Uncommon truths

Extending time horizons and the strategic role of commodities

Events during 2025 have encouraged a focus on daily news flows. This may not produce the best investment outcomes. Luckily, one thing that helps lengthen time horizons is happiness. An analysis of long term returns reveals a surprising strategic role for commodities and gold.

After the volatility seen in April, markets seem to have calmed down. It does not feel as though news flows have calmed (tariff threats, spats with Fed Chair Powell, budget issues in the US and elsewhere, conflicts in Ukraine and the Middle East, political instability in Japan, for example) but perhaps markets have learned to filter out a lot of the noise.

This said, economic data flows from the US point to neither recession nor rampant inflation, which is a comfort. I have the feeling that the US economy is slowing, based on lacklustre retail sales growth, ISM surveys close to or below 50, some weakening labour market indicators and the Conference Board Leading Indicator that has weakened in all but one month so far this year (the exception was May, when it was flat). However, I do not think there will be recession, though the 1 August release of July payroll data may be worth watching (July tends to be one of the weaker months of the year and it was a weak reading last year that caused market volatility in early August).

On the inflation front, you have to look pretty hard to see signs of a pick-up. For example, neither import, producer nor consumer price indices have shown signs of a big uptick (the June data for the Fed's favoured PCE measure is due on 31 July).

However, I suspect it is too early to judge the full effect of tariffs on US inflation. First, the final set of tariffs has not yet been decided, so US importers have not yet had to face up to the full extent of the problem. Second, the 0.5% dip in GDP in Q1 was largely the result of a 4.6% negative contribution from net exports (imports were up an annualised 38% during the quarter, ahead of the imposition of tariffs). That suggests a build-up of inventories (2.6% contribution to GDP) that were likely run down during Q2, thus temporarily shielding US consumers from the price effect of tariffs (as an aside, I expect the 30 July Q2 GDP data to show a rebound). Finally, other factors have been weighing down on inflation, notably the decline in oil prices and the gradual decline in the shelter component of CPI (remember that?). Indeed, the latter has fallen from 5.1% in June 2024 to 3.8% in June 2025 and I think it will continue to follow house price inflation downward.

The above reveals that the coming week could be important in terms of US data flows, with Q2 GDP, June PCE and July employment reports. However, I have recently been trying to encourage investors to adopt a long term approach and avoid getting bogged down with short term swings. Early April was a case in point, with the VIX index of implied volatility on S&P 500 options reaching 58, as fears of recession abounded. At those moments of peak-fear, the temptation is to cut positions but **Figure 1a** suggests the opposite approach has tended to work in the past. When the VIX index has been above the mid-fifties, the S&P 500 has always delivered positive gains over the following 12 months.

Figure 1a – VIX index and future S&P 500 gains

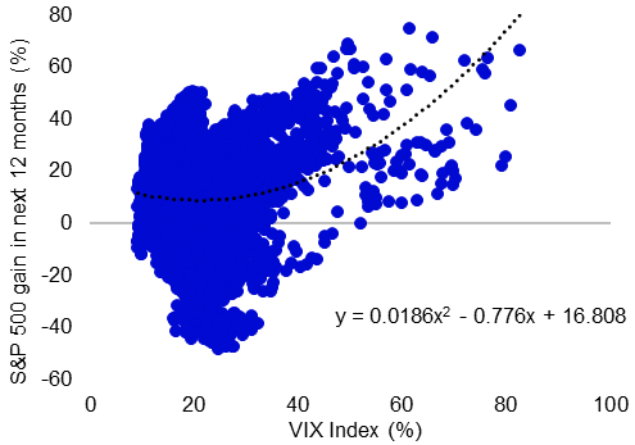
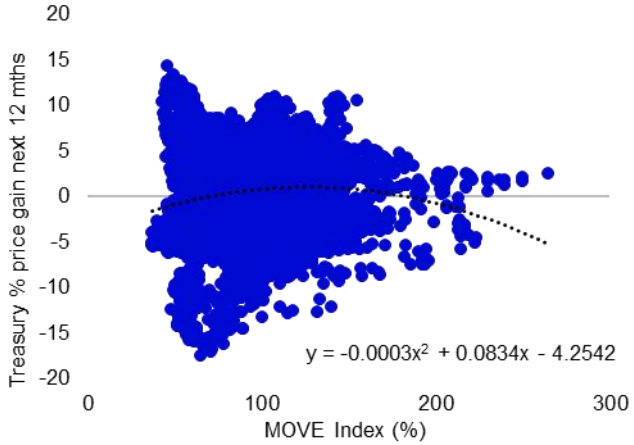


Figure 1b – MOVE index and future treasury gains



Note: **Past performance is no guarantee of future results**. Figure 1a: Based on daily data from 2 January 1990 to 15 July 2024 (as of 15 July 2025). VIX is the CBOE VIX Index and is a calculation designed to produce a measure of constant, 30-day expected volatility of the U.S. stock market, derived from real-time, mid-quote prices of S&P 500® Index (SPX℠) call and put options. Figure 2b: Based on daily data from 2 January 1990 to 15 July 2024 (as of 15 July 2025). MOVE is the ICE BofA US Bond Market Option Volatility Estimate Index and measures the implied volatility on 1-month options on US treasury futures weighted across maturities of 2, 5, 10 and 30 years. "Treasury % price gain" is the percentage change in the ICE BofA US Treasury Price Return Index over the following 12 months.
Source: CBOE, ICE BofA, Bloomberg, LSEG Datastream and Invesco Global Market Strategy Office

Unfortunately, the picture is not so clear when looking at the ICE BofA MOVE index of implied volatility in the US treasury market. **Figure 1b** compares the MOVE index to future returns on the ICE BofA US Treasury Price Return Index (the price index is used rather than total returns as the addition of interest income biases the returns upward). As can be seen, there is no compelling tendency for high readings of the MOVE index to be associated with positive future returns. The only exception is when the MOVE index has been above 225 but that only occurred in October 2008, after which the Fed started its new policy of quantitative easing which I suspect pushed yields lower (and returns higher).

At least when it comes to equities, there is some historical support for the notion that it is best not to be too active when it comes to trading strategies (perhaps short term trading is based on emotion rather than concrete analysis). Unfortunately, it would appear that investors have become more active in the post-war period, with NYSE average holding periods falling from around six-to-eight years to around one year in 2024 (see **Figure 2a**). Interestingly, examples of years in which the average holding period previously bottomed include 1928/29, 1987 and 2008, all of which were followed by market chaos (I suspect trading becomes more frenetic when markets are in buoyant mood). As an aside, the average holding period fell to ten months in the first half of 2025.

Apart from the investment opportunities that could be missed if we trade too aggressively, **Figure 2b** suggests that the range of outcomes for equity returns (in annualised terms) is much wider for short holding periods than for longer horizons (based on historical MSCI World data). The same pattern applies to global bond returns (based on the ICE BofA Global Government Index). That suggests to me that we can be more certain of outcomes over longer investment horizons, which is good news as I believe this requires less focus on day to day data flows and more focus on longer term fundamentals (which I think is easier to predict).

The good news does not end there, as one thing that helps us to extend time horizons is happiness. I wrote on this topic in 2018 (*Cigarettes, sunshine and happiness*). Based on an analysis by Guven and Hoxha (*Rain or shine: happiness and risk-taking, The Quarterly Review of Economics and Finance, August 2015*), it would appear that the happier we are, the more optimistic we become about life expectancy, the more considered we become in our decisions, the greater our self-control, the lower our inflation projections, the less risk that we seek and the lower the discount factor we use when balancing the present against the future. That latter item suggests to me that happiness helps us to focus on the longer term.

So, what makes us happy? Guven and Hoxha concluded that sunshine (when we don't expect it) adds to happiness. Other factors that add to happiness are income, good health and marriage (but not children). Interestingly, happiness appears to decrease if we are selfish or untrusting (see Tom Lane's *How does happiness relate to economic behaviour? A review of the literature, Journal of Behavioural and Experimental Economics, June 2017*). In other words, be nice!

Having suggested that happiness helps us lengthen our investment horizons, what does history tell us about long-term asset returns? **Figures 3a** and **3b** show evidence for US assets since 1915.

Figure 2a – NYSE average holding periods (years)

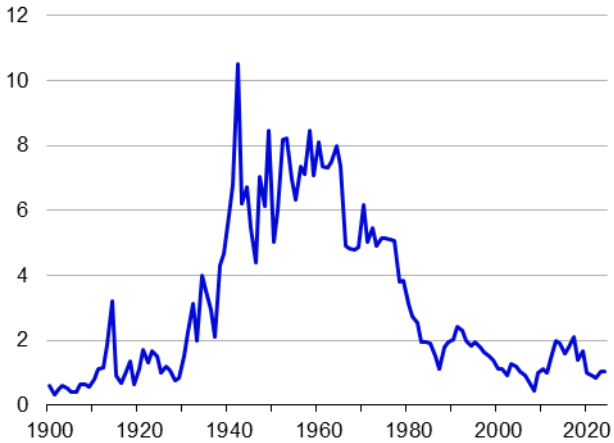
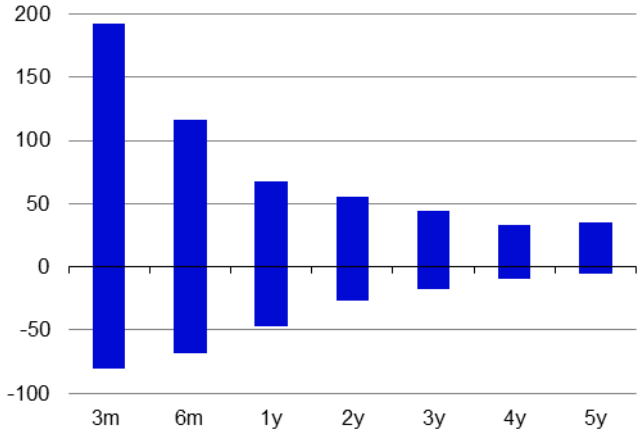


Figure 2b – MSCI World annualised return range over different holding periods (%)



Note: Figure 2a: annual data from 1900 to 2024. Average holding period is the inverse of the turnover ratio. Figure 2b: **past performance is no guarantee of future results**. Based on monthly total return data for MSCI World in US dollars, from 31 December 1969 to 30 June 2025. Data shows annualised returns over rolling holding periods of differing length.
Source: Global Financial Data, MSCI, LSEG Datastream and Invesco Global Market Strategy Office

Using inflation adjusted calendar year returns, **Figure 3a** shows the average versus the standard deviation of returns. The efficient frontier is also shown (the maximum return for each level of risk or standard deviation), along with the "Max return/risk" point that shows the point on the efficient frontier that maximises the ratio between return and risk. The size of the bubbles is in proportion to the average pairwise correlation with the other assets in the chart. The smaller the bubble, the greater the diversification capabilities of the asset. The bubble for commodities (CTY) is hollow and small because the average correlation with other assets was a small negative number (-0.02). At the other extreme, investment grade credit (IG) had the highest average correlation (0.37). For details of the proxies used for each asset class, please see the footnote to the chart.

The ordering of asset returns is broadly as I would expect. There is clear evidence of the equity risk premium versus government bonds (and risk premia on government bonds versus cash and on IG versus government bonds). However, the same does not apply to either gold or commodities, both of which have shown similar volatility to stocks, but with returns more akin to fixed income assets.

However, that does not mean that gold and commodities have no role to play in optimal portfolios. Quite the opposite. **Figure 3b** shows the optimal allocation at each point along the efficient frontier (i.e. the allocation that would have given the highest return for each standard deviation of return). Interestingly, commodities would have had a role at all points along the efficient frontier, except at the very highest level of volatility (where only a 100% stock allocation works). At the other end of the spectrum, returns can be enhanced above what the lowest volatility asset (cash) could generate by adding a bit of commodities and an even smaller part of gold (the optimal allocation would have been 90.8% cash, 8.1% commodities and 1.1% gold). Gold would also have had a role to play until the higher levels of volatility, from which point only stocks and commodities remain, until commodities eventually drop out. Stocks are virtually always present, disappearing only at the very lowest volatility point of the efficient frontier.

To emphasise that past performance is no guarantee of future results, it is worth considering how the results have changed since I first ran the exercise using 1915-2016 data (see *Perspectives on asset allocation, November 2017*). Since then, interest rates and bond yields have risen (depressing bond returns) and gold has performed strongly. Optimal allocations using that earlier dataset suggested a smaller role for gold, no role for government bonds and a bigger role for IG. The latter appears to have been squeezed out to some extent (by gold and government bonds) in the current exercise.

Unless stated otherwise, all data as of 25 July 2025.

Figure 3a – Risk versus reward for US assets (1915-2024)

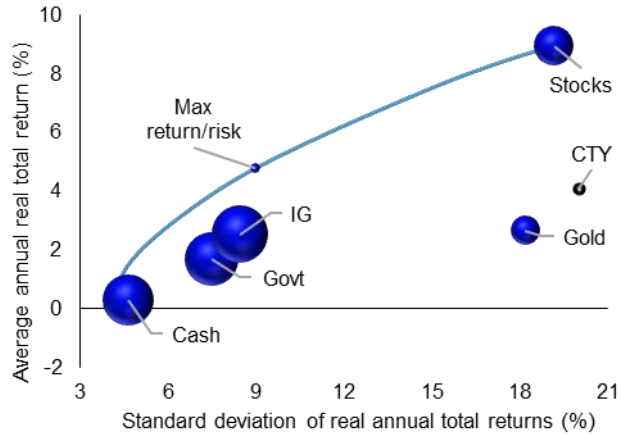
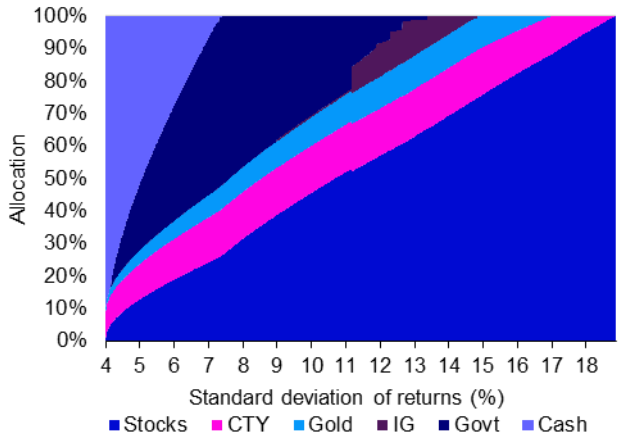


Figure 3b – Optimal allocations for US assets along the efficient frontier using 1915-2024 data



Note: **Past performance is no guarantee of future results**. Based on calendar year data from 1915 to 2024. Calculated using: spot price of gold, Global Financial Data (GFD) US Treasury Bill total return index until December 2018 and then ICE BofA 0-3M treasury total return index for cash, our own calculation of government bond total returns (Govt) using 10-year treasury yield until January 1978 and the ICE BofA US treasury total return index thereafter, GFD US AAA Corporate Bond total return index until February 1976 and the ICE BofA US Corporate total return index thereafter (IG), Reuters CRB total return index until November 1969 and then the S&P GSCI total return index for commodities (CTY) and Robert Shiller's US equity index and dividend data for stocks (see appendices for definition). Indices are deflated by US consumer prices. Figure 2a: Area of bubbles is in proportion to average correlation with other assets. "Max return/risk" shows the point on the efficient frontier that would have produced the highest ratio between return and standard deviation of returns (the size of this bubble is of no consequence). Figure 2b: For each level of risk (standard deviation of returns), the chart shows the allocation of assets that would maximise returns and therefore be on the efficient frontier (based on calendar year returns in 1915-2024 inclusive).
Source: LSEG Datastream, Global Financial Data, ICE BofA, Reuters CRB, S&P GSCI, Robert Shiller, Invesco Global Market Strategy Office

Figure 4 – Asset class total returns (%)

Data as at 25 Jul 2025	Index	Current Level/RY	Total Return (USD, %) 1w	1m	QTD	YTD	12m	Total Return (Local Currency, %) 1w	1m	QTD	YTD	12m
Equities												
World	MSCI	941	1.4	4.5	2.6	13.2	20.4	1.3	4.5	2.9	10.4	18.5
Emerging Markets	MSCI	1258	0.7	3.5	3.2	19.2	20.4	0.7	3.6	3.8	15.3	18.2
China	MSCI	80	2.8	5.7	7.4	26.1	48.6	2.8	5.6	7.4	26.8	49.1
US	MSCI	6108	1.4	5.0	3.0	9.5	20.5	1.4	5.0	3.0	9.5	20.5
Europe	MSCI	2451	1.3	3.3	1.5	25.5	20.1	0.8	2.9	2.0	12.1	11.6
Europe ex-UK	MSCI	3037	1.2	3.3	1.3	26.6	20.2	0.5	2.4	1.3	11.7	10.5
UK	MSCI	1452	1.5	3.4	2.2	21.9	20.0	1.6	4.8	4.3	13.7	15.1
Japan	MSCI	4386	5.1	4.8	1.0	13.0	14.8	4.6	6.3	3.3	6.3	10.3
Government Bonds												
World	BofA-ML	3.37	0.4	-0.7	-1.3	6.0	4.8	0.1	-0.6	-0.7	0.9	1.7
Emerging Markets	BBloom	6.58	0.9	1.3	0.6	7.9	13.7	0.9	1.3	0.6	7.9	13.7
China	BofA-ML	1.64	-0.4	-0.3	-0.4	2.4	5.6	-0.5	-0.4	-0.4	0.6	4.8
US (10y)	Datastream	4.38	0.4	-0.4	-0.9	4.1	3.3	0.4	-0.4	-0.9	4.1	3.3
Europe	Bofa-ML	2.81	0.7	0.4	-0.6	13.3	10.7	0.0	-0.6	-0.6	0.1	2.4
Europe ex-UK (EMU, 10y)	Datastream	2.68	0.6	0.2	-0.5	12.0	8.2	-0.1	-0.7	-0.4	-1.1	0.1
UK (10y)	Datastream	4.63	0.3	-2.1	-2.7	9.7	5.3	0.4	-0.7	-0.8	2.3	0.9
Japan (10y)	Datastream	1.58	-0.2	-2.9	-3.4	3.0	1.3	-0.7	-1.5	-1.2	-3.2	-2.6
IG Corporate Bonds												
Global	BofA-ML	4.51	0.6	0.6	-0.1	7.4	8.0	0.4	0.4	0.0	3.5	5.5
Emerging Markets	BBloom	6.34	0.5	1.2	0.6	7.0	10.6	0.5	1.2	0.6	7.0	10.6
China	BofA-ML	2.31	-0.2	-0.1	-0.3	2.8	4.5	-0.3	-0.2	-0.2	0.9	3.7
US	BofA-ML	5.11	0.5	0.5	0.0	4.1	5.8	0.5	0.5	0.0	4.1	5.8
Europe	BofA-ML	3.14	0.7	1.3	0.2	15.7	13.6	0.0	0.3	0.3	2.1	5.1
UK	BofA-ML	5.42	0.4	-1.6	-2.3	10.7	8.8	0.4	-0.2	-0.3	3.2	4.3
Japan	BofA-ML	1.56	0.2	-1.9	-2.7	5.6	3.4	-0.3	-0.6	-0.5	-0.8	-0.6
HY Corporate Bonds												
Global	BofA-ML	7.03	0.5	1.1	0.6	7.5	10.6	0.4	1.0	0.6	4.8	9.0
US	BofA-ML	7.31	0.4	0.9	0.4	5.0	9.0	0.4	0.9	0.4	5.0	9.0
Europe	BofA-ML	5.58	1.1	1.8	0.8	17.4	16.9	0.4	0.9	0.9	3.7	8.2
Cash (Overnight rates)												
US		4.34	0.1	0.4	0.2	2.4	4.7	0.1	0.4	0.2	2.4	4.7
Euro Area		1.93	-0.5	1.4	-1.3	13.8	9.8	0.0	0.2	0.1	1.3	2.9
UK		4.22	-0.6	0.3	-2.2	9.8	8.5	0.1	0.4	0.2	2.4	4.7
Japan		0.48	-0.9	-2.5	-3.2	5.9	6.1	0.0	0.0	0.0	0.2	0.3
Real Estate (REITs)												
Global	FTSE	1685	1.1	2.0	1.2	8.2	9.8	0.4	1.1	1.2	-4.5	1.7
Emerging Markets	FTSE	1304	0.3	4.0	3.3	13.5	14.4	-0.4	3.0	3.4	0.2	5.9
US	FTSE	3168	1.3	2.7	1.9	1.6	6.5	1.3	2.7	1.9	1.6	6.5
Europe ex-UK	FTSE	2725	1.0	-0.7	-2.6	22.3	17.2	0.3	-1.6	-2.5	8.0	8.5
UK	FTSE	908	-0.1	-4.6	-5.7	15.4	0.6	0.0	-3.3	-3.8	7.6	-3.6
Japan	FTSE	2296	2.2	0.2	-0.9	21.0	14.3	1.7	1.6	1.4	13.8	9.9
Commodities												
All	GSCI	3797	-1.1	2.1	1.9	3.8	5.3	-	-	-	-	-
Energy	GSCI	641	-2.1	2.8	2.7	0.7	-1.7	-	-	-	-	-
Industrial Metals	GSCI	1775	0.1	1.8	0.2	7.8	10.8	-	-	-	-	-
Precious Metals	GSCI	3689	-0.5	0.6	1.6	26.3	39.7	-	-	-	-	-
Agricultural Goods	GSCI	477	-1.2	-1.0	-1.0	-7.4	0.0	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.17	1.0	0.7	-0.4	13.4	8.3	-	-	-	-	-
JPY		147.68	0.8	-1.6	-2.5	6.4	4.2	-	-	-	-	-
GBP		1.34	-0.1	-1.4	-2.0	7.2	4.3	-	-	-	-	-
CHF		1.26	0.8	1.3	-0.2	14.1	10.9	-	-	-	-	-
CNY		7.17	0.1	0.1	-0.1	1.8	0.9	-	-	-	-	-

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 25 Jul 2025	Global				
	1w	1m	QTD	YTD	12m
Energy	**-0.9**	**-1.9**	**-1.2**	**-8.1**	**-15.4**
Basic Materials	**1.0**	**1.7**	**1.2**	**4.9**	**-7.9**
Basic Resources	1.6	3.2	2.4	9.5	-3.6
Chemicals	-0.1	-0.6	-0.8	-1.7	-14.0
Industrials	**0.7**	**1.5**	**0.7**	**4.0**	**3.4**
Construction & Materials	1.5	2.8	2.3	7.8	2.4
Industrial Goods & Services	0.6	1.3	0.4	3.5	3.6
Consumer Discretionary	**0.0**	**-0.6**	**-0.9**	**-5.3**	**2.2**
Automobiles & Parts	0.1	-0.8	1.2	-15.5	-2.4
Media	-1.7	-5.7	-7.6	7.0	20.0
Retailers	0.6	0.1	-0.2	-5.2	4.1
Travel & Leisure	-1.1	1.0	0.0	-3.9	7.1
Consumer Products & Services	0.4	-0.7	-1.5	-2.2	-5.8
Consumer Staples	**-1.3**	**-3.1**	**-2.5**	**-1.6**	**-9.9**
Food, Beverage & Tobacco	-1.9	-2.9	-2.3	-0.6	-10.0
Personal Care, Drug & Grocery Stores	-0.4	-3.6	-2.8	-3.2	-9.6
Healthcare	**1.9**	**-1.3**	**-0.3**	**-8.3**	**-18.9**
Financials	**0.0**	**-0.1**	**0.0**	**6.4**	**8.5**
Banks	0.4	0.5	0.9	10.9	12.3
Financial Services	-0.4	0.7	0.5	2.1	5.2
Insurance	-0.4	-3.0	-2.9	3.3	5.0
Real Estate	**0.1**	**-1.2**	**-0.1**	**-0.9**	**-3.9**
Technology	**-0.5**	**1.3**	**1.2**	**0.4**	**6.5**
Telecommunications	**0.0**	**-1.1**	**-1.7**	**5.8**	**5.8**
Utilities	**-0.7**	**-1.0**	**-0.7**	**1.6**	**-1.5**

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 25 Jul 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	1.7	4.9	2.3	8.5	12.6	0.2	0.0	-0.7	-0.9	-6.1
Low volatility	1.5	3.2	1.7	4.6	9.9	0.0	-1.6	-1.3	-4.4	-8.3
Price momentum	1.2	4.5	2.1	8.8	22.0	-0.3	-0.4	-0.9	-0.6	1.7
Quality	2.4	5.4	3.5	9.8	11.2	0.9	0.4	0.4	0.4	-7.3
Size	3.1	6.9	5.5	6.8	10.4	1.6	1.9	2.4	-2.4	-7.9
Value	1.6	5.2	3.6	10.0	14.7	0.1	0.2	0.5	0.5	-4.4
Market	1.5	5.0	3.0	9.4	19.9					
Market - Equal-Weighted	1.9	5.0	3.3	8.2	14.3					

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 of 25 Jul 2025	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	0.6	3.2	1.9	8.7	11.2	0.0	0.7	0.3	-2.3	-0.5
Low volatility	0.1	0.8	0.3	12.4	16.6	-0.4	-1.7	-1.4	1.1	4.4
Price momentum	0.4	3.9	2.3	22.7	27.8	-0.1	1.3	0.6	10.4	14.3
Quality	0.7	4.5	2.8	16.4	18.7	0.1	2.0	1.1	4.6	6.3
Size	0.6	3.6	1.9	12.6	10.8	0.0	1.1	0.3	1.3	-0.8
Value	1.7	3.2	2.2	21.7	21.5	1.1	0.7	0.5	9.4	8.8
Market	0.6	2.5	1.7	11.2	11.8					
Market - Equal-Weighted	1.0	3.4	2.2	13.7	15.1					

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	**5.6%**	**Overweight**	**EM**
Basic Materials	**3.3%**	**Neutral**	**US**
Basic Resources	2.0%	Neutral	US
Chemicals	1.3%	Overweight	Europe
Industrials	**13.3%**	**Neutral** ↑	**Europe**
Construction & Materials	1.7%	Neutral ↑	Europe
Industrial Goods & Services	11.6%	Neutral ↑	Europe
Consumer Discretionary	**14.2%**	**Underweight**	**Europe**
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
Consumer Staples	**4.9%**	**Neutral**	**US**
Food, Beverage & Tobacco	3.1%	Neutral	US
Personal Care, Drug & Grocery Stores	1.8%	Overweight	Europe
Healthcare	**7.8%**	**Overweight** ↑	**US**
Financials	**16.7%**	**Overweight**	**Europe**
Banks	8.1%	Overweight	Europe
Financial Services	5.5%	Underweight	Japan
Insurance	3.2%	Neutral	US
Real Estate	**2.7%**	**Overweight**	**Japan**
Technology	**24.7%**	**Neutral**	**EM**
Telecommunications	**3.6%**	**Underweight** ↓	**US**
Utilities	**3.3%**	**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

Definition of US equity benchmark used to generate long-term returns

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

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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