6	13.4	0.9	2.6	2.5	4.5	5.9
Market	3.1	-5.0	-1.9	3.9	7.1					
Market - Equal-Weighted	3.0	-3.8	-0.5	3.6	8.8					

Notes: **Past performance is no guarantee of future results.** All indices are subsets of the STOXX 600 index, they are rebalanced monthly, use data in euros 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 euros; Value includes stocks in the bottom quintile based on their price to book value ratios. The market represents the STOXX 600 index. Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 6 – Model asset allocation

	Neutral	Policy Range	Allocation	Position vs Neutral	Hedged	Currency
Cash Equivalents	5%	0-10%	0%			
Cash	2.5%		0%			
Gold	2.5%		0%			
Bonds	40%	10-70%	35%			
Government	25%	10-40%	21%			
US	8%		6%			50% JPY
Europe ex-UK (Eurozone)	7%		7%			
UK	1%		2%			
Japan	7%		2%			
Emerging Markets	2%		4%			
China**	0.2%		0%			
Corporate IG	10%	0-20%	10%			
US Dollar	5%		5%			50% JPY
Euro	2%		1%			
Sterling	1%		2%			
Japanese Yen	1%		0%			
Emerging Markets	1%		2%			
China**	0.1%		0%			
Corporate HY	5%	0-10%	4%			
US Dollar	4%		3%			50% JPY
Euro	1%		1%			
Bank Loans	4%	0-8%	8%			
US	3%		6%			
Europe	1%		2%			
Equities	45%	25-65%	45%			
US	25%		12%			
Europe ex-UK	7%		12%			
UK	4%		6%			
Japan	4%		5%			
Emerging Markets	5%		10%			
China**	2%		4%			
Real Estate	4%	0-8%	8%			
US	1%		1%			
Europe ex-UK	1%		2%			
UK	1%		2%			
Japan	1%		2%			
Emerging Markets	1%		1%			
Commodities	2%	0-4%	4%			
Energy	1%		2%			
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%		30%			
EUR	19%		25%			
GBP	7%		12%			
JPY	13%		16%			
EM	9%		17%			
Total	100%		100%			

Notes: **China is included in Emerging Markets allocations. This is a theoretical portfolio and is for illustrative purposes only. See the latest [The Big Picture](#) document for more details. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Arrows indicate the direction of the most recent changes.

Source: Invesco Global Market Strategy Office

Figure 7 – Model allocations for global sectors

	Neutral	Invesco	Preferred Region
Energy	6.3%	Overweight	EM
Basic Materials	3.4%	Neutral	Japan
Basic Resources	2.0%	Neutral	Japan
Chemicals	1.3%	Overweight ↑	US
Industrials	13.1%	Underweight	US
Construction & Materials	1.7%	Underweight	US
Industrial Goods & Services	11.4%	Underweight ↓	US
Consumer Discretionary	14.2%	Underweight	US
Automobiles & Parts	2.3%	Underweight	Europe
Media	1.2%	Overweight	US
Retailers	5.5%	Overweight	US
Travel & Leisure	1.9%	Underweight	EM
Consumer Products & Services	3.2%	Underweight	Japan
Consumer Staples	5.3%	Neutral	US
Food, Beverage & Tobacco	3.4%	Neutral ↓	US
Personal Care, Drug & Grocery Stores	2.0%	Overweight ↑	Europe
Healthcare	8.8%	Underweight	US
Financials	17.2%	Overweight	US
Banks	8.2%	Overweight	US
Financial Services	5.6%	Underweight ↓	US
Insurance	3.3%	Neutral	US
Real Estate	2.7%	Overweight ↑	Japan
Technology	22.0%	Neutral	EM
Telecommunications	3.6%	Neutral ↑	US
Utilities	3.4%	Overweight ↑	US

Notes: These are theoretical allocations which are for illustrative purposes only. They do not represent an actual portfolio and are not a recommendation of any investment or trading strategy. See the latest [Strategic Sector Selector](#) for more details.

Source: LSEG Datastream and Invesco Global Market Strategy Office

Appendix

Methodology for asset allocation, expected returns and optimal portfolios

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.

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.

Definitions of data and benchmarks for Figure 3

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 euro short term rate, the UK Sterling Overnight Index Average (SONIA), the US Secured Overnight Financing Rate (SOFR) and the uncollateralised overnight rate for 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 ICE BofA government bond total return index for the World and Europe. The emerging markets yields and returns are based on the Bloomberg emerging markets sovereign US dollar bond index.

Corporate investment grade (IG) bonds: ICE BofA investment grade corporate bond total return indices, except for in emerging markets where we use the Bloomberg emerging markets corporate US dollar bond index.

Corporate high yield (HY) bonds: ICE BofA 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

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.

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Author

Paul Jackson
Global Head of Asset Allocation Research
paul.jackson@invesco.com
London, EMEA

Global Market Strategy Office

Paul Jackson
Global Head of Asset Allocation Research
paul.jackson@invesco.com
London, EMEA

András Vig
Multi-Asset Strategist
andras.vig@invesco.com
London, EMEA

Arnab Das
Global Macro Strategist
arnab.das@invesco.com
London, EMEA

Ashley Oerth
Associate Global Market Strategist
ashley.oerth@invesco.com
London, EMEA

Brian Levitt
Global Market Strategist, Americas
brian.levitt@invesco.com
New York, Americas

James Anania
Investment Strategy Analyst, Americas
james.anania@invesco.com
New York, Americas

David Chao
Global Market Strategist, Asia Pacific
david.chao@invesco.com
Hong Kong, Asia Pacific

Thomas Wu
Market Strategy Analyst, Asia Pacific
thomas.wu@invesco.com
Hong Kong, Asia Pacific

Tomo Kinoshita
Global Market Strategist, Japan
tomo.kinoshita@invesco.com
Tokyo, Asia Pacific

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