

## Uncommon truths

### Don't shoot the messenger: demographics suggest less growth

**Falling fertility rates suggest less population growth, which could bring lower GDP expansion and less inflation. Africa appears relatively well placed; Europe, Asia and South America less so.**

This is the next in a series of papers over the summer about long-term issues. The topic this week is demographics and the likely effect on economic outcomes. Later papers will consider the implications for savings, asset performance and climate change.

But first, a few comments about the developments of the last week. Central bank meetings came thick and fast but, as expected, there were no policy changes at the Bank of Japan, Bank of Canada or at the Fed. Two Fed committee members voted for a rate cut but that didn't boost market faith in a September rate cut.

What did swing market opinion was Friday's employment report, with non-farm payrolls increasing by only 73k in July (versus a Bloomberg consensus of 104k). Even worse, the June data (which had reassured markets when released) was revised down to a gain of 14k (from the original 147k), while May was revised down to 19K (from 144k). The US labour market appears weaker than originally thought, with an average monthly gain of 35k in the three months to July versus 127k in the three months to April and 209k in the last three months of 2024. If that weren't enough, the Household Survey (used to calculate unemployment) suggests the average monthly change in employment in the last three months is -288k.

The upshot is that markets finished the week believing a Fed rate cut is more than likely in September, with two rate cuts likely by the end of the year (according

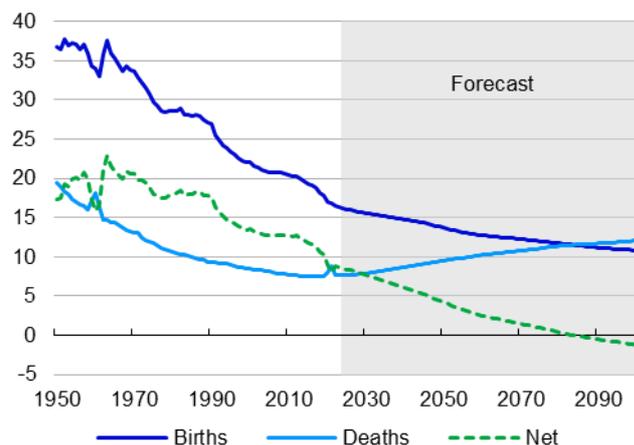
to Bloomberg implied probabilities based on Fed Funds futures).

Second quarter GDP data published midweek also hinted at a weakening economy. Though GDP growth rebounded to an annualised 3.0% from -0.5% in Q1, the swing was due to weakening imports (after the surge in Q1). The underlying picture is one of weakness, with consumer spending growth of 1.4% and fixed investment spending growth of 0.4% (all annualised). Though the effect of tariffs remains hard to see in the inflation data, I think it is showing in activity data and I doubt the slew of tariffs announced in the last week will improve the mood.

Leaving behind the immediate and turning to the distant future, if demographics is destiny, what does the ongoing deceleration in the world's population tell us about our economic future? To be clear, the global population is still expanding, with UN estimates suggesting it had grown from 6.2bn in 2000 to 8.1bn in 2023. Further the UN projects that we shall number 9.7bn in 2050. However, the rate of growth is slowing: having peaked at 1.83% in 2000, the annualised rolling 50-year growth rate had eased to 1.46% by 2023 and UN projections suggest it will have fallen to around 0.1% by the end of the century (a level not seen since the 1600s – see **Figure 3b**).

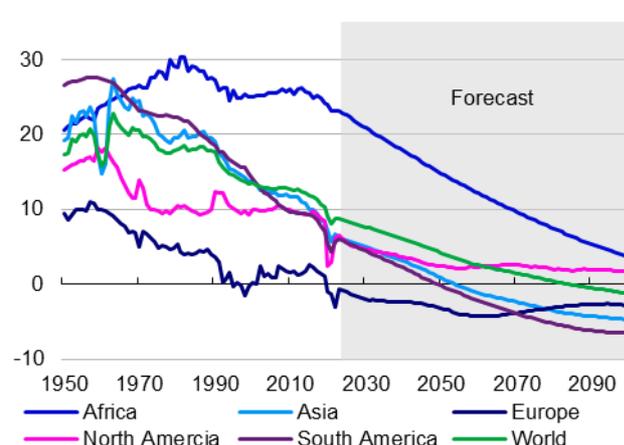
**Figure 1a** suggests that falling death rates (deaths per 1000 of population) have been helping over recent decades, but birth rates have been falling even faster. Hence the net change in population has been falling since 1963 and is expected to continue falling until it turns negative in the mid-2080s, when the global population is expected to peak at 10.3bn.

**Figure 1a – World births and deaths per 1000 of population**



Note: Based on annual data from 1950 to 2100 (using United Nations (UN) estimates up to 2023 and UN Medium Variant forecasts thereafter). Shaded areas show forecast periods. Figure 1a: "Net" is births minus deaths. Figure 1b: Net population change allows for births, deaths and net migration. Source: United Nations World Population Prospects 2024 and Invesco Global Market Strategy Office

**Figure 1b – Regional net population change (per 1000 of population)**



Looking at the forecast portion in **Figure 1a**, it can be seen that the crude death rate is expected to rise (as a consequence of ageing populations), while the birth rate is expected to continue falling. Of course, the experience is expected to vary across the globe, with **Figure 1b** suggesting that Europe is already suffering population shrinkage, while Africa's population is expected to continue expanding throughout the forecast horizon. Note that **Figure 1b** also allows for net migration, with Europe and North America being the main recipients of immigration flows (the 0.6 per thousand shrinkage in Europe's population in 2023 came despite net immigration of 2.0 per thousand).

Though population deceleration is a universal phenomenon, Africa is expected to continue having the healthiest demographics. Next among the regions covered here comes North America, where positive net immigration is expected to keep population growth in positive territory to the end of the century. It will be interesting to see whether the policies of the current US administration change that balance.

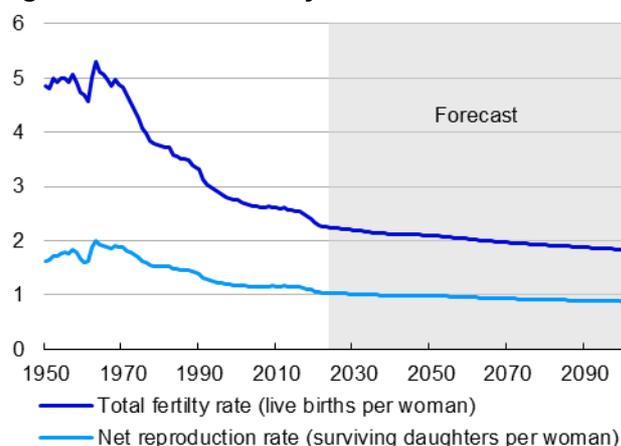
It is worth noting how UN population projections have changed over recent years. In the 2015 estimates, the UN suggested that total population would reach 11.2 bn by 2100 versus "only" 10.2 bn in the 2024 edition. This is partly because of the faster than expected decline in fertility rates. **Figure 2a** shows that whether we look at the number of live births per woman (total fertility rate) or the number of daughters per woman that survive to childbearing age (net reproduction rate), global fertility rates have declined since peaking in 1963. There appeared to be a noticeable acceleration in the decline in the 2018-2020 period. This may partly be explained by the pandemic but was set in motion well before that. Looking at UN projections, the 2022 version of World

Population Prospects suggested the global net reproduction rate would be 1.06 in 2023, whereas the 2024 version suggests it was actually 1.04. Also, the 2022 version forecast it would be 1.01 in 2050 versus the 0.99 projected in the 2024 edition (1.0 is clearly a critical value below which the world's population is not expected to replace itself).

Those are small downward adjustments but they appear to be a consistent feature of recent history. **Figure 2b** shows that it is global phenomenon, with all regions suffering a decline in net reproduction rates over recent decades. The steepest declines have been in Asia and South America, though in absolute terms the lowest net reproduction rates are seen in Europe and North America. Both of the latter two have net reproduction rates below 1.0, suggesting that without net immigration their populations would shrink (as is now the case in Europe). Based on **Figure 2b**, I believe Africa is the most likely source of migrants, especially considering the effects of climate change.

Not surprisingly, the countries with the highest net reproduction rates in 2023 were in or near Africa (Somalia 2.52, Mayotte 2.24 and Burundi 2.15). Those with the lowest rates were in Asia (Hong Kong 0.34, South Korea 0.35, Taiwan 0.42, Singapore 0.46 and China 0.47). This has obvious implications for population growth and especially working age (20-64 years) population growth. For example, UN projections suggest that South Korea's working age population will shrink by 73% between 2023 and 2100 (by the end of the century, its working age population will be little more than one-quarter of its current level). China is projected to lose around 70% of its working age population, and Japan 47% (in Europe, Italy and Spain are expected to lose 52% and 46%, respectively).

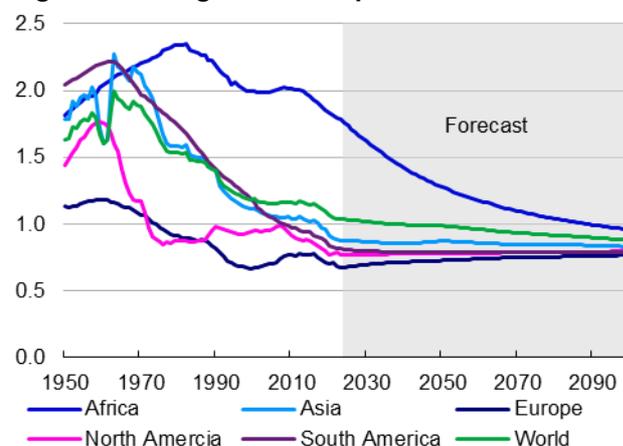
**Figure 2a – World fertility rates**



Note: Based on annual data from 1950 to 2100 (using United Nations (UN) estimates up to 2023 and UN Medium Variant forecasts thereafter). Shaded areas show forecast periods. Net reproduction rate is the number of surviving daughters per woman (i.e. the number of daughters that reach childbearing age) and is based on historical data and forecasts of mortality data.

Source: United Nations World Population Prospects 2024 and Invesco Global Market Strategy Office

**Figure 2b – Regional net reproduction rates**



That suggests there could be important geopolitical shifts over the rest of this century. For example, Asia today accounts for around 62% of the world's working age population (China 20%, India 18%) but that is expected to fall to around 44% by 2100 (China 5%, India 14%). Expected to move in the other direction is Africa, with the UN forecasts suggesting its share will rise from around 15% today to 40% in 2100. Of course, population size doesn't equate to economic power, a point proven by the fact that the US accounts for only 4% of the world's working age population, a share that is unlikely to change over the rest of the century (based on UN estimates). On the other hand, Europe's share is expected to fall from around 10% to around 5% (Europe includes Russia) and that of South America from around 6% to 3%.

Having established that World population growth is expected to progressively fade over the rest of this century and that Africa will be the region where growth will be strongest, while Europe, Asia and South America will see least growth, what could be the economic implications? Is demography destiny?

**Figure 3a** shows the historical relationship between population and real economic growth since 1980. There would appear to be a positive correlation (there is a similar relationship between population growth and nominal GDP growth). Though correlation doesn't prove causality, I believe it is reasonable to assume that stronger population growth leads to higher rates of economic growth. China and South Korea appear to have generated even more economic growth than would be justified by their population growth (perhaps showing the role of development).

That would seem to argue for long-term global economic deceleration, with growth being strongest in

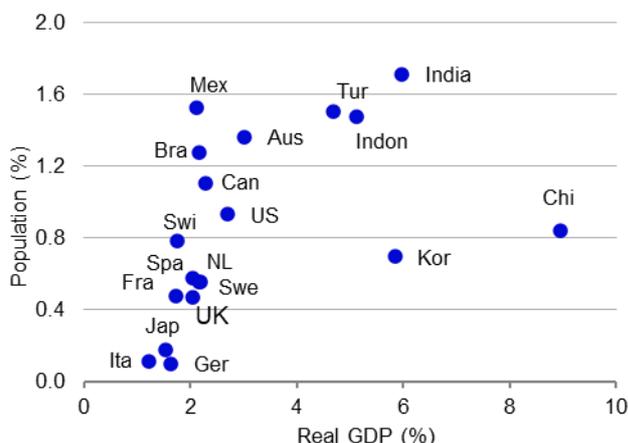
Africa and weakest in Europe, South America and Asia. Those sceptical about the potential of Africa should consider that the continent's GDP growth has often outstripped global growth over recent decades (see our country-by-country guide in [Africa 2024](#)).

As for inflation, conversations with investors suggest that views are mixed. Many argue that less working age population growth will lead to labour shortages and higher wage growth. Others suggest it will dampen demand for goods and services, and therefore less inflation. **Figure 3b** presents evidence in favour of the lower inflation argument. It suggests that over a number of centuries, the broad ebbs and flows of inflation in three European countries correlate with global population growth. I suspect that high population growth puts a strain on commodity markets, thereby boosting raw material prices and broad inflation. In that sense, OPEC may have been the tool that caused high inflation in the 1970s/1980s but it was the post-war demographic explosion that created the conditions to enable the oil price hike.

What all of this means for asset markets will be considered in the coming weeks. For example, how will savings behaviour change, in particular how much will be saved and where will savings come from? How will rising dependency ratios impact government yields (with rising supply of government debt but also higher demand from pensioners) and how will this interact with lower growth and less inflation? How will equities fare given a reduced supply of workers putting equities in their pension pots and lower economic growth? Finally, and happens every year, the changing demographic outlook will be factored into our global temperature change model.

*Unless stated otherwise, all data as of 1 August 2025.*

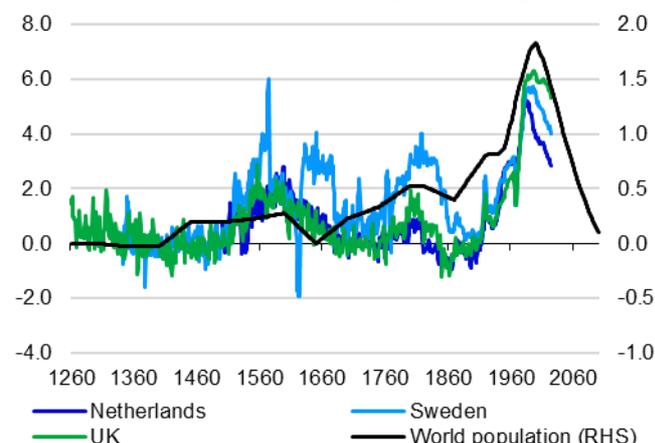
**Figure 3a – Annualised growth in population and GDP (1980-2024)**



Note: Figure 3a: Based on annual real GDP and population data. See appendices for country abbreviations. Figure 3b: based on annual data from 1260 to 2100 and showing annualised rolling 50-year changes.

Source: United Nations World Population Prospects 2024, Global Financial Data, LSEG Datastream, Invesco Global Market Strategy Office

**Figure 3b – Population growth and consumer price inflation (annualised 50-year change, %)**



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

Data as at 1 Aug 2025	Index	Current Level/Ry	Total Return (USD, %)					Total Return (Local Currency, %)				
			1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
<b>Equities</b>												
World	MSCI	917	-2.5	0.1	0.1	10.4	16.4	-2.2	0.8	0.7	8.0	15.1
Emerging Markets	MSCI	1226	-2.5	0.1	0.6	16.3	15.9	-1.5	1.7	2.2	13.5	15.1
China	MSCI	77	-3.4	3.7	3.7	21.8	41.8	-3.3	3.7	3.8	22.5	42.2
US	MSCI	5965	-2.3	0.8	0.6	7.0	16.7	-2.3	0.8	0.6	7.0	16.7
Europe	MSCI	2350	-4.1	-2.8	-2.7	20.4	15.1	-2.7	-0.6	-0.8	9.1	8.1
Europe ex-UK	MSCI	2891	-4.8	-3.6	-3.6	20.6	14.6	-3.4	-1.8	-2.1	7.9	6.7
UK	MSCI	1426	-1.8	0.0	0.4	19.8	17.2	-0.5	3.5	3.8	13.1	13.0
Japan	MSCI	4353	-0.8	0.4	0.2	12.2	11.5	-0.5	3.7	2.7	5.7	10.1
<b>Government Bonds</b>												
World	BofA-ML	3.28	0.1	-1.4	-1.2	6.1	3.3	0.7	-0.1	-0.1	1.6	1.1
Emerging Markets	JP Morgan	3.55	-0.7	-0.9	-0.6	5.8	6.9	0.2	0.2	0.3	3.2	6.0
China	BofA-ML	1.62	-0.4	-0.9	-0.9	2.0	5.1	0.2	-0.2	-0.2	0.7	4.6
US (10y)	Datastream	4.21	1.4	0.7	0.5	5.6	2.5	1.4	0.7	0.5	5.6	2.5
Europe	BofA-ML	2.78	-1.2	-2.3	-1.8	12.0	8.8	0.3	-0.4	-0.2	0.4	1.6
Europe ex-UK (EMU, 10y)	Datastream	2.64	-1.1	-2.2	-1.6	10.7	6.2	0.4	-0.3	-0.1	-0.8	-0.8
UK (10y)	Datastream	4.53	-0.3	-3.4	-3.1	9.4	3.4	0.9	-0.1	0.2	3.3	-0.2
Japan (10y)	Datastream	1.53	0.2	-4.1	-3.2	3.2	-1.2	0.4	-1.1	-0.8	-2.7	-2.5
<b>IG Corporate Bonds</b>												
Global	BofA-ML	4.43	0.2	-0.1	0.1	7.6	7.0	0.7	0.6	0.7	4.1	4.9
Emerging Markets	BBloom	6.26	0.8	1.4	1.5	7.9	10.1	0.8	1.4	1.5	7.9	10.1
China	BofA-ML	2.28	-0.5	-0.8	-0.7	2.3	4.1	0.1	-0.1	-0.1	1.0	3.6
US	BofA-ML	5.00	0.9	0.8	0.8	5.0	5.1	0.9	0.8	0.8	5.0	5.1
Europe	BofA-ML	3.14	-1.3	-1.6	-1.1	14.2	11.8	0.2	0.3	0.5	2.3	4.5
UK	BofA-ML	5.34	-0.5	-3.2	-2.8	10.1	7.4	0.8	0.1	0.5	4.0	3.6
Japan	BofA-ML	1.53	-0.1	-3.4	-2.7	5.5	1.0	0.2	-0.3	-0.3	-0.6	-0.4
<b>HY Corporate Bonds</b>												
Global	BofA-ML	7.06	-0.3	0.1	0.2	7.1	9.9	0.0	0.5	0.6	4.8	8.5
US	BofA-ML	7.39	-0.2	0.2	0.2	4.8	8.4	-0.2	0.2	0.2	4.8	8.4
Europe	BofA-ML	5.45	-1.4	-1.0	-0.6	15.8	15.5	0.1	1.0	1.0	3.8	7.9
<b>Cash (Overnight rates)</b>												
US		4.36	0.1	0.3	0.3	2.5	4.7	0.1	0.3	0.3	2.5	4.7
Euro Area		1.92	-0.9	-1.0	-1.5	13.5	9.8	0.0	0.2	0.1	1.4	2.8
UK		4.22	-0.9	-2.3	-2.4	9.5	8.6	0.1	0.3	0.3	2.5	4.7
Japan		0.48	-0.8	-2.6	-3.0	6.1	3.9	0.0	0.0	0.0	0.3	0.3
<b>Real Estate (REITs)</b>												
Global	FTSE	1645	-2.3	-1.7	-1.1	5.7	4.4	-0.8	0.2	0.4	-5.3	-2.5
Emerging Markets	FTSE	1271	-2.5	-0.1	0.7	10.7	11.8	-1.0	1.8	2.3	-0.8	4.4
US	FTSE	3069	-3.1	-1.6	-1.2	-1.5	-0.3	-3.1	-1.6	-1.2	-1.5	-0.3
Europe ex-UK	FTSE	2656	-2.5	-6.1	-5.1	19.2	12.7	-1.0	-4.3	-3.5	6.8	5.3
UK	FTSE	883	-3.5	-10.1	-9.1	11.3	-5.4	-2.3	-7.0	-6.0	5.1	-8.8
Japan	FTSE	2349	2.6	1.0	1.6	24.1	16.0	2.8	4.3	4.2	16.9	14.5
<b>Commodities</b>												
All	GSCI	3803	0.2	1.8	2.1	4.0	7.4	-	-	-	-	-
Energy	GSCI	651	1.7	3.7	4.4	2.3	2.2	-	-	-	-	-
Industrial Metals	GSCI	1737	-2.1	-2.1	-1.9	5.5	8.1	-	-	-	-	-
Precious Metals	GSCI	3688	0.0	0.3	1.6	26.2	35.2	-	-	-	-	-
Agricultural Goods	GSCI	464	-2.6	-2.7	-3.6	-9.9	0.9	-	-	-	-	-
<b>Currencies (vs USD)*</b>												
EUR		1.16	-1.3	-1.9	-1.7	11.9	7.4	-	-	-	-	-
JPY		147.37	0.2	-2.7	-2.3	6.7	1.4	-	-	-	-	-
GBP		1.33	-1.3	-3.3	-3.2	5.9	3.7	-	-	-	-	-
CHF		1.24	-1.1	-1.6	-1.4	12.9	8.6	-	-	-	-	-
CNY		7.21	-0.6	-0.6	-0.7	1.2	0.5	-	-	-	-	-

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 of 01 Aug 2025	Global				
	1w	1m	QTD	YTD	12m
<b>Energy</b>	<b>1.8</b>	<b>0.4</b>	<b>0.7</b>	<b>-6.4</b>	<b>-12.8</b>
<b>Basic Materials</b>	<b>-1.7</b>	<b>-1.3</b>	<b>-0.6</b>	<b>3.1</b>	<b>-10.0</b>
Basic Resources	-2.2	-0.5	0.1	7.1	-5.9
Chemicals	-1.0	-2.5	-1.7	-2.7	-15.8
<b>Industrials</b>	<b>-0.6</b>	<b>0.0</b>	<b>0.1</b>	<b>3.4</b>	<b>1.7</b>
Construction & Materials	-1.2	0.6	1.0	6.5	0.3
Industrial Goods & Services	-0.5	-0.1	-0.1	2.9	1.9
<b>Consumer Discretionary</b>	<b>-1.3</b>	<b>-2.3</b>	<b>-2.2</b>	<b>-6.6</b>	<b>1.5</b>
Automobiles & Parts	-2.2	0.8	-1.0	-17.4	-2.0
Media	-1.5	-6.9	-9.0	5.4	19.2
Retailers	-0.8	-1.6	-1.0	-5.9	2.5
Travel & Leisure	-1.3	-2.2	-1.2	-5.2	6.6
Consumer Products & Services	-1.4	-3.8	-2.9	-3.6	-6.3
<b>Consumer Staples</b>	<b>0.3</b>	<b>-2.9</b>	<b>-2.2</b>	<b>-1.3</b>	<b>-9.8</b>
Food, Beverage & Tobacco	-0.1	-3.1	-2.3	-0.7	-10.2
Personal Care, Drug & Grocery Stores	1.0	-2.6	-1.9	-2.3	-9.0
<b>Healthcare</b>	<b>-1.5</b>	<b>-2.7</b>	<b>-1.8</b>	<b>-9.6</b>	<b>-20.8</b>
<b>Financials</b>	<b>-0.3</b>	<b>-0.4</b>	<b>-0.3</b>	<b>6.1</b>	<b>8.6</b>
Banks	-0.1	0.5	0.7	10.8	13.3
Financial Services	-0.5	-0.2	-0.1	1.5	5.2
Insurance	-0.2	-3.1	-3.2	3.0	3.4
<b>Real Estate</b>	<b>0.2</b>	<b>-0.4</b>	<b>0.1</b>	<b>-0.6</b>	<b>-5.2</b>
<b>Technology</b>	<b>1.0</b>	<b>3.3</b>	<b>2.3</b>	<b>1.5</b>	<b>8.6</b>
<b>Telecommunications</b>	<b>1.0</b>	<b>-1.1</b>	<b>-0.7</b>	<b>6.9</b>	<b>5.7</b>
<b>Utilities</b>	<b>2.1</b>	<b>1.0</b>	<b>1.3</b>	<b>3.7</b>	<b>-1.6</b>

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 1 Aug 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
<b>Growth</b>	-3.7	-2.3	-1.5	4.4	8.4	-1.4	-3.0	-2.1	-2.3	-6.6
<b>Low volatility</b>	-1.7	-0.8	-0.1	2.8	5.0	0.6	-1.5	-0.7	-3.8	-9.5
<b>Price momentum</b>	-1.8	1.2	0.3	6.8	18.7	0.6	0.5	-0.3	0.0	2.3
<b>Quality</b>	-1.7	0.2	1.7	7.9	8.1	0.6	-0.5	1.1	1.0	-6.9
<b>Size</b>	-4.4	-1.3	0.9	2.1	3.5	-2.1	-2.0	0.3	-4.4	-10.9
<b>Value</b>	-4.2	-2.7	-0.7	5.4	8.6	-1.9	-3.4	-1.3	-1.4	-6.4
<b>Market</b>	-2.3	0.7	0.6	6.9	16.1					
<b>Market - Equal-Weighted</b>	-3.3	-1.2	-0.1	4.7	8.9					

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 1 Aug 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
<b>Growth</b>	-2.9	-0.8	-1.0	5.6	6.6	-0.3	-0.1	-0.1	-2.6	-1.5
<b>Low volatility</b>	-2.1	-2.2	-1.9	10.0	12.7	0.4	-1.5	-1.0	1.5	4.1
<b>Price momentum</b>	-0.5	3.1	1.7	22.1	26.1	2.1	3.9	2.7	12.7	16.6
<b>Quality</b>	-2.3	0.8	0.5	13.7	15.0	0.3	1.6	1.4	5.0	6.3
<b>Size</b>	-3.7	-2.1	-1.8	8.5	5.5	-1.1	-1.3	-0.9	0.1	-2.5
<b>Value</b>	-3.3	-1.2	-1.2	17.6	18.2	-0.8	-0.5	-0.3	8.5	9.2
<b>Market</b>	-2.6	-0.7	-0.9	8.4	8.2					
<b>Market - Equal-Weighted</b>	-2.8	-0.5	-0.6	10.6	11.2					

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
<b>Cash Equivalents</b>	<b>5%</b>	<b>0-10%</b>	<b>0%</b>			
Cash	2.5%		0%			
Gold	2.5%		0%			
<b>Bonds</b>	<b>40%</b>	<b>10-70%</b>	<b>40%</b>			
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%			
<b>Bank Loans</b>	<b>4%</b>	<b>0-8%</b>	<b>8%</b>			
US	3%		6%			
Europe	1%		2%			
<b>Equities</b>	<b>45%</b>	<b>25-65%</b>	<b>42%</b>			
US	25%		10%	↓		
Europe ex-UK	7%		12%			
UK	4%		6%			
Japan	4%		5%			
Emerging Markets	5%		9%	↓		
China**	2%		4%			
<b>Real Estate</b>	<b>4%</b>	<b>0-8%</b>	<b>6%</b>			
US	1%		1%			
Europe ex-UK	1%		2%			
UK	1%		1%	↓		
Japan	1%		1%	↓		
Emerging Markets	1%		1%			
<b>Commodities</b>	<b>2%</b>	<b>0-4%</b>	<b>4%</b>			
Energy	1%		2%			
Industrial Metals	0.3%		1%			
Precious Metals	0.3%		0%			
Agriculture	0.3%		1%			
<b>Total</b>	<b>100%</b>		<b>100%</b>			
<b>Currency Exposure (including effect of hedging)</b>						
USD	52%		30%			
EUR	19%		25%			
GBP	7%		11%	↓		
JPY	13%		19%	↑		
EM	9%		16%	↓		
<b>Total</b>	<b>100%</b>		<b>100%</b>			

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**

	<b>Neutral</b>	<b>Invesco</b>	<b>Preferred Region</b>
<b>Energy</b>	<b>5.6%</b>	<b>Overweight</b>	<b>EM</b>
<b>Basic Materials</b>	<b>3.3%</b>	<b>Neutral</b>	<b>US</b>
Basic Resources	2.0%	Neutral	US
Chemicals	1.3%	Overweight	Europe
<b>Industrials</b>	<b>13.3%</b>	<b>Neutral</b> ↑	<b>Europe</b>
Construction & Materials	1.7%	Neutral ↑	Europe
Industrial Goods & Services	11.6%	Neutral ↑	Europe
<b>Consumer Discretionary</b>	<b>14.2%</b>	<b>Underweight</b>	<b>Europe</b>
Automobiles & Parts	2.3%	Underweight	Europe
Media	1.3%	Underweight ↓	Europe
Retailers	5.5%	Neutral ↓	Europe
Travel & Leisure	2.0%	Underweight	EM
Consumer Products & Services	3.1%	Underweight	Europe
<b>Consumer Staples</b>	<b>4.9%</b>	<b>Neutral</b>	<b>US</b>
Food, Beverage & Tobacco	3.1%	Neutral	US
Personal Care, Drug & Grocery Stores	1.8%	Overweight	Europe
<b>Healthcare</b>	<b>7.8%</b>	<b>Overweight</b> ↑	<b>US</b>
<b>Financials</b>	<b>16.7%</b>	<b>Overweight</b>	<b>Europe</b>
Banks	8.1%	Overweight	Europe
Financial Services	5.5%	Underweight	Japan
Insurance	3.2%	Neutral	US
<b>Real Estate</b>	<b>2.7%</b>	<b>Overweight</b>	<b>Japan</b>
<b>Technology</b>	<b>24.7%</b>	<b>Neutral</b>	<b>EM</b>
<b>Telecommunications</b>	<b>3.6%</b>	<b>Underweight</b> ↓	<b>US</b>
<b>Utilities</b>	<b>3.3%</b>	<b>Overweight</b>	<b>US</b>

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

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## Appendix

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### Methodology for asset allocation and expected returns

#### 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.

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**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

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**Country abbreviations used in Figure 3a**

Aus	Australia
Bra	Brazil
Can	Canada
Chi	China
Fra	France
Ger	Germany
Indon	Indonesia
Ita	Italy
Jap	Japan
Mex	Mexico
NL	Netherlands
Kor	South Korea
Spa	Spain
Swe	Sweden
Swi	Switzerland
Tur	Turkey
UK	United Kingdom
US	United States of America

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**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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