Uncommon truths
Stuck on inflation

Recent data suggests inflation may be rising, bringing the risk of a "higher for longer" Fed. However, money supply, GDP and wage growth suggest the opposite should be true, while the Fed can do little against the recent narrow uptick.

US GDP data for the first quarter of 2024 seemed to reinforce recent market trends, with bond yields initially rising and share prices falling. GDP growth fell to 1.6% (quarter-on-quarter annualised), below consensus expectations of 2.5% (according to Bloomberg).

The most damaging aspect of the GDP report appears to have been the implied uptick in inflation, with core PCE (personal consumer expenditure) inflation rising to 3.7% (QoQ annualised), from 2.0% in each of the two previous quarters. Given the Fed's focus on core PCE, this could further delay the first rate cut. Luckily, the monthly data released a day later was more comforting, with year-on-year (YoY) rates of 2.7% for headline and 2.8% for core.

Beyond PCE, **Figure 1a** shows that US headline CPI inflation has been stuck in the 3%-4% range since June 2023 (the latest reading was 3.5% in March 2024), though the picture appears to be different in Europe, with Eurozone inflation still trending lower.

As an aside, there are important differences between the US CPI and PCE methodologies that can explain divergences (core PCE has been below core CPI for much of the last two years, for example). First, CPI covers only urban consumers, while PCE also includes rural consumers. Second, CPI measures what consumers pay, while PCE measures what producers charge, even if somebody other than the consumer is paying (health insurance, for example). Those considerations suggest PCE is wider based and more representative. Third, there are big differences in category weightings, particularly for housing (around 15% of PCE and 36% of CPI). Finally, they use different formulas to calculate changes: most importantly, CPI holds category weights constant (now for 12 months), while PCE refreshes the weights each month (hence, PCE captures changes in consumer behaviour, such as substitution to cheaper items, which is why it takes longer to publish).

CPI tends to be favoured by market commentators (probably because it is published earlier) and that is where I shall focus. **Figure 1b** hints at the reasons for the "stickiness" of inflation. First, commodity prices are no longer falling (the switch from big gains to sizeable declines since 2020 drove inflation up then down). Second, supply chain pressures drove inflation higher during the pandemic and reopening then helped drive it lower. Both these factors are now in "neutral" territory.

However, we have so far only considered headline CPI inflation, which is particularly susceptible to movements in commodity prices. After a period in which wages and core inflation were influenced by rapidly rising and then falling headline inflation, I suspect core inflation will now be the dominant driver of overall inflation.

Figure 1a suggests that core CPI inflation is trending lower in both the US and Europe, with inflation in the Eurozone now lower than in the US (which is the historical norm). The problem is that there appears to have been an acceleration in core CPI inflation in the first quarter of 2024 (core being CPI less food & energy). Indeed, annualising the gains in Q1 (March versus December) gives a US core inflation rate of 4.5%, rather than the 3.8% YoY rate in March.

Figure 1a – US and Eurozone CPI inflation (%)

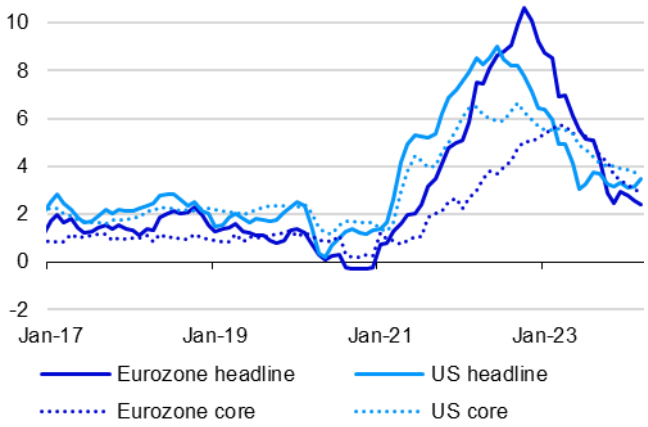
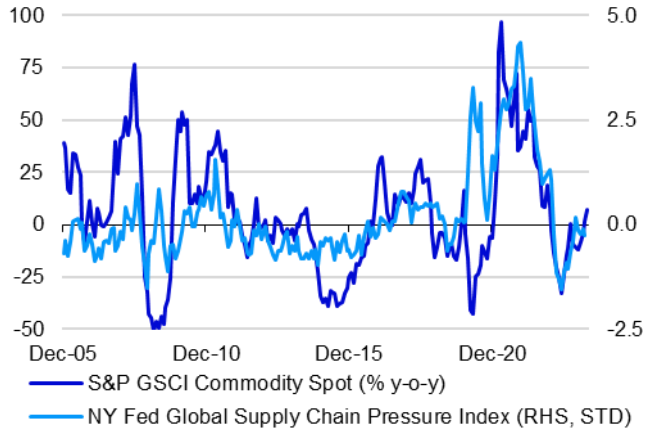


Figure 1b – Commodity prices and supply chains



Notes: **Past performance is guarantee of future results**. **Figure 1a** is based on monthly data from January 2017 to March 2024. Core indices exclude food & energy. **Figure 1b** is based on monthly data from December 2005 to April 2024 (as of 26 April 2024). NY Fed Global Supply Chain Pressure Index tracks the state of global supply chains using data from the transportation and manufacturing sectors, as constructed by the Federal Reserve Bank of New York. It is shown as standard deviations from the historical mean. Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index, S&P GSCI, LSEG Datastream and Invesco Global Market Strategy Office

So, what are the drivers of core inflation and does the stronger Q1 data foretell of a rebound? In theory, wage growth should be a key driver, since labour costs are a large part of business costs. **Figure 2a** suggests a decent relationship between hourly earnings and core CPI in the US. The direction of causality is not always obvious (higher price inflation could encourage bigger wage gains) but with wage inflation on the decline, it is hard to imagine wages being a cause of higher inflation (especially since annualised wage growth in Q1 was only 3.8%, versus the 4.2% YoY gain in March).

Breaking down the US core CPI index into spending categories, I have focused on 12 major groupings that account for more than 98% of the overall index. Of these 12, only three had a YoY rate greater than the 3.8% core inflation rate in March 2024 (other goods & services, shelter and transportation services), the same number that had a rate below zero (household furnishings & operations, new vehicles and used cars and trucks). Indeed, if we use a symmetrical range around the 3.8% core rate, from 2.6% to 5.0%, the number of categories above the range was two (shelter and transportation services) versus nine below it.

The distribution of core inflation across categories is skewed to the downside but the dominant weighting of shelter (with an inflation rate of 5.7%) skews the overall rate upwards (shelter has a weighting of around 45% in the core CPI index). Shelter component inflation peaked at 8.2% in March 2023 and had fallen to 5.7% by March 2024 (CPI less food, energy & shelter inflation was 2.4% in March 2024, close to the Fed's 2% target) So, what is the outlook for shelter?

Figure 2b suggests there is a lagged relationship between house prices and the shelter component (which is largely owners' equivalent rent). The lag appears to be around 12-18 months, which suggests to me that shelter component inflation may continue to fall over the coming months and quarters (given what house price inflation was doing 12-18 months ago). Taking account of falling wage inflation and the lagged relationship with house prices, I would expect core CPI inflation to continue falling through this year.

So, why has core inflation picked up in the first quarter of the year? Looking at the detail of US core CPI, there were again only three groups with annualised 3-month inflation (December to March) above the core rate of 4.5% (shelter and transportation services were joined this time by medical care services), while four categories displayed negative inflation. Once again focusing on a symmetrical band around the core rate of 4.5%, only two groups had a 3-month annualised rate above 6.0% (shelter and transportation services), while eight had a rate below 3.0%. Once again, inflation seems biased to the downside when looking across categories and comparing to the average. However, the weighting of shelter skews that average upward.

Worse news is that seven of the 12 categories had a higher 3-month annualised rate in March than in December, so the worsening pattern seems more widespread. However, for three of those seven, the rate was still below 2.5%. Transportation services stands out, with a 3-month annualised gain of 16.7% (and a YoY rate of 10.7%). Within transportation services, the main culprit is motor vehicle insurance with a 3-month annualised 21.2% gain and a 22.2% YoY rate in March. I reckon that component alone added 0.8 percentage points to the US core inflation rate (YoY) in March. Whether the Fed can impact insurance premium rates that are governed by the prevalence of accidents, and repair and healthcare costs, is not clear. It could be argued that this element of inflation is beyond the control of the Fed and should therefore be ignored but that may be overly optimistic.

Figure 2a – US wage and price inflation (% yoy)

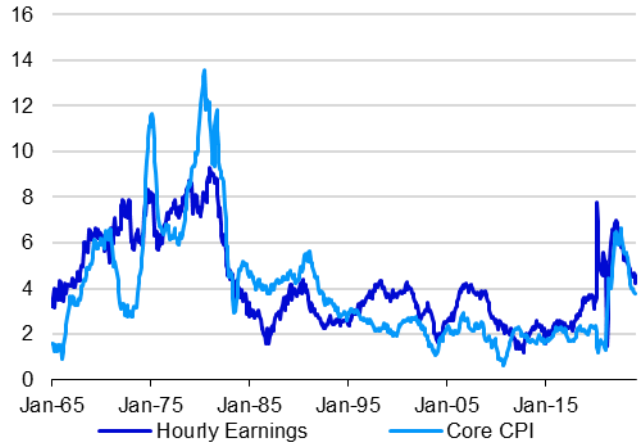
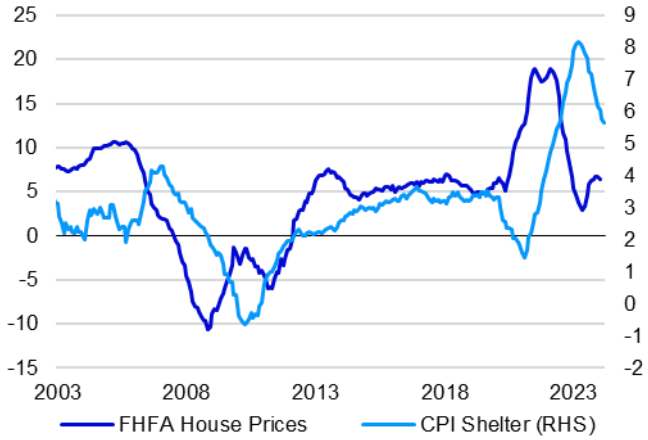


Figure 2b – House prices and shelter CPI (%yoy)



Notes: **Past performance is guarantee of future results. Figure 2a** is based on monthly data from January 1965 to March 2024. **Figure 2b** is based on monthly data from January 2003 to March 2024. Source: LSEG Datastream and Invesco Global Market Strategy Office

To summarise, it would appear that US inflation has ticked up in the first quarter of 2024 but that the pressures are in a limited number of groups, particularly shelter and motor insurance. Admittedly, the acceleration during Q1 was more broadly based, which brings us to reliability of 3-month annualised data. **Figure 3a** shows that 3-month annualised core CPI data is more volatile than the YoY data, which should be no surprise.

It is naturally worrying that the annualised rate has moved above the YoY rate, as it could suggest a new uptrend in the YoY rate of inflation. This is particularly concerning given the bout of inflation seen over recent years (and the obsession with the stickiness of inflation) but the chart suggests the annualised data is just too volatile to be relied upon as a forecasting aid. For example, the long downtrend in inflation in the 1990s came despite the 3m annualised rate being above the YoY rate on many occasions (likewise the downtrend from 2007 to 2010). Even when a downtrend has been interrupted (in late 1981, say), it was soon reestablished.

Further, **Figure 3b** suggests there may be some slight residual seasonality in US core CPI data. Despite being based on seasonally adjusted data; it appears to show that average monthly price gains tend to be higher in the first half of the year. Admittedly, the differences are small, though when looking at calendar quarters, it is interesting to see that price gains tend to be lower in Q4. Perhaps the data for 2023 Q4 made us too complacent and we may need to be patient for concrete evidence that the inflation trend remains downward.

Indeed, I believe the trend is downward, based on the weaker GDP data, the fact that wage inflation is falling and also that US money supply growth remains negative (as it has been since the end of 2022). I know the latter point tends to get ignored but it should be remembered that the spurt in US inflation came after M2 growth peaked at 27% in early 2021 and inflation then followed M2 growth lower. I believe that process is still working its way through the US economy.

But supposing I am wrong, and inflation trends higher, what would that imply for financial markets? Given that the inflation uptick doesn't appear to be coming from a broad based increase in demand, the problem may be either cost-push in nature and/or focused on a few sectors. The Fed is not well armed to deal with either of those, so a policy of higher for longer could entail unnecessary economic damage. I suspect it would be very difficult to mitigate against such a scenario, with cyclical assets vulnerable, while fixed income assets would have to further adjust to Fed rates staying at current levels or even rising. Within the Model Asset Allocation shown in **Figure 7**, the Overweighting in cash and bank loans could mitigate against higher rates and I would also have to consider gold and inflation protected government bonds (especially in the US) as alternatives (under that scenario).

However, I remain confident that the inflation trend is downward, based on money supply, economic growth and wage trends. The recent uptick in inflation seems too narrowly based to be indicative of a demand driven trend and using annualised 3-month data is a perilous enterprise. Patience is key. I only hope the Fed is paying attention to the underlying detail and focusing on what it can control. Otherwise it will continue with the higher for longer policy (and risk another policy error) with all that entails for the economy and markets.

Unless stated otherwise, all data as of 26 April 2024

Figure 3a – US core CPI 3m annualised and YoY

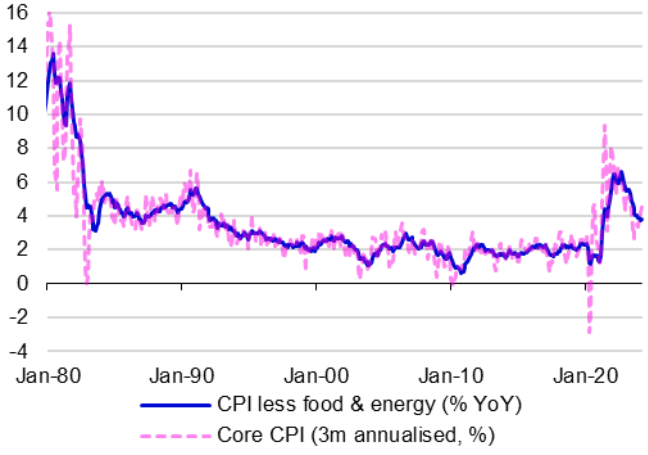
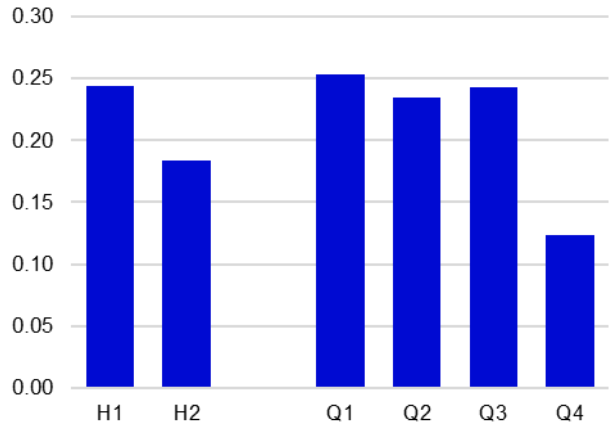


Figure 3b – Monthly core CPI gains since 1999 (%)



Notes: **Figure 3a** is based on monthly data from January 1980 to March 2024. **Figure 3b** shows the average monthly gain in the US core CPI index in various parts of the calendar year from April 1999 to March 2024. It is based on seasonally adjusted indices.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 4 – Asset class total returns (%)

Data as at 26/04/2024		Current	Total Return (USD, %)					Total Return (Local Currency, %)				
	Index	Level/RY	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	762	2.6	-1.8	-2.5	5.6	21.2	2.7	-1.3	-2.0	7.4	23.2
Emerging Markets	MSCI	1042	3.8	0.4	0.0	2.4	11.0	3.5	1.4	0.9	5.5	13.9
China	MSCI	58	8.3	6.6	6.8	4.5	-5.8	8.2	6.7	6.8	5.0	-5.2
US	MSCI	4860	2.8	-2.0	-2.9	7.2	28.3	2.8	-2.0	-2.9	7.2	28.3
Europe	MSCI	2073	2.3	-1.2	-1.3	4.0	9.5	2.3	0.2	0.0	8.4	12.4
Europe ex-UK	MSCI	2579	1.9	-2.1	-2.1	3.8	10.0	2.0	-0.6	-0.8	8.8	13.7
UK	MSCI	1213	3.5	1.7	1.4	4.5	7.9	3.2	3.0	2.8	6.9	8.0
Japan	MSCI	3791	0.6	-6.4	-6.9	3.5	16.4	2.4	-2.9	-3.3	15.4	37.3
Government Bonds												
World	BofA-ML	3.60	-0.6	-2.9	-3.1	-6.0	-5.8	-0.4	-1.8	-2.0	-2.8	-1.6
Emerging Markets	BBloom	8.01	-0.2	-2.6	-2.9	-0.6	11.7	-0.2	-2.6	-2.9	-0.6	11.7
China	BofA-ML	2.15	0.0	0.3	0.5	0.8	2.0	0.1	0.7	0.8	3.0	6.8
US (10y)	Datastream	4.67	-0.3	-3.0	-3.3	-5.0	-6.1	-0.3	-3.0	-3.3	-5.0	-6.1
Europe	Bofa-ML	3.17	-0.2	-2.6	-2.5	-5.4	-0.5	-0.3	-1.2	-1.4	-2.1	2.9
Europe ex-UK (EMU, 10y)	Datastream	2.55	-0.4	-3.0	-3.1	-6.7	-2.2	-0.5	-1.6	-2.1	-3.5	1.1
UK (10y)	Datastream	4.33	-0.5	-3.7	-4.0	-6.5	0.1	-0.7	-2.4	-2.7	-4.4	0.1
Japan (10y)	Datastream	0.90	-2.5	-5.0	-5.3	-12.2	-17.7	-0.8	-1.4	-1.6	-2.0	-2.9
IG Corporate Bonds												
Global	BofA-ML	5.25	0.0	-2.0	-2.2	-2.9	1.8	0.0	-1.5	-1.8	-1.7	2.8
Emerging Markets	BBloom	7.15	0.1	-1.8	-2.1	1.3	7.8	0.1	-1.8	-2.1	1.3	7.8
China	BofA-ML	2.80	0.1	0.2	0.4	0.0	0.4	0.2	0.6	0.7	2.2	5.2
US	BofA-ML	5.78	0.0	-2.0	-2.3	-2.4	1.6	0.0	-2.0	-2.3	-2.4	1.6
Europe	BofA-ML	3.96	0.1	-1.8	-1.9	-3.7	2.1	0.0	-0.5	-0.8	-0.4	5.6
UK	BofA-ML	5.77	0.1	-3.1	-3.3	-4.1	4.7	-0.1	-1.8	-2.0	-1.8	4.8
Japan	BofA-ML	1.03	-1.9	-4.0	-4.3	-10.8	-15.3	-0.2	-0.4	-0.5	-0.4	0.0
HY Corporate Bonds												
Global	BofA-ML	8.11	0.5	-1.0	-1.1	0.4	9.1	0.5	-0.7	-0.8	1.1	9.9
US	BofA-ML	8.23	0.6	-0.9	-1.1	0.4	9.2	0.6	-0.9	-1.1	0.4	9.2
Europe	BofA-ML	6.85	0.3	-1.4	-1.2	-1.8	7.0	0.2	0.0	-0.1	1.6	10.6
Cash (Overnight LIBOR)												
US		5.30	0.1	0.5	0.3	1.6	5.4	0.1	0.5	0.3	1.6	5.4
Euro Area		3.91	0.2	-1.6	-1.1	-2.3	0.9	0.1	0.3	0.2	1.2	3.8
UK		5.20	-0.5	-2.3	-1.7	-1.3	4.6	0.1	0.5	0.3	1.6	5.2
Japan		0.08	-0.9	-2.4	-2.1	-8.8	-12.9	0.0	0.0	0.0	0.0	0.0
Real Estate (REITs)												
Global	FTSE	1505	1.6	-3.2	-5.7	-6.9	2.1	1.5	-1.9	-4.6	-3.7	5.5
Emerging Markets	FTSE	1188	5.1	-1.5	-1.6	-5.8	-5.9	5.0	-0.2	-0.5	-2.5	-2.7
US	FTSE	2818	1.3	-3.1	-6.6	-7.1	5.3	1.3	-3.1	-6.6	-7.1	5.3
Europe ex-UK	FTSE	2290	1.3	-3.3	-4.1	-9.4	12.7	1.2	-1.9	-3.0	-6.3	16.5
UK	FTSE	791	1.9	-3.2	-4.2	-7.3	2.5	1.7	-1.9	-2.9	-5.2	2.6
Japan	FTSE	2178	-0.5	-2.6	-4.9	1.5	4.9	1.2	1.1	-1.1	13.3	23.7
Commodities												
All	GSCI	3796	1.1	4.0	2.8	13.4	16.8	-	-	-	-	-
Energy	GSCI	682	1.7	3.1	1.7	17.7	25.5	-	-	-	-	-
Industrial Metals	GSCI	1793	-1.1	12.6	11.7	12.0	10.6	-	-	-	-	-
Precious Metals	GSCI	2621	-2.9	7.5	5.7	13.1	16.3	-	-	-	-	-
Agricultural Goods	GSCI	524	1.9	2.3	1.3	2.1	-3.9	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.07	0.4	-1.3	-0.9	-3.1	-3.2	-	-	-	-	-
JPY		158.34	-2.3	-4.3	-4.4	-10.9	-15.6	-	-	-	-	-
GBP		1.25	0.2	-1.3	-1.4	-2.2	-0.1	-	-	-	-	-
CHF		1.09	-0.4	-1.1	-1.3	-7.9	-2.5	-	-	-	-	-
CNY		7.25	-0.1	-0.4	-0.3	-2.0	-4.4	-	-	-	-	-

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 26/04/2024	Global				
	1w	1m	QTD	YTD	12m
Energy	**-1.3**	**3.5**	**3.1**	**0.5**	**-6.0**
Basic Materials	**-1.6**	**3.9**	**3.3**	**-3.2**	**-8.0**
Basic Resources	-0.9	7.9	6.5	-1.5	-3.8
Chemicals	-2.6	-1.7	-1.2	-5.7	-13.8
Industrials	**-0.5**	**-0.6**	**-0.6**	**0.0**	**0.9**
Construction & Materials	0.7	-1.0	-0.8	0.7	7.8
Industrial Goods & Services	-0.7	-0.6	-0.6	-0.1	0.0
Consumer Discretionary	**-0.1**	**-1.4**	**-1.4**	**-1.0**	**-1.2**
Automobiles & Parts	0.7	-3.5	-2.6	-8.4	0.7
Media	-0.9	-2.4	-1.9	5.9	3.9
Retailers	0.0	0.0	-0.5	4.8	10.2
Travel & Leisure	0.4	-0.6	-0.3	-3.0	-7.8
Consumer Products & Services	-0.9	-2.0	-2.2	-4.0	-12.8
Consumer Staples	**-0.6**	**0.8**	**0.7**	**-4.8**	**-18.4**
Food, Beverage & Tobacco	-0.9	1.1	1.1	-5.1	-19.6
Personal Care, Drug & Grocery Stores	0.0	0.3	0.0	-4.1	-16.0
Healthcare	**-0.7**	**-1.6**	**-1.9**	**-2.1**	**-10.7**
Financials	**-0.7**	**0.4**	**0.2**	**1.2**	**3.7**
Banks	-0.1	1.9	1.9	2.4	5.0
Financial Services	-1.0	-0.5	-1.0	-0.8	4.1
Insurance	-1.8	-1.6	-1.7	1.8	0.1
Real Estate	**-0.4**	**-1.7**	**-2.8**	**-10.1**	**-14.2**
Technology	**2.7**	**-0.4**	**0.3**	**5.3**	**21.5**
Telecommunications	**-1.6**	**-1.7**	**-1.7**	**-6.5**	**-12.4**
Utilities	**-1.4**	**4.1**	**3.6**	**-1.7**	**-10.5**

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 at 26/04/2024	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	2.2	-3.8	-5.0	7.3	30.0	-0.4	-1.9	-2.2	-0.1	1.8
Low volatility	0.7	-1.4	-3.0	6.2	10.1	-1.9	0.5	-0.1	-1.1	-13.8
Price momentum	3.4	-3.0	-3.8	8.3	23.2	0.7	-1.1	-1.0	0.8	-3.5
Quality	1.0	-3.3	-5.0	5.0	22.3	-1.6	-1.4	-2.2	-2.3	-4.2
Size	1.1	-2.9	-5.8	-0.7	16.4	-1.5	-1.0	-3.0	-7.5	-8.8
Value	0.8	-0.1	-3.2	4.1	22.6	-1.8	1.8	-0.3	-3.0	-4.0
Market	2.7	-1.9	-2.9	7.4	27.7					
Market - Equal-Weighted	1.7	-2.1	-4.1	3.5	17.2					

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 26/04/2024	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	1.9	-0.1	-0.1	0.9	8.5	-0.2	-0.2	0.2	-6.1	-4.3
Low volatility	1.5	0.1	-0.3	5.4	5.6	-0.6	0.0	0.0	-2.0	-6.8
Price momentum	2.7	-0.6	-0.6	9.8	18.6	0.6	-0.6	-0.3	2.2	4.6
Quality	2.2	1.4	1.0	6.5	14.9	0.1	1.4	1.3	-0.9	1.4
Size	1.2	-0.8	-1.6	1.9	8.5	-0.9	-0.8	-1.3	-5.2	-4.4
Value	2.2	2.8	1.5	5.2	16.1	0.1	2.8	1.9	-2.1	2.3
Market	2.1	0.0	-0.3	7.5	13.4					
Market - Equal-Weighted	1.4	-0.5	-1.1	3.8	10.6					

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%**	↓	**41%**			
Government	25%	10-40%		22%			
US	8%			13%		25%	JPY
Europe ex-UK (Eurozone)	7%			2%			
UK	1%			1%			
Japan	7%			2%			
Emerging Markets	2%			4%			
China**	0.2%			0%			
Corporate IG	10%	0-20%	↓	16%			
US Dollar	5%		↓	8%		50%	JPY
Euro	2%		↓	3%			
Sterling	1%			2%			
Japanese Yen	1%		↓	0%			
Emerging Markets	1%			3%			
China**	0.1%			0%			
Corporate HY	5%	0-10%	↓	3%			
US Dollar	4%		↓	2%			
Euro	1%		↓	1%			
Bank Loans	**4%**	**0-10%**	↑	**8%**			
US	3%		↑	6%			
Europe	1%			2%			
Equities	**45%**	**25-65%**	↓	**35%**			
US	25%		↓	10%			
Europe ex-UK	7%		↑	12%			
UK	4%		↓	4%			
Japan	4%		↓	1%			
Emerging Markets	5%			8%			
China**	2%			4%			
Real Estate	**4%**	**0-16%**		**6%**			
US	1%			2%			
Europe ex-UK	1%			1%			
UK	1%		↓	1%			
Japan	1%			1%			
Emerging Markets	1%		↑	1%			
Commodities	**2%**	**0-4%**	↑	**4%**			
Energy	1%		↑	1%			
Industrial Metals	0.3%		↑	2%			
Precious Metals	0.3%			0%			
Agriculture	0.3%		↑	1%			
Total	**100%**			**100%**			

Currency Exposure (including effect of hedging)				
USD	52%	↓	39%	
EUR	19%	↑	23%	
GBP	7%		10%	
JPY	13%	↑	13%	
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	**7.0%**	**Neutral**	**EM**
Basic Materials	**3.9%**	**Neutral**	**Japan**
Basic Resources	2.3%	Neutral ↑	Japan
Chemicals	1.6%	Neutral	US
Industrials	**13.2%**	**Overweight**	**US**
Construction & Materials	1.8%	Underweight	US
Industrial Goods & Services	11.5%	Overweight	US
Consumer Discretionary	**14.5%**	**Neutral**	**US**
Automobiles & Parts	2.5%	Underweight	Europe
Media	1.1%	Neutral ↓	Japan
Retailers	5.2%	Overweight ↑	US
Travel & Leisure	2.0%	Underweight	EM
Consumer Products & Services	3.7%	Neutral	Japan
Consumer Staples	**5.4%**	**Overweight**	**US**
Food, Beverage & Tobacco	3.5%	Overweight	US
Personal Care, Drug & Grocery Stores	1.9%	Overweight	Europe
Healthcare	**9.3%**	**Overweight**	**US**
Financials	**15.6%**	**Overweight ↑**	**US**
Banks	7.4%	Overweight	Europe
Financial Services	5.2%	Overweight ↑	US
Insurance	3.0%	Underweight ↓	US
Real Estate	**2.7%**	**Neutral ↓**	**Japan**
Technology	**21.9%**	**Neutral**	**EM**
Telecommunications	**3.4%**	**Underweight**	**US**
Utilities	**3.2%**	**Underweight**	**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

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