

Uncommon truths

Global Debt Review 2024

After rapid declines in 2021 and 2022 (from record highs in 2020), global debt to GDP ratios increased slightly in 2023. The effect of higher interest rates is yet to be fully seen in debt service ratios but we can see the first signs. Businesses appear to have reduced debt drastically in some countries.

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 2023 data, we are able to deliver the next instalment.

Nearly three-quarters of the record gain in global debt to GDP ratios in 2020 had been reversed by 2022, when PPP (purchasing power parity) exchange rates are used (all had been reversed when using market exchange rates). The sharp jump in debt to GDP in 2020 was the result of a combination of rising debt (especially in the public sector) and falling GDP (both were due to the effects of the Covid pandemic). Though, the decline in the debt ratio in 2021 was entirely due to the jump in GDP, as debt continued to rise, that of 2022 was due to a mix of falling public sector debt and rising nominal GDP. However, there was something of a setback in 2023, with global debt ratios rising slightly, due to a rise in debt.

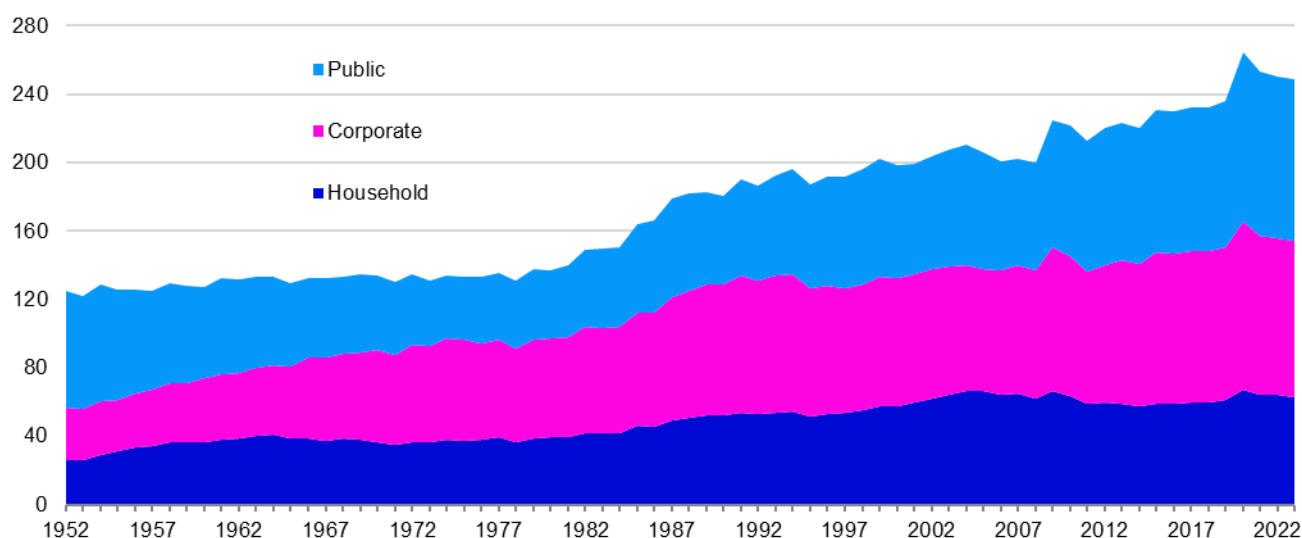
The global debt to GDP ratio rose to 232.6% in 2023 from 230.7% in 2022, based on the BIS "All-Country" non-financial sector debt to GDP ratio, using PPP exchange rates to convert to US dollars. That debt to GDP ratio was 224.3% in 2019.

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 285.4% in 2020 and has since fallen back to 245.1%.

The BIS All-Country aggregates only go back to 2002, so we have constructed our own aggregate across the world's 25 largest economies (measured by GDP in 2019-23). They accounted for around 84% of World GDP in 2023, according to IMF data. **Figure 1** shows the results and suggests that, after reaching a new high of 264.6% in 2020, the global debt to GDP ratio fell back to 248.4% in 2023 (it was 236.4% in 2019). Our measure is based upon actual exchange rates, so we use a smoothing process to dampen the effect of exchange rate swings and this may explain why this measure declined in 2023 (see the note to **Figure 1**).

On that basis, global debt to GDP declined in household and corporate sectors and was stable in the public sector, though debt increased in all categories (as was also the case for the BIS all country ratios).

Figure 1 – Global non-financial sector debt to GDP from 1952 to 2023 using market exchange rates (%)



Note: Based on annual data for the 25 largest economies in the world (as of 2019-2023). 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 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 2023 is the average of debt at end-2022 and at end-2023).

Source: BIS, IMF, OECD, Oxford Economics, LSEG Datastream and Invesco Global Market Strategy Office



The biggest contributor to the gain in global debt in 2023 (in US dollars) was the US, with a rise of \$3.7trn during the year, followed by China with a gain of \$3.0trn. However, **Figure 2** shows that the US debt-to-GDP ratios fell by 1.6 percentage points (ppts), while that of China rose by 12.5 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).

The global debt ratio increased by around 1.9 ppts, with the majority of the rise accounted for by public sector debt. Total debt ratios increased in 9 of the 25 countries that we follow, with the biggest gains in Argentina, China and Saudi Arabia. Public sector debt played a role in all three, as did corporate debt, while rising household debt was also a factor in Saudi Arabia. At the other end of the spectrum, Sweden, the Netherlands and Spain saw big declines in their overall debt ratios, with falling corporate debt the most important factor.

Looking to longer term trends, total debt ratios have risen substantially in the last 10 years. The global debt to GDP ratio increased by 23.8 ppts in the 10 years to 2023 when using PPP exchange rates (or 18.8 ppts using market exchange rates). Most of that rise was already in place by 2019. The 10-year rise was largely due to public and corporate debt.

16 of the 25 countries experienced a rise in their total debt to GDP ratio over the last 10 years, Argentina being the most extreme with a gain of 129.8 ppts to 199.1%, followed by China with a gain of 81.3 ppts to

283.4% (more than half of the gain was due to the public sector, followed by households).

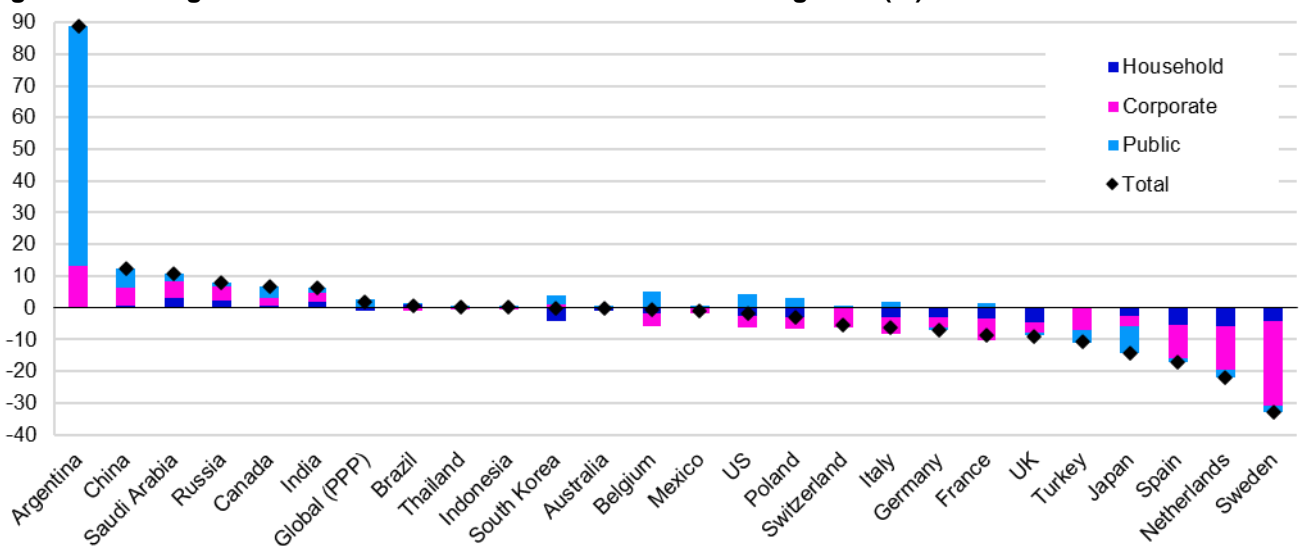
The Netherlands (-102.4 ppts) and Spain (-73.6 ppts) have seen the most impressive declines in debt ratios over the last 10 years, with falling corporate and household debt ratios playing the most important role in both countries.

So where does this leave accumulated debt across countries? **Figure 3** shows debt to GDP ratios for the 25 countries that we follow. As has been the case for some time, the countries with the biggest debt burdens are to be found in the developed world, with Japan once again leading the way, though its debt to GDP ratio fell once again, to 398.8% in 2023 from 412.9% in 2022 and a peak of 420.9% in 2020, according to BIS data. The next two countries (France and Canada) are the same as last year. The first change in ranking occurs at #4, with Switzerland moving up from #5 and replacing Sweden, which falls to #8.

At the other end of the spectrum, the two countries with the lowest debt ratios (Indonesia and Mexico) are unchanged from last year.

Other countries on the move in 2023 in **Figure 3** include: Belgium (from 6th to 5th), China (8th to 6th), South Korea (9th to 7th), US (10th to 9th), Netherlands (7th to 10th), UK (12th to 11th), Italy (13th to 12th), Spain (11th to 13th), Argentina (21st to 16th), Germany (16th to 18th), Brazil (18th to 19th), Russia (19th to 20th), Poland (20th to 21st), Saudi Arabia (23rd to 22nd), Turkey (22nd to 23rd).

Figure 2 – Change in non-financial sector debt/GDP ratios during 2023 (%)



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-2023 debt to GDP ratios minus those of end-2022. The countries shown are the 25 largest in the world by GDP, as of 2019-23.

Source: BIS, LSEG Datastream, and Invesco Global Market Strategy Office



So, after a sharp rise in debt ratios in 2020, there were declines in 2021/22, but the direction was mixed across countries in 2023, with global totals rising. If economies continued to expand, we would normally expect a decline in debt ratios as public sector expenditure declines and public and private revenues increase. However, many economies are slowing, debt ratios have already risen in some places and we fear that recession is possible in some countries.

Of course, debt only becomes a problem when debt service ratios increase. The rise in debt to GDP ratios since 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 income 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. BIS private non-financial sector data shows that China's debt service ratio (interest payments plus amortisations divided by income) increased by only 1.5 percentage points (from 17.2% in 2013 to 18.7% in 2023), despite a 35.6 percentage point increase in the private sector debt to GDP ratio (to 200.4%).

However, interest rates and bond yields have risen sharply over recent years, which could boost debt service ratios. Of course, the rise in interest rates will take time to boost funding costs as some of the debt

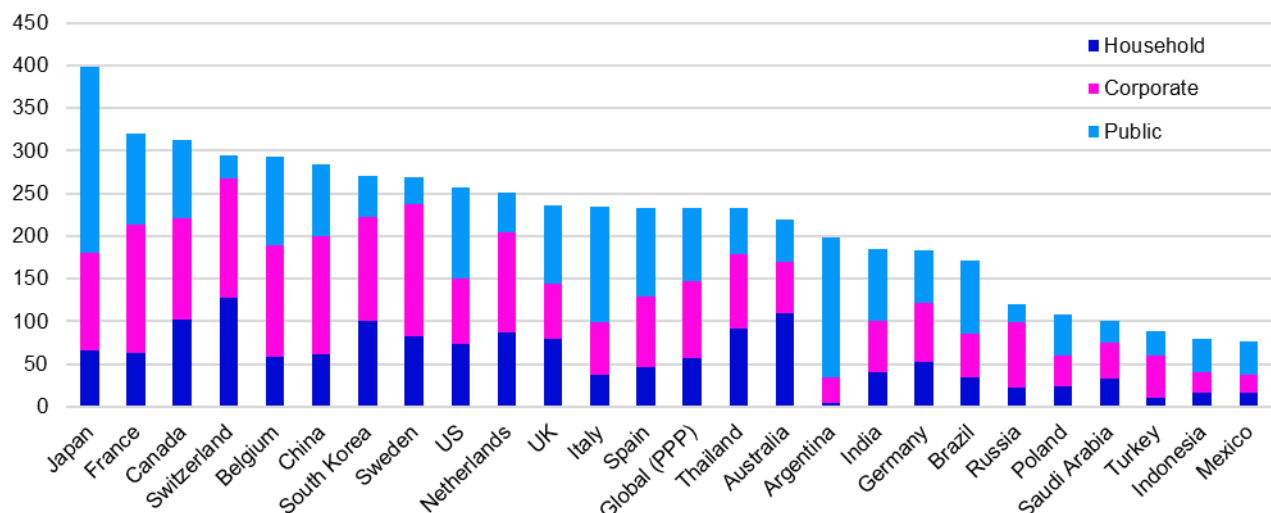
will be on a fixed-rate multi-year basis. Nevertheless, over the last three years there were noticeable gains in private sector debt service ratios in Brazil (+8.0 ppts to 25.7%), Turkey (+6.0 ppts to 20.3%) and South Korea (+3.6 ppts to 23.7%). The rise in Turkey's debt service ratio came despite a substantial fall in the private sector debt to GDP ratio.

Among the 25 largest economies that we follow, the only one to enjoy a sizeable decline in the private sector debt service ratio was the Netherlands (-4.4 ppts to 21.5%). This reflects a 47.9 ppts decline in the private sector debt to GDP ratio to 205.1%, with the corporate sector accounting for around two-thirds 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 difficult debt service ratios (with perhaps the exceptions of Australia, Canada, the Netherlands, South Korea and Sweden). More problematic is corporate debt and we suppose the biggest threat would be in countries where service ratios are the highest. As of 2023 that list of countries would be France (non-financial corporations debt service ratio of 58.9%), Canada (53.5%), the Netherlands (48.2%), South Korea (43.7%) and Sweden (42.7%), with the US not far behind on 41.9%. 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, where corporate sector debt is high).

Unless stated otherwise, all data as of 19 July 2024.

Figure 3 – Non-financial sector debt/GDP in 2023 (%)



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 2019-2023.

Source: BIS, LSEG Datastream and Invesco Global Market Strategy Office

Figure 4 – Asset class total returns (%)

Data as at 19/07/2024	Index	Current Level/Ry	Total Return (USD, %)					Total Return (Local Currency, %)				
			1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	811	-2.1	0.9	1.2	12.9	18.0	-2.0	0.7	0.9	14.5	19.8
Emerging Markets	MSCI	1090	-3.0	0.1	0.8	8.5	10.0	-2.6	0.4	1.0	12.3	14.3
China	MSCI	57	-4.8	-4.6	-0.5	4.3	-4.3	-4.7	-4.6	-0.5	4.7	-4.2
US	MSCI	5236	-1.9	0.5	0.9	15.9	22.2	-1.9	0.5	0.9	15.9	22.2
Europe	MSCI	2119	-2.9	0.4	1.2	7.6	10.9	-2.7	-0.5	-0.4	9.4	13.4
Europe ex-UK	MSCI	2626	-3.3	0.2	0.9	7.1	10.5	-3.2	-0.5	-0.4	9.9	13.8
UK	MSCI	1254	-1.7	1.0	2.0	9.1	12.5	-1.2	-0.5	-0.1	7.7	12.2
Japan	MSCI	4052	-1.2	5.6	4.1	10.8	14.7	-1.4	5.2	1.8	23.7	29.3
Government Bonds												
World	BofA-ML	3.34	0.3	1.0	2.3	-3.0	-1.7	0.2	0.4	1.1	-0.5	1.4
Emerging Markets	BBloom	7.65	-0.8	0.5	1.3	4.0	11.3	-0.8	0.5	1.3	4.0	11.3
China	BofA-ML	2.01	0.3	0.6	0.3	1.9	5.7	0.2	0.6	0.1	4.3	6.2
US (10y)	Datastream	4.24	-0.4	0.2	1.3	-0.7	-0.1	-0.4	0.2	1.3	-0.7	-0.1
Europe	BofA-ML	2.98	0.7	2.6	3.5	-1.6	1.4	0.6	1.0	1.6	-0.4	3.9
Europe ex-UK (EMU, 10y)	Datastream	2.41	0.1	1.2	2.1	-3.3	-0.4	0.3	-0.1	0.5	-1.9	2.4
UK (10y)	Datastream	4.12	-0.6	1.4	2.7	-0.6	6.1	0.0	-0.1	0.6	-1.9	5.9
Japan (10y)	Datastream	1.02	0.3	-0.4	2.4	-12.8	-14.6	0.1	-0.7	0.2	-2.7	-3.7
IG Corporate Bonds												
Global	BofA-ML	4.85	0.1	1.3	2.0	1.2	5.3	0.1	0.8	1.4	1.7	6.1
Emerging Markets	BBloom	6.52	-0.1	1.3	1.5	7.1	12.8	-0.1	1.3	1.5	7.1	12.8
China	BofA-ML	2.69	0.2	0.4	0.2	0.8	4.1	0.1	0.4	0.1	3.1	4.7
US	BofA-ML	5.33	-0.1	0.7	1.6	1.7	5.7	-0.1	0.7	1.6	1.7	5.7
Europe	BofA-ML	3.70	0.4	2.5	2.9	0.4	4.0	0.4	1.0	1.0	1.6	6.6
UK	BofA-ML	5.42	0.4	3.3	4.1	3.1	10.4	0.5	1.3	1.4	1.3	9.6
Japan	BofA-ML	1.08	0.6	0.5	2.7	-10.5	-11.5	0.0	-0.2	0.1	-0.5	-0.6
HY Corporate Bonds												
Global	BofA-ML	7.61	0.3	1.7	1.7	4.5	10.7	0.3	1.4	1.3	4.7	11.3
US	BofA-ML	7.78	0.4	1.6	1.5	4.2	10.6	0.4	1.6	1.5	4.2	10.6
Europe	BofA-ML	6.49	0.2	2.5	2.7	2.8	8.2	0.1	1.0	0.8	4.0	11.0
Cash (Overnight LIBOR)												
US		5.34	0.1	0.5	0.2	2.9	5.5	0.1	0.5	0.2	2.9	5.5
Euro Area		3.66	0.7	1.2	1.9	0.9	1.8	0.1	0.3	0.1	2.1	3.9
UK		5.20	1.5	2.0	3.0	4.9	5.4	0.1	0.4	0.2	2.8	5.3
Japan		0.08	1.8	-0.7	1.9	-10.6	-12.3	0.0	0.0	0.0	0.0	0.0
Real Estate (REITs)												
Global	FTSE	1626	0.5	5.7	5.3	1.8	6.4	0.7	4.4	3.7	3.3	9.3
Emerging Markets	FTSE	1212	-1.4	1.5	3.2	-2.2	-0.3	-1.2	0.2	1.6	-0.8	2.4
US	FTSE	3144	1.7	6.7	5.5	4.7	9.1	1.7	6.7	5.5	4.7	9.1
Europe ex-UK	FTSE	2451	-3.0	6.3	5.4	-1.2	15.7	-2.8	4.9	3.7	0.2	18.9
UK	FTSE	850	-2.0	5.0	5.1	1.7	10.0	-1.4	3.5	2.8	0.4	9.7
Japan	FTSE	2098	0.0	3.7	4.9	-1.6	2.3	-0.3	3.3	2.6	9.8	15.3
Commodities												
All	GSCI	3609	-2.8	-3.4	-2.9	7.8	5.6	-	-	-	-	-
Energy	GSCI	653	-3.1	-2.9	-3.2	12.7	13.4	-	-	-	-	-
Industrial Metals	GSCI	1649	-5.3	-4.5	-5.1	3.0	6.1	-	-	-	-	-
Precious Metals	GSCI	2696	-1.3	2.3	2.5	16.4	20.0	-	-	-	-	-
Agricultural Goods	GSCI	469	-2.6	-8.4	-3.9	-8.5	-19.7	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.09	-0.3	1.3	1.5	-1.4	-2.9	-	-	-	-	-
JPY		157.51	0.2	0.4	2.1	-10.4	-11.3	-	-	-	-	-
GBP		1.29	-0.6	1.4	2.2	1.3	0.2	-	-	-	-	-
CHF		1.12	0.6	-0.6	1.1	-5.3	-3.4	-	-	-	-	-
CNY		7.27	-0.3	-0.2	0.0	-2.3	-0.6	-	-	-	-	-

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

Data as at 19/07/2024	Global				
	1w	1m	QTD	YTD	12m
Energy	2.2	2.3	0.2	-6.5	-6.4
Basic Materials	-0.7	0.1	0.1	-8.3	-8.5
Basic Resources	-2.1	0.0	-0.2	-7.4	-5.5
Chemicals	1.5	0.4	0.7	-9.4	-12.5
Industrials	1.3	0.8	1.4	-2.7	-2.4
Construction & Materials	1.4	1.5	3.2	-0.5	4.7
Industrial Goods & Services	1.3	0.7	1.1	-3.0	-3.4
Consumer Discretionary	-0.7	-0.2	-0.7	-4.4	-7.7
Automobiles & Parts	-1.2	6.7	4.2	-7.8	-16.8
Media	0.6	-2.9	-2.5	2.9	0.1
Retailers	-1.1	-0.5	-1.7	3.6	5.6
Travel & Leisure	0.6	-2.6	-2.0	-10.6	-14.9
Consumer Products & Services	-1.0	-2.2	-1.3	-11.1	-15.0
Consumer Staples	2.5	0.7	1.8	-7.3	-13.1
Food, Beverage & Tobacco	2.4	1.1	1.8	-8.5	-14.9
Personal Care, Drug & Grocery Stores	2.6	0.0	1.8	-5.2	-9.8
Healthcare	0.7	0.9	0.1	-1.5	-2.8
Financials	1.9	2.7	2.0	2.3	6.0
Banks	2.5	3.4	2.1	3.3	6.7
Financial Services	1.5	2.5	2.4	0.4	4.6
Insurance	1.1	1.4	1.1	3.1	6.9
Real Estate	2.0	3.6	3.6	-8.8	-8.7
Technology	-3.3	-4.1	-2.8	12.0	14.6
Telecommunications	1.6	3.0	0.9	-4.4	-3.2
Utilities	0.5	1.6	0.9	-2.2	-4.4

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 at 19/07/2024	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	-1.3	0.6	0.8	10.6	17.3	0.7	0.2	-0.1	-4.9	-4.1
Low volatility	0.6	2.7	2.7	10.5	11.3	2.6	2.3	1.8	-5.0	-9.0
Price momentum	-2.4	-1.4	-0.2	11.1	15.7	-0.4	-1.8	-1.0	-4.5	-5.5
Quality	0.3	1.7	2.4	6.9	12.3	2.3	1.3	1.5	-8.1	-8.3
Size	0.5	4.2	3.9	2.8	6.8	2.5	3.7	3.0	-11.6	-12.8
Value	1.5	6.2	5.1	10.5	19.5	3.5	5.7	4.2	-5.0	-2.4
Market	-1.9	0.4	0.9	16.3	22.4					
Market - Equal-Weighted	-0.1	2.3	2.5	7.7	11.3					

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 at 19/07/2024	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	-3.5	-1.5	-0.6	2.6	7.1	-0.9	-0.8	-0.4	-6.0	-6.1
Low volatility	-0.9	0.5	1.4	7.9	10.2	1.8	1.2	1.6	-1.2	-3.4
Price momentum	-2.0	1.4	1.5	14.6	22.0	0.7	2.1	1.7	5.0	6.9
Quality	-1.8	-1.3	-0.1	8.7	15.1	0.9	-0.6	0.1	-0.4	0.9
Size	-1.6	1.5	2.8	6.7	10.6	1.1	2.2	3.0	-2.3	-3.0
Value	-1.3	3.1	3.7	9.2	15.8	1.5	3.9	3.9	0.0	1.5
Market	-2.7	-0.7	-0.2	9.2	14.1					
Market - Equal-Weighted	-1.8	0.7	1.6	6.9	11.6					

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%	6%			
Cash	2.5%		6%			
Gold	2.5%		0%			
Bonds	40%	10-70%	39%			
Government	25%	10-40%	27%			
US	8%		16%			25% JPY
Europe ex-UK (Eurozone)	7%		3%			
UK	1%		2%			
Japan	7%		2%			
Emerging Markets	2%		4%			
China**	0.2%		0%			
Corporate IG	10%	0-20%	12%			
US Dollar	5%		7%			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%	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%		11%			
UK	4%		3%			
Japan	4%		3%			
Emerging Markets	5%		8%			
China**	2%		4%			
Real Estate	4%	0-8%	8%			
US	1%		2%			
Europe ex-UK	1%		1%			
UK	1%		2%			
Japan	1%		1%			
Emerging Markets	1%		2%			
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%		39%			
EUR	19%		20%			
GBP	7%		11%			
JPY	13%		15%			
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	6.6%	Neutral	EM
Basic Materials	3.8%	Neutral	Japan
Basic Resources	2.3%	Neutral	Japan
Chemicals	1.5%	Neutral	US
Industrials	12.7%	Underweight ↓	US
Construction & Materials	1.7%	Underweight	US
Industrial Goods & Services	11.0%	Underweight ↓	US
Consumer Discretionary	13.9%	Underweight ↓	US
Automobiles & Parts	2.4%	Underweight	Europe
Media	1.1%	Neutral	Japan
Retailers	5.2%	Overweight	US
Travel & Leisure	1.9%	Underweight	EM
Consumer Products & Services	3.3%	Underweight ↓	Japan
Consumer Staples	5.2%	Overweight	US
Food, Beverage & Tobacco	3.3%	Overweight	US
Personal Care, Drug & Grocery Stores	1.9%	Overweight	Europe
Healthcare	9.2%	Overweight	US
Financials	15.4%	Overweight	US
Banks	7.4%	Overweight	Europe
Financial Services	5.1%	Overweight	US
Insurance	2.9%	Underweight	US
Real Estate	2.6%	Neutral	Japan
Technology	24.0%	Neutral	EM
Telecommunications	3.3%	Underweight	US
Utilities	3.2%	Neutral ↑	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

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.

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 Refinitiv 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 ICE BofA government bond total return index for 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: ICE BofA investment grade corporate bond total return indices, except for in emerging markets where we use the Barclays 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

Important information

Your capital is at risk. You may not get back the amount you invested.

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

This document is for informational purposes only and is intended only for Professional Clients and Financial Advisers in Continental Europe (as defined in important information); Professional Clients only in Dubai, Ireland, the Isle of Man, Jersey, Guernsey, Malta, Switzerland and the UK; for Qualified Clients 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 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 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 for informational purposes only, 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 Accredited Investors as defined under National Instrument 45-106. It is not intended for and should not be distributed to, or relied upon by, the public or retail investors. It is not intended for solicitation of any security. Please do not redistribute this document.

For the distribution of this document, Continental Europe is defined as Andorra, Austria, Belgium, Bulgaria, Czech Republic, Croatia, Denmark, Finland, France, Germany, Gibraltar, Greece, Hungary, Italy, Kosovo, Latvia, Liechtenstein, Luxembourg, Monaco, Netherlands, North Macedonia, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

This document is not an offering of a financial product and should not be distributed to retail clients who are resident in jurisdiction where its distribution is not authorized or is unlawful. Circulation, disclosure, or dissemination of all or any part of this document to any unauthorized person is prohibited. This document is only intended for and will be only distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

This document is solely for duly registered banks or a duly authorized Monegasque intermediary acting as a professional institutional investor which has such knowledge and experience in financial and business matters as to be capable of evaluating the contents of this document. Consequently, this document may only be communicated to banks duly licensed by the "Autorité de Contrôle Prudentiel et de Résolution" and fully licensed portfolio management companies by virtue of Law n° 1.144 of July 26, 1991 and Law 1.338, of September 7, 2007, duly licensed by the "Commission de Contrôle des Activités Financières. Such regulated intermediaries may in turn communicate this document to potential investors.

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.

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 number 239916.

This document is issued only to wholesale investors 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. The distribution and offering of this document in certain jurisdictions may be restricted by law. Persons into whose possession this marketing material may come are required to inform them about and to comply with any relevant restrictions. This does not constitute an offer or solicitation by anyone in any jurisdiction in which such an offer is not authorised or to any person to whom it is unlawful to make such an offer or solicitation. This does not constitute a recommendation of any investment strategy or product for a particular investor. Investors should consult a financial professional before making any investment decisions.

This overview contains general information only and does not take into account individual objectives, taxation position or financial needs. Nor does this constitute a recommendation of the suitability of any investment strategy for a particular investor. It is not an offer to buy or sell or a solicitation of an offer to buy or sell any security or instrument or to participate in any trading strategy to any person in any jurisdiction in which such an offer or solicitation is not authorized or to any person to whom it would be unlawful to market such an offer or solicitation. It does not form part of any prospectus. All material presented is compiled from sources believed to be reliable and current, but accuracy cannot be guaranteed. Investments have risks and you may lose your principal investment. Please obtain and review all financial material carefully before investing. Asset management services are provided by Invesco in accordance with appropriate local legislation and regulations.

The opinions expressed are those of the authors and may differ from the opinions of other Invesco investment professionals. Opinions are based upon current market conditions and are subject to change without notice. Past performance is no guarantee of future results.

This material 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 or future performance targets. These forward-looking statements are based upon certain assumptions, some of which are described herein. Actual events are difficult to predict 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. Accordingly, there can be no assurance that estimated returns or projections can be realized, that forward-looking statements will materialize or that actual returns or results will not be materially lower than those presented. All information is sourced from Invesco, unless otherwise stated.

Effective 8/18/17, Invesco Ltd completed the acquisition of Source. Links to documents published prior to this date are from Source as a predecessor firm and are provided for historical and informational purposes only.

Investment strategies involve numerous risks. The calculations and charts set out herein are indicative only, make certain assumptions and no guarantee is given that future performance or results will reflect the information herein. Past performance is not a guarantee of future performance.

The Directors of Invesco do not guarantee the accuracy and/or the completeness of any data included herein and we shall have no liability for any errors, omissions, or interruptions herein. We make no warranty, express or implied, as to the information described herein. All data and performance shown is historical unless otherwise indicated. Investors should consult their own business, tax, legal and accounting advisors with respect to this proposed transaction and they should refrain from entering into a transaction unless they have fully understood the associated risks and have independently determined that the transaction is appropriate for them. In no way should we be deemed to be holding ourselves out as financial advisers or fiduciaries of the recipient hereof and

this document is not intended to be "investment research" as defined in the Handbook of the UK Financial Conduct Authority.

Invesco, and our shareholders, or employees or our shareholders may from time to time have long or short positions in securities, warrants, futures, options, derivatives or financial instruments referred to in this material. As a result, investors should be aware that we may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

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.

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., 120 Bloor Street East, Suite 700, Toronto, Ontario M4W 1B7. Terms and Conditions for Canadian investors can be seen [here](#).

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. This document has not been reviewed by the Securities and Futures Commission.
- 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

Telephone calls may be recorded.

© 2024 Invesco. All rights reserved. II-GMSOUT-COM-8-E 3732837.

Authors

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

Global Market Strategy Office

Kristina Hooper
Chief Global Market Strategist
kristina.hooper@invesco.com
New York, Americas

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

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

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

Andr as Vig
Multi-Asset Strategist
andras.vig@invesco.com
London, EMEA

Telephone calls may be recorded