Uncommon truths
Global Debt Review 2025

Global debt-to-GDP ratios continue to come down, after the sharp rise in seen in 2020 (debt is still rising but GDP is growing faster). Elevated debt ratios continue to be mainly a developed world phenomenon. The effect of higher interest rates on debt service ratios is starting to be seen.

The man from Mars may question whether planet Earth has a debt problem (if so, to whom is it owed?). However, the global financial crisis (GFC) showed that, even if net debt is zero, it is difficult to unwind that debt when there are so many interlinkages. We therefore assume that more debt brings more risk. Hence, our annual review of global debt. Now that the Bank for International Settlements (BIS) has published its 2024 data, we are able to deliver the next instalment.

With the projected rise in US government debt and the UK's Office for Budget Responsibility (OBR) suggesting UK government debt could rise to 270% of GDP by the early 2070s (from 94% at the end of 2024 – see the OBR's July 2025 Fiscal Risks and Sustainability Report), it is no surprise that investors are asking questions about debt.

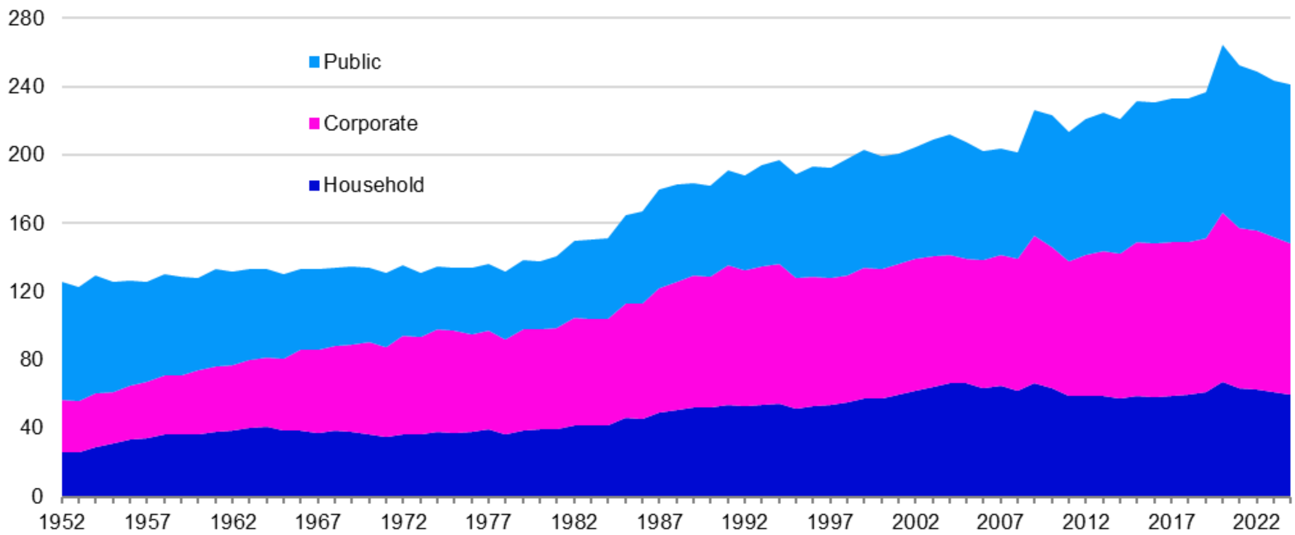
The good news is that most of the record gain in global debt-to-GDP ratios in 2020 had been reversed by 2024 when using PPP (purchasing power parity) exchange rates (all had been reversed when using market exchange rates). However, the decline has had more to do with rising GDP than falling debt. The global debt-to-GDP ratio fell to 229.8% in 2024 from 230.2% in 2023, based on the BIS "All Reporting Countries" non-financial sector debt-to-GDP ratio, using PPP exchange rates to convert to US dollars. That debt-to-GDP ratio was 223.7% in 2019.

We believe that using PPP exchange rates to calculate such aggregates avoids the volatility that comes with market exchange rates. For example, using market exchange rates, the BIS All-Country aggregate debt-to-GDP ratio rose from 243.2% in 2019 to 285.7% in 2020 and has since fallen back to 235.9%.

As the BIS All Reporting Countries aggregates only go back to 2002, we have constructed our own global ratio based on the world's 25 largest economies (judged by GDP in 2019-24), which accounted for 84% of World GDP in 2024, based on IMF data. **Figure 1** shows the results and suggests that, after reaching a new high of 264.9% in 2020, the global debt-to-GDP ratio had fallen to 241.4% in 2024 (it was 236.7% in 2019). Our measure is based upon market exchange rates, so we use a smoothing process to dampen the effect of exchange rate swings (see the note to **Figure 1**).

On that basis, global debt-to-GDP ratios declined in household and corporate sectors in 2024 but climbed in the public sector, though debt increased in all three categories, especially the public sector.

Figure 1 – Global non-financial sector debt-to-GDP from 1952 to 2024 using market exchange rates (%)



Note: Based on annual data for the 25 largest economies in the world (as of 2019-2024). Data was not available for all 25 countries over the full period considered. Starting with only the US in 1952, the data set was based on a successively larger number of countries until in 2008 all 25 were included in all categories. The data for all countries is converted into US dollars using market exchange rates. Unfortunately, debt is a stock measured at the end of each calendar year, whereas GDP is a flow measured during the year so that when the dollar trends in one direction or the other it can distort the comparison between debt and GDP. To minimise this problem, we use a smoothed measure of debt which takes the average over two years (for example, debt for 2024 is the average of debt at end-2023 and at end-2024).
Source: BIS, IMF, OECD, Oxford Economics, LSEG Datastream and Invesco Global Market Strategy Office

Not surprisingly, given the size of its economy, the biggest contributor to the gain in global debt in 2024 (in US dollars) was the US**,** with a rise of $2.9trn, followed by China with a gain of $2.4trn. However, **Figure 2** shows that the US debt-to-GDP ratio fell by 3.9 percentage points (ppts), while that of China rose by 9.3 ppts. The reason for the discrepancy is that growth in nominal GDP in the US was greater than the growth in debt, while the reverse was true in China (nominal GDP growth was also stronger in the US than in China, when measured in US dollars).

The BIS All Reporting Countries global debt ratio fell by 0.4 percentage points (ppts), with declines in the household and corporate debt-to-GDP ratios offset only partially by a rise in the public sector debt ratio. Total debt ratios increased in 10 of the 25 countries that we follow, with the biggest gains in Sweden, Brazil and Saudi Arabia. Public sector debt played a role in all three, but the rise in corporate debt was the main contributor, especially in Sweden. At the other end of the spectrum, Argentina, the Netherlands and Turkey saw the biggest declines in overall debt ratios, with falling corporate debt a big factor (though in Argentina a reversal of the big 2023 increase in the public sector debt ratio was the dominant factor).

Looking to longer term trends, total debt ratios have risen in the last 10 years. The global debt-to-GDP ratio increased by 14.0 ppts in the 10 years to 2024 when using PPP exchange rates (or 15.8 ppts using market exchange rates). Most of that rise was already in place by 2019. The 10-year rise was largely due to public sector debt, though household and corporate debt ratios were also up.

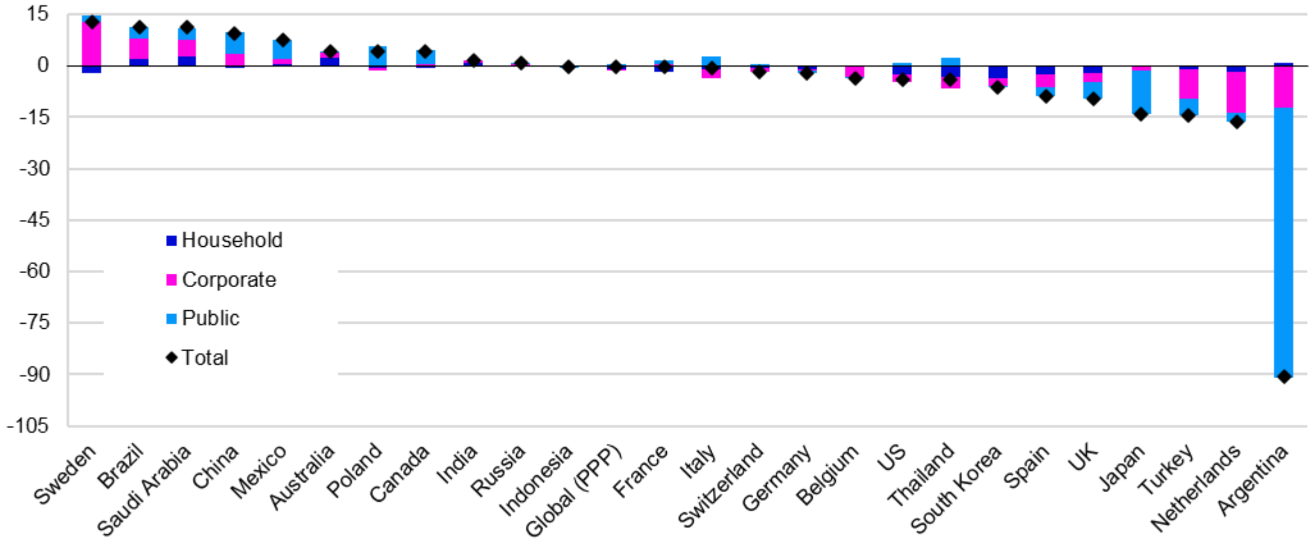
15 of the 25 countries that we highlight experienced a rise in their total debt-to-GDP ratio over the last 10 years, China being the most extreme with a gain of 75.2 ppts to 286.5% (largely due to public sector and household debt), followed by Saudi Arabia with a gain of 63.2 ppts to 111.8% (mainly the result of rising public sector and corporate debt).

The Netherlands (-116.8 ppts) and Spain (-86.9 ppts) experienced the most impressive declines in debt ratios over the last 10 years, with falling corporate debt ratios playing the biggest role in both countries.

So where does this leave accumulated debt across countries? The countries with the biggest debt burdens are to be found in the developed world (see **Figure 3**), with Japan once again leading the way, though its debt-to-GDP ratio fell once again, to 387.0% in 2024 from 401.1% in 2023 and a peak of 422.5% in 2020, according to BIS data. France is next in line (as last year), while Canada moves from #4 to #3 (switching places with the Netherlands).

At the other end of the spectrum, the three countries with the lowest debt ratios (Turkey, Indonesia and Mexico) were also in the bottom three last year, though Turkey and Mexico have switched places. Otherwise, countries with big moves in the rankings in 2024 are Argentina (from 17th to 22nd) and Italy (from 14th to 11th).

Figure 2 – Change in non-financial sector debt-to-GDP ratios during 2024 (percentage points)



Note: Based on year-end local currency non-financial sector debt-to-GDP ratios. "Global (PPP)" uses BIS "All reporting countries" data, using PPP exchange rates (it is based on a larger sample of countries than is shown in the chart). The change is calculated as the end-2024 debt-to-GDP ratios minus those of end-2023. The countries shown are the 25 largest in the world by GDP, as of 2019-24 (using IMF data).
Source: BIS, IMF, LSEG Datastream, and Invesco Global Market Strategy Office

So, despite the angst about debt in some countries, the global picture continues to improve (slowly) after the sharp rise in debt ratios in 2020 and subsequent declines in 2021 and 2022. If economies continue to expand, we would normally expect a decline in debt ratios as public sector expenditure declines and public and private sector revenues increase. Though we expect economic acceleration outside the US, it is hard to be certain in the current environment.

Of course, debt only becomes a problem when debt service ratios increase. The rise in debt-to-GDP ratios during the global financial crisis was easily absorbed because bond yields fell to historical lows in the developed world. However, the sharp rise in yields during 2022/3 may have changed that. Governments have the luxury of being able to use the tax system to increase revenue if debt service ratios increase. The private sector has no such ability (raising prices may damage sales), so it is perhaps more important to focus on the affordability of private sector debt.

China is a good example of how rising debt over the last 10 years didn't turn into a financing problem, probably because interest rates have fallen. BIS private non-financial sector data shows that China's debt service ratio (interest payments plus amortisations divided by income) increased by only 0.8 ppts (from 17.7% in 2014 Q4 to 18.5% in 2024 Q4), despite a 26.2 ppt increase in the private sector debt-to-GDP ratio (to 198.1%).

However, interest rates and bond yields have risen in other countries, which could boost debt service ratios, once old debt is refinanced. Over the last three years there were noticeable gains in private sector debt service ratios in Russia (+11.0 ppts to 23.2%), Turkey (+10.3 ppts to 29.6%) and Brazil (+5.9 ppts to 26.3%). The rise in private sector debt service ratios in Russia and Turkey came despite a fall in debt-to-GDP ratios.

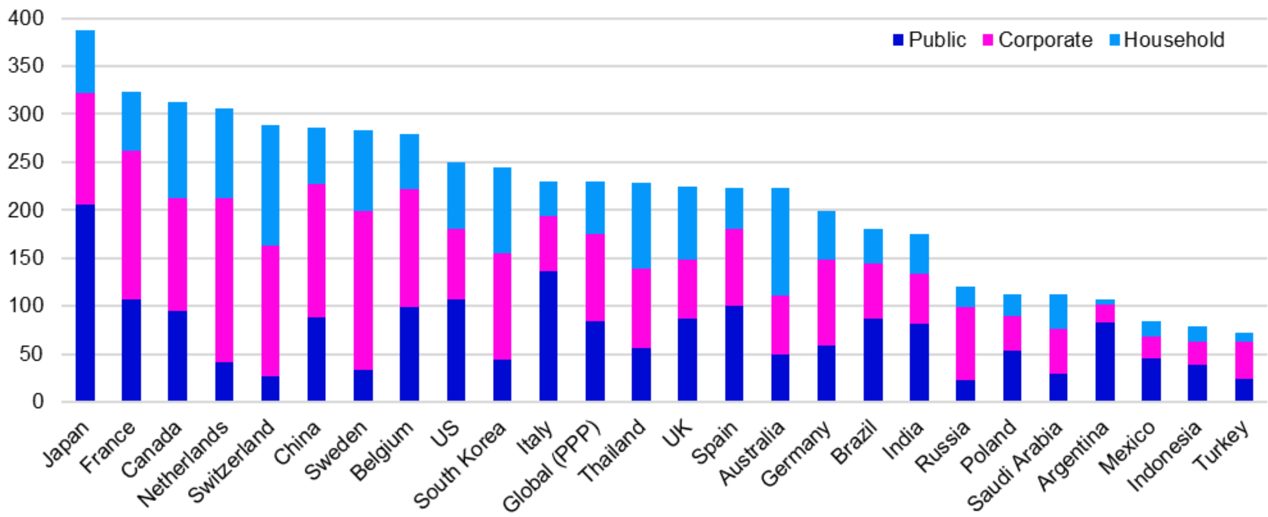
Among the 25 largest economies, the only one to enjoy a sizeable decline in the private sector debt service ratio was the Netherlands (-3.9 ppts to 26.4%). This reflects a 57.4 ppts decline in the private sector debt-to-GDP ratio to 264.1%, with the corporate sector accounting for around three-quarters of that (and it also experienced a bigger decline in the debt service ratio than the household sector).

For the most part it is not the household sector that faces high debt service ratios. More problematic is corporate debt and we suppose the biggest threat would be in countries where service ratios are the highest. As of 2024 that list of countries would be France (non-financial corporations debt service ratio of 60.6%), Canada (58.6%), Sweden (52.5%) and the Netherlands (49.8%). For the most part, those are the countries in which corporate sector debt is the most elevated (unfortunately, the BIS does not show the split between household and corporate sector debt service ratios in China or Switzerland).

So, global debt ratios appear to have stabilised but gains have recently been notable in Sweden, Brazil and Saudi Arabia. On the other hand, private sector debt service ratios have climbed in some countries, especially where interest rates have risen sharply.

Unless stated otherwise, all data as of 11 July 2025.

Figure 3 – Non-financial sector debt-to-GDP in 2024 (%)



Note: "Global" uses BIS "All reporting countries" data and is calculated using PPP exchange rates (it is based on a larger sample of countries than is shown in the chart). The countries shown were the 25 largest in the world by GDP, as of 2019-2024.
Source: BIS, LSEG Datastream and Invesco Global Market Strategy Office

Figure 4 – Asset class total returns (%)**

Data as at 8 Jul 2025	Index	Current Level/RY	Total Return (USD, %)					Total Return (Local Currency, %)				
			1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	919	0.2	3.2	0.2	10.5	14.5	0.5	2.9	0.4	7.7	12.5
Emerging Markets	MSCI	1232	0.3	4.7	0.9	16.6	14.4	0.5	4.0	0.9	12.1	12.2
China	MSCI	75	0.8	2.2	0.9	18.5	35.0	0.9	2.2	0.9	19.2	35.3
US	MSCI	5951	0.5	3.8	0.3	6.7	13.8	0.5	3.8	0.3	6.7	13.8
Europe	MSCI	2427	0.3	1.2	0.4	24.2	17.3	1.2	-0.9	1.0	11.0	8.6
Europe ex-UK	MSCI	3017	0.5	1.4	0.6	25.7	17.1	1.2	-1.2	0.9	11.2	7.7
UK	MSCI	1421	-0.4	0.4	0.0	19.3	17.8	0.9	0.2	1.2	10.3	11.6
Japan	MSCI	4200	-3.1	0.1	-3.3	8.2	7.6	-0.8	1.5	-1.7	1.2	-1.6
Government Bonds												
World	BofA-ML	3.35	-1.5	0.7	-1.2	6.1	6.1	-0.8	0.2	-0.8	0.9	2.1
Emerging Markets	BBloom	6.62	-0.5	2.4	-0.1	7.1	13.0	-0.5	2.4	-0.1	7.1	13.0
China	BofA-ML	1.56	0.0	0.7	0.0	2.9	7.3	0.2	0.5	0.1	1.1	5.9
US (10y)	Datastream	4.41	-1.2	1.1	-1.3	3.7	3.3	-1.2	1.1	-1.3	3.7	3.3
Europe	Bofa-ML	2.77	-1.3	2.3	-0.8	13.2	11.5	-0.6	-0.4	-0.4	0.2	3.4
Europe ex-UK (EMU, 10y)	Datastream	2.64	-1.3	2.2	-0.7	11.8	9.5	-0.6	-0.5	-0.3	-1.0	1.5
UK (10y)	Datastream	4.63	-2.5	0.6	-2.2	10.4	6.3	-1.2	0.5	-1.0	2.1	0.7
Japan (10y)	Datastream	1.46	-2.9	-1.4	-2.0	4.6	7.8	-0.6	0.0	-0.2	-2.2	-1.4
IG Corporate Bonds												
Global	BofA-ML	4.55	-0.8	1.8	-0.6	6.9	7.8	-0.5	1.1	-0.4	3.0	5.4
Emerging Markets	BBloom	6.40	-0.3	2.0	-0.2	6.1	10.6	-0.3	2.0	-0.2	6.1	10.6
China	BofA-ML	2.25	-0.1	0.5	0.0	3.0	5.7	0.1	0.3	0.1	1.2	4.3
US	BofA-ML	5.18	-0.7	1.4	-0.6	3.5	5.3	-0.7	1.4	-0.6	3.5	5.3
Europe	BofA-ML	3.13	-0.7	3.3	-0.2	15.2	14.1	0.0	0.6	0.2	2.1	5.8
UK	BofA-ML	5.41	-2.0	1.0	-1.6	11.4	10.0	-0.8	0.9	-0.4	3.0	4.2
Japan	BofA-ML	1.45	-2.4	-1.2	-1.8	6.6	9.1	-0.1	0.1	-0.1	-0.4	-0.2
HY Corporate Bonds												
Global	BofA-ML	7.15	-0.2	1.8	0.0	6.8	11.0	0.0	1.3	0.1	4.3	9.3
US	BofA-ML	7.41	-0.1	1.4	-0.1	4.5	9.7	-0.1	1.4	-0.1	4.5	9.7
Europe	BofA-ML	5.68	-0.4	3.2	0.0	16.5	16.6	0.3	0.5	0.4	3.1	8.1
Cash (Overnight rates)												
US		4.33	0.1	0.4	0.1	2.3	4.7	0.1	0.4	0.1	2.3	4.7
Euro Area		1.92	-0.6	3.1	-0.5	14.7	11.5	0.0	0.2	0.0	1.3	2.9
UK		4.22	-1.1	0.8	-1.0	11.1	11.2	0.1	0.4	0.1	2.3	4.8
Japan		0.48	-2.1	-1.1	-1.7	7.5	10.1	0.0	0.0	0.0	0.2	0.3
Real Estate (REITs)												
Global	FTSE	1660	-0.9	0.3	-0.4	6.5	11.0	-0.2	-2.3	0.0	-5.7	2.9
Emerging Markets	FTSE	1284	0.8	3.6	1.6	11.7	11.4	1.5	0.9	2.0	-1.1	3.3
US	FTSE	3107	-0.5	-1.2	-0.1	-0.4	8.4	-0.5	-1.2	-0.1	-0.4	8.4
Europe ex-UK	FTSE	2710	-4.2	1.3	-3.1	21.6	17.0	-3.5	-1.3	-2.8	7.7	8.4
UK	FTSE	907	-5.5	-0.7	-4.5	16.9	1.9	-4.3	-0.8	-3.3	8.1	-3.4
Japan	FTSE	2272	-2.5	0.2	-1.9	19.8	16.6	-0.2	1.5	-0.2	11.9	6.7
Commodities												
All	GSCI	3816	2.2	2.8	2.4	4.4	2.1	-	-	-	-	-
Energy	GSCI	655	4.2	7.2	5.0	2.8	-3.7	-	-	-	-	-
Industrial Metals	GSCI	1758	-0.9	2.9	-0.7	6.8	-0.3	-	-	-	-	-
Precious Metals	GSCI	3648	-0.7	-0.4	0.5	24.9	36.7	-	-	-	-	-
Agricultural Goods	GSCI	472	-1.0	-6.9	-1.9	-8.3	-2.3	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.17	-0.7	2.9	-0.5	13.3	8.3	-	-	-	-	-
JPY		146.57	-2.1	-1.2	-1.7	7.2	9.7	-	-	-	-	-
GBP		1.35	-1.3	0.1	-1.2	8.1	5.6	-	-	-	-	-
CHF		1.26	-0.6	3.2	-0.4	14.0	12.8	-	-	-	-	-
CNY		7.17	-0.1	0.2	-0.1	1.7	1.3	-	-	-	-	-

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). ****Due to data problems, this table is only as of 8 July 2025 and not 11 July 2025.** Please see appendix for definitions, methodology and disclaimers.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 5 – Global equity sector total returns relative to market (%)

Data as of 11 Jul 2025	Global				
	1w	**1m**	**QTD**	**YTD**	**12m**
Energy	**1.2**	**-0.3**	**2.3**	**-4.9**	**-10.5**
Basic Materials	**0.1**	**-0.3**	**1.4**	**5.2**	**-8.7**
Basic Resources	0.3	0.8	2.2	9.2	-6.8
Chemicals	-0.3	-2.0	0.4	-0.6	-11.4
Industrials	**0.1**	**-0.4**	**-0.1**	**3.2**	**4.4**
Construction & Materials	1.1	1.6	1.3	6.7	3.9
Industrial Goods & Services	0.0	-0.8	-0.3	2.7	4.6
Consumer Discretionary	**-0.2**	**-1.3**	**-0.5**	**-4.9**	**1.4**
Automobiles & Parts	0.4	-3.9	0.1	-16.4	-6.5
Media	-2.0	-1.6	-5.0	10.1	23.9
Retailers	-0.6	-1.6	-0.6	-5.5	2.5
Travel & Leisure	1.3	2.0	1.9	-2.2	8.2
Consumer Products & Services	-0.4	-0.5	-0.3	-1.0	-5.4
Consumer Staples	**-1.0**	**-3.7**	**-0.9**	**0.0**	**-4.5**
Food, Beverage & Tobacco	-1.1	-3.9	-0.8	1.0	-4.5
Personal Care, Drug & Grocery Stores	-0.9	-3.4	-1.3	-1.6	-4.6
Healthcare	**-0.1**	**-3.4**	**-0.2**	**-8.2**	**-16.1**
Financials	**0.0**	**0.8**	**-0.1**	**6.3**	**11.6**
Banks	0.1	1.7	0.6	10.6	15.7
Financial Services	0.3	1.3	0.2	1.8	8.3
Insurance	-0.6	-2.6	-2.3	3.9	7.8
Real Estate	**-0.2**	**-1.6**	**-0.2**	**-0.9**	**-1.1**
Technology	**0.3**	**3.0**	**0.3**	**-0.4**	**0.0**
Telecommunications	**-1.6**	**-0.8**	**-1.9**	**5.5**	**6.4**
Utilities	**-0.3**	**-1.4**	**-0.8**	**1.4**	**0.0**

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 6a – US factor index total returns (%)

Data as of 11 Jul 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	-0.5	3.6	1.4	7.5	8.5	-0.2	-0.4	0.5	0.3	-4.5
Low volatility	-0.7	0.5	-0.3	2.6	9.5	-0.4	-3.4	-1.2	-4.3	-3.6
Price momentum	-1.0	3.6	-0.5	6.1	14.9	-0.7	-0.4	-1.4	-1.0	1.2
Quality	-0.8	3.1	1.2	7.3	9.7	-0.5	-0.9	0.2	0.2	-3.4
Size	0.0	4.0	3.2	4.5	9.6	0.3	-0.1	2.2	-2.5	-3.5
Value	0.3	4.4	3.0	9.4	16.8	0.6	0.4	2.1	2.0	2.8
Market	-0.3	4.1	0.9	7.2	13.6					
Market - Equal-Weighted	-0.4	3.4	1.4	6.3	12.4					

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 6b – European factor index total returns relative to market (%)

Data as of 11 Jul 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	1.5	0.0	1.6	8.4	6.4	0.3	0.7	0.5	-2.1	-2.3
Low volatility	-0.1	-1.8	0.0	12.1	16.5	-1.2	-1.2	-1.2	1.3	7.0
Price momentum	1.8	1.9	1.1	21.3	23.4	0.7	2.5	-0.1	9.7	13.3
Quality	1.8	1.6	1.9	15.3	14.0	0.6	2.2	0.7	4.2	4.7
Size	0.8	0.7	1.1	11.7	7.5	-0.3	1.4	0.0	1.0	-1.3
Value	1.3	0.9	1.0	20.3	18.4	0.2	1.6	-0.1	8.7	8.7
Market	1.2	-0.6	1.2	10.6	8.9					
Market - Equal-Weighted	1.0	0.1	1.0	12.3	11.9					

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 7 – 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%**	↑	**40%**			
Government	25%	10-40%	↑	25%			
US	8%		↑	8%		50%	JPY
Europe ex-UK (Eurozone)	7%			7%			
UK	1%			2%			
Japan	7%		↑	4%			
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%	↑	5%			
US Dollar	4%		↑	4%		50%	JPY
Euro	1%			1%			
Bank Loans	**4%**	**0-8%**		**8%**			
US	3%			6%			
Europe	1%			2%			
Equities	**45%**	**25-65%**	↓	**42%**			
US	25%		↓	10%			
Europe ex-UK	7%			12%			
UK	4%			6%			
Japan	4%			5%			
Emerging Markets	5%		↓	9%			
China**	2%			4%			
Real Estate	**4%**	**0-8%**	↓	**6%**			
US	1%			1%			
Europe ex-UK	1%			2%			
UK	1%		↓	1%			
Japan	1%		↓	1%			
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%		↓	11%	
JPY	13%		↑	19%	
EM	9%		↓	16%	
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 8 – 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 4

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.

Important information

By accepting this document, you consent to communicating with us in English, unless you inform us otherwise.

This marketing communication is for informational purposes only and is intended only for Professional Clients and Financial Advisers in Continental Europe (as defined below); Professional Clients only in Dubai, Ireland, the Isle of Man, Jersey, Guernsey and the UK; for Qualified Clients/Sophisticated Investors in Israel, for Professional/Qualified/Sophisticated Investors in Bahrain, Jordan, Kuwait, Lebanon, Mauritius, Oman, Qatar, Saudi Arabia, South Africa, Tunisia, Turkey, and the United Arab Emirates; for Professional Investors in Hong Kong, for certain specific sovereign wealth funds and/or Qualified Domestic Institutional Investors approved by local regulators only in the People's Republic of China, for Sophisticated/Professional Investors in Australia, for Institutional Investors in the United States, Peru and Singapore; for AFPs and Qualified Investors in Chile and Colombia; for Accredited/Institutional Investors in Mexico; for Wholesale Investors (as defined in the Financial Markets Conduct Act) in New Zealand; for certain specific Qualified Institutions and/or Sophisticated Investors only in Taiwan, for Qualified Professional Investors in Korea, for certain specific institutional investors in Brunei and Indonesia, for Qualified Institutional Investors and/or certain specific institutional investors in Thailand, for qualified buyers in Philippines and for certain specific institutional investors in Malaysia, upon request, for informational purposes only. This document is only intended for use with Qualified Institutional Investors in Japan; in Canada, this document is restricted to Institutional Investors and Advisors, is for educational purposes only, does not constitute investment, tax or legal advice and should not be relied on as such. This is not to be construed as an offer to buy or sell any financial instruments and should not be relied upon as the sole factor in an investment making decision. As with all investments there are associated inherent risks. Please obtain and review all financial material carefully before investing. All material presented is compiled from sources believed to be reliable and current, but accuracy cannot be guaranteed.

Continental Europe is defined as Andorra, Austria, Belgium, Bulgaria, Czech Republic, Croatia, Denmark, Finland, France, Germany, Gibraltar, Greece, Hungary, Italy, Kosovo, Latvia, Lithuania, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and Switzerland.

In Monaco this document is for duly authorised intermediaries only. Such intermediaries are banks and financial activities companies duly licensed by the "Commission de Contrôle des Activités Financières" by virtue of Law n° 1.338, of September 7, 2007, and authorised under Law n° 1.144 of July 26, 1991.

This is marketing material and not financial advice. It is not intended as a recommendation to buy or sell any particular asset class, security or strategy. Regulatory requirements that require impartiality of investment/investment strategy recommendations are therefore not applicable nor are any prohibitions to trade before publication.

Views and opinions are based on current market conditions and are subject to change.
These materials may contain statements that are not purely historical in nature but are "forward-looking statements." These include, among other things, projections, forecasts, estimates of income, yield or return, future performance targets, sample or pro forma portfolio structures or portfolio composition, scenario analysis, specific investment strategies and proposed or pro forma levels of diversification or sector investment. These forward-looking statements can be identified by the use of forward-looking terminology such as "may," "will," "should," "expect," "anticipate," "project," "estimate," "intend," "continue," "target," "believe," the negatives thereof, other variations thereon or comparable terminology. Forward looking statements are based upon certain assumptions, some of which are described herein. Actual events are difficult to predict, are beyond the Issuer's control, and may substantially differ from those assumed. All forward-looking statements included herein are based on information available on the date hereof and Invesco assumes no duty to update any forward-looking statement.

Australia

This document has been prepared only for those persons to whom Invesco has provided it. It should not be relied upon by anyone else. Information contained in this document may not have been prepared or tailored for an

Australian audience and does not constitute an offer of a financial product in Australia. You may only reproduce, circulate and use this document (or any part of it) with the consent of Invesco.
The information in this document has been prepared without taking into account any investor's investment objectives, financial situation or particular needs. Before acting on the information the investor should consider its appropriateness having regard to their investment objectives, financial situation and needs.
You should note that this information:

- may contain references to dollar amounts which are not Australian dollars;
- may contain financial information which is not prepared in accordance with Australian law or practices;
- may not address risks associated with investment in foreign currency denominated investments; and
- does not address Australian tax issues.

New Zealand
This document is issued only to wholesale investors (as defined in the Financial Markets Conduct Act) in New Zealand to whom disclosure is not required under Part 3 of the Financial Markets Conduct Act. This document has been prepared only for those persons to whom it has been provided by Invesco. It should not be relied upon by anyone else and must not be distributed to members of the public in New Zealand. Information contained in this document may not have been prepared or tailored for a New Zealand audience. You may only reproduce, circulate and use this document (or any part of it) with the consent of Invesco. This document does not constitute and should not be construed as an offer of, invitation or proposal to make an offer for, recommendation to apply for, an opinion or guidance on Interests to members of the public in New Zealand. Applications or any requests for information from persons who are members of the public in New Zealand will not be accepted.

Issued in Australia and New Zealand by Invesco Australia Limited (ABN 48 001 693 232), Level 26, 333 Collins Street, Melbourne, Victoria, 3000, Australia which holds an Australian Financial Services Licence no. 239916.

Israel: This document may not be reproduced or used for any other purpose, nor be furnished to any other person other than those to whom copies have been sent. Nothing in this document should be considered investment advice or investment marketing as defined in the Regulation of Investment Advice, Investment Marketing and Portfolio Management Law, 1995 ("Investment Advice Law"). Neither Invesco Ltd. nor its subsidiaries are licensed under the Investment Advice Law, nor does it carry the insurance as required of a licensee thereunder.

This document is provided by Invesco Management S.A., President Building, 37A Avenue JF Kennedy, L-1855 Luxembourg, regulated by the Commission de Surveillance du Secteur Financier, Luxembourg, Invesco Asset Management Deutschland GmbH, An der Welle 5, 60322- Frankfurt/M., Germany, Invesco Asset Management (Schweiz) AG, Talacker 34, 8001 Zurich, Switzerland, and Invesco Asset Management Limited, Perpetual Park, Perpetual Park Drive, Henley-on Thames, Oxfordshire RG9 1HH, UK Authorised and regulated by the Financial Conduct Authority, Invesco Asset Management Limited, Index Tower Level 6 - Unit 616, P.O. Box 506599, Al Mustaqbal Street, DIFC, Dubai, United Arab Emirates. Regulated by the Dubai Financial Services Authority.

This document is issued in the following countries:

- in Hong Kong by Invesco Hong Kong Limited 景順投資管理有限公司, 45/F, Jardine House, 1 Connaught Place, Central, Hong Kong
- in Singapore by Invesco Asset Management Singapore Ltd, 9 Raffles Place, #18-01 Republic Plaza, Singapore 048619.
- in Taiwan by Invesco Taiwan Limited, 22F, No.1, Songzhi Road, Taipei 11047, Taiwan (0800-045-066). **Invesco Taiwan Limited is operated and managed independently**.
- in Japan by Invesco Asset Management (Japan) Limited, Roppongi Hills Mori Tower 14F, 6-10-1 Roppongi, Minato-ku, Tokyo 106-6114: Registration Number: The Director – General of Kanto Local Finance Bureau (Kin-sho) 306; Member of the Investment Trusts Association, Japan and the Japan Investment Advisers Association
- in the US by Invesco Advisers, Inc., 1331 Spring Street NW, Suite 2500, Atlanta, GA 30309 and Invesco Capital Management LLC, 3500 Lacey Road, Suite 700, Downers Grove, IL 60515
- in Canada by Invesco Canada Ltd., 16 York Street, Suite 1200, Toronto, Ontario M5J 0E6

Telephone calls may be recorded.

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

Telephone calls may be recorded