Uncommon truths
Black Friday blues

Black Friday has become a global phenomenon but what will it tell us about consumer spending in the US? Versus the UK, it seems that US spending has benefitted from fiscal support and falling savings rates. Those factors may have reached their limits, pointing to the risk of short-term market volatility.

In the past week I travelled to Stockholm, Oslo and Vienna and they had one depressing feature in common with London. Black Friday! Quite why this Thanksgiving related sale day (or week or month) has become one of the more successful US exports is beyond me but it has. The question is then whether it will make any difference to consumer spending patterns, other than changing the timing.

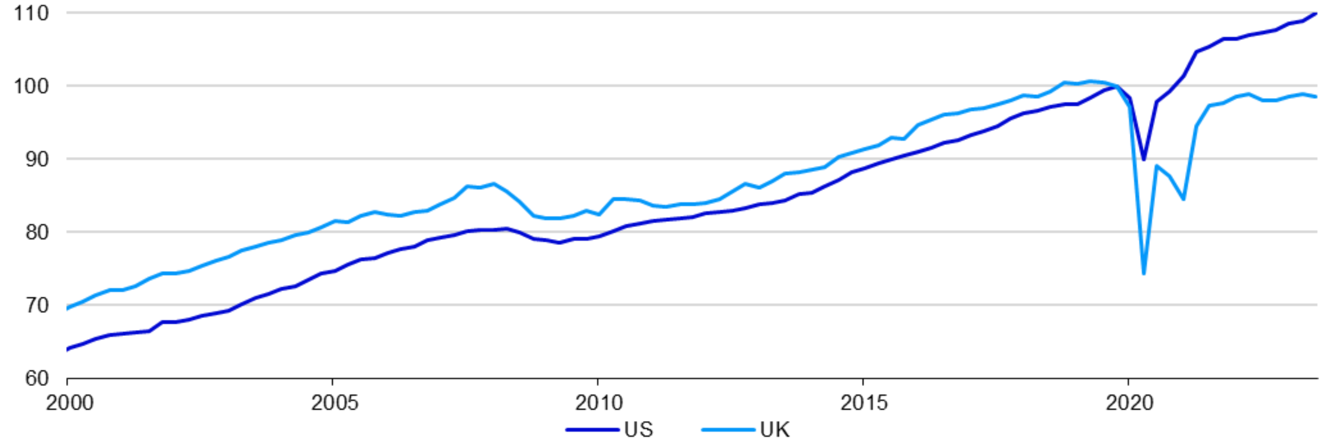
This is a particularly interesting question in the US, where consumer spending has been an important driver of the economy during the recovery from the pandemic. However, there have been signs of a slowdown, with retail sales slowing in October and Walmart warning that it had seen an easing of sales in the latter half of October. Maybe US consumers were holding back for Black Friday or perhaps the wheels are starting to fall off the US bandwagon. Early reports from US retailers about Black Friday business could give us a clue.

There is no denying the resilience of the US consumer. **Figure 1** shows a comparison between US and UK real consumer spending trends so far during this century. As both series are indexed to be 100 in 2019 Q4, don't worry about which is higher than the other. The focus should rather be on a comparison of the trends.
For most of the period considered, those trends have been surprisingly alike (there had not been a tendency for the US consumer to power away from its UK counterpart). However, in the third quarter of 2023, US consumer spending was around 10% higher than in the final quarter of 2019 (the last calendar quarter before the pandemic). Meanwhile, in the UK, consumer spending was still 1.4% below the pre-pandemic level. US consumers have clearly outspent their UK counterparts over the last four years.

However, the tendency for underperformance by UK consumers started before the pandemic. In fact, it appears to have resulted from three shocks. First, **Figure 1** suggests the Global Financial Crisis (GFC) was harder on UK consumers than on their US brethren. More gradual, but equally interesting, was the underperformance of UK consumer spending in the aftermath of the Brexit vote, culminating in a flatlining of UK spending during 2019 (well before the onset of the pandemic). Finally, came the pandemic shock itself, with UK consumers suffering more than US counterparts. The latter has more than recovered lost ground, while the UK consumer continues to struggle. In fact, US spending appears to be in line with what the pre-pandemic trend would have suggested, while in the UK it has broadly flatlined since mid-2018.

Why the transatlantic gap? **Figure 2** examines two factors: income and savings behaviour. **Figure 2a** suggests that real personal disposable income (again indexed to be 100 in 2019 Q4) was following a similar path in the two countries prior to the GFC. However, UK disposable incomes seem to have suffered more during that episode (partly due to a decline in income and partly to a rise in taxation). UK real disposable incomes then lost momentum in the aftermath of the Brexit referendum in mid-2016, perhaps due to the higher inflation that followed the weakening of sterling (and perhaps due to EU workers leaving the country).

Figure 1 – Real consumer spending (rebased to 100 in 2019 Q4)



Note: Based on quarterly data from 2000 Q1 to 2023 Q3.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Finally, UK real disposable incomes have flatlined since the end of 2019, while those in the US were boosted by successive tax rebates (though they have subsequently fallen back to below the pre-pandemic trend). US real personal disposable incomes in 2023 Q3 were 6.5% above where they were in 2019 Q4, while those in the UK were pretty much in line with the pre-pandemic level (by 2023 Q2). Hence, around half of the consumer spending gap between the US and UK since 2019 Q4 seems to be down to the difference in trends of real personal disposable income.

The rest of the gap is presumably down to savings behaviour. This is confirmed by **Figure 2b**. Savings rates jumped in both countries in the early stages of the pandemic due to the dampening effect of lockdowns on spending (and the fiscal boost to disposable incomes in the US). Savings rates then fell back as economies reopened but the decline was more marked in the US. The savings rate in the US is now further below that of the UK than usual. It was 3.8% in the US in 2023 Q3 versus an average of 5.7% since 2000 Q1. In the UK it was 9.5% in 2023 Q2 versus a century-to-date average of 8.5%.

So, two factors seem to set the US apart from the UK when it comes to consumer spending patterns over recent years: fiscal support and savings rates. The boost to US government income transfers in 2020 Q2 and 2021 Q1 both added 13%-14% to quarterly aggregate personal disposable income. That is enormous and was an important contributor to the rise in gross government debt from 108% of GDP in 2019 Q4 to 122% in 2023 Q2. That, added to the rise in bond yields, had pushed US government interest costs to 15.3% of revenues by October 2023, versus 10.7% in December 2019. That is the highest since 1997 (the peak was 18.5% in 1992) and is likely to continue rising as old debt is replaced by higher yielding new debt (the average maturity of US government debt is more than five years). It seems unlikely that the US consumer will again be offered that sort of support outside of a crisis and, even then, the state of government finances may impose limits on the extent of any such support.

Those transfers from the government contributed to the large excess savings that were accumulated by US households and that have allowed spending to outstrip income in the meantime. Put another way, it allowed spending to rise briskly while the savings rate fell.

There has historically been an inverse relationship between the savings rate and the household net worth to disposable income ratio in the US. The latter ratio hit a historical peak of 8.4 in 2022 Q1, aided by the high level of savings during the pandemic but also by the surge in asset values during 2021. That encouraged consumers to spend a larger than normal share of their income and the savings rate fell to a recent low of 2.7% in June 2022 (it did go lower in the pre-GFC years). The net worth to disposable income ratio has since fallen to 7.8 in 2023 Q2 (which is still pretty high) and the savings rate had rebounded to 5.1% in that same quarter. However, the savings rate fell again in 2023 Q3, reaching 3.4% by September, which explains the strength of consumer spending in that quarter.

I suspect that both fiscal support to incomes and falling savings rates have reached their limits. Wage growth will become the key driver of spending and that is unlikely to be spectacular in the face of rising unemployment. Despite the mirage of growth in 2023 Q3, I believe the US economy is slowing. That could still provoke risk asset volatility over the coming quarters, until the economy recovers later in 2024.

Unless stated otherwise, all data as of 26 November 2023.

Figure 2a – Real personal disposable income (2019 Q4 = 100)

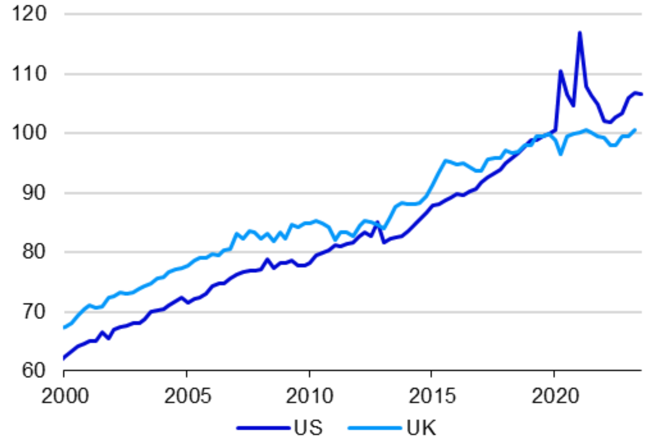
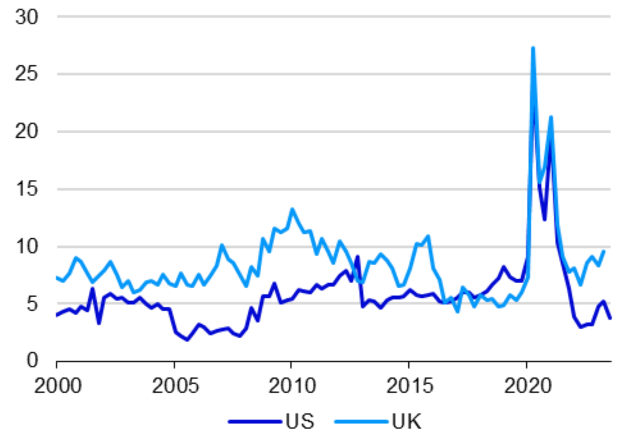


Figure 2b – Household savings rate (%)



Notes: Based on quarterly data from 2000 Q1 to 2023 Q3.
Source: LSEG Datastream and Invesco Global Market Strategy Office

Figure 3 – Asset class total returns (%)

Data as at 24/11/2023		Current	Total Return (USD, %)					Total Return (Local Currency, %)				
	Index	Level/RY	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	666	1.0	7.7	5.6	16.7	13.1	0.8	6.9	4.9	17.1	12.9
Emerging Markets	MSCI	948	0.5	6.7	3.1	5.3	6.9	0.5	5.2	1.9	6.4	7.0
China	MSCI	56	1.3	5.5	-0.5	-7.6	3.6	1.1	4.8	-1.2	-7.2	3.5
US	MSCI	4199	1.0	7.6	6.5	21.0	15.4	1.0	7.6	6.5	21.0	15.4
Europe	MSCI	1810	1.5	9.0	5.7	14.8	13.6	0.7	5.7	2.2	11.3	8.6
Europe ex-UK	MSCI	2241	1.5	10.2	6.7	16.5	15.2	1.0	6.9	3.2	13.5	9.9
UK	MSCI	1073	1.4	5.4	2.4	9.3	8.3	0.0	1.7	-1.0	4.2	4.2
Japan	MSCI	3403	-0.1	7.5	3.3	15.3	12.8	-0.1	7.2	3.5	30.7	21.9
Government Bonds												
World	BofA-ML	3.61	0.0	3.1	2.3	-1.9	-2.5	-0.3	2.0	1.3	0.0	-2.1
Emerging Markets	BBloom	8.85	2.0	7.9	5.2	6.2	8.8	2.0	7.9	5.2	6.2	8.8
China	BofA-ML	2.57	1.1	2.5	2.4	0.8	3.7	-0.2	0.4	0.3	3.7	3.7
US (10y)	Datastream	4.64	-0.3	3.0	1.3	-1.7	-2.7	-0.3	3.0	1.3	-1.7	-2.7
Europe	Bofa-ML	3.41	0.2	5.5	5.6	4.3	1.6	-0.2	2.2	2.2	1.7	-3.3
Europe ex-UK (EMU, 10y)	Datastream	2.68	0.1	5.0	5.4	4.8	1.2	-0.4	1.8	2.0	2.2	-3.8
UK (10y)	Datastream	4.42	0.1	6.2	5.5	4.4	-3.2	-1.3	2.6	2.1	-0.5	-6.8
Japan (10y)	Datastream	0.86	-0.1	0.8	-0.1	-11.5	-8.6	-0.1	0.6	0.0	0.3	-1.3
IG Corporate Bonds												
Global	BofA-ML	5.63	0.3	4.0	3.1	3.8	3.9	0.1	3.0	2.1	3.2	2.7
Emerging Markets	BBloom	8.00	0.9	4.8	2.5	4.0	10.8	0.9	4.8	2.5	4.0	10.8
China	BofA-ML	3.33	1.1	2.5	2.3	0.6	2.8	-0.2	0.3	0.2	3.6	2.9
US	BofA-ML	6.14	0.2	3.7	2.3	2.8	2.8	0.2	3.7	2.3	2.8	2.8
Europe	BofA-ML	4.41	0.2	4.9	5.0	6.6	7.3	-0.2	1.7	1.6	4.0	2.1
UK	BofA-ML	6.11	0.4	6.8	5.7	8.6	4.5	-1.0	3.1	2.3	3.5	0.6
Japan	BofA-ML	1.01	0.0	0.5	-0.1	-11.0	-7.6	-0.1	0.3	0.1	0.8	-0.2
HY Corporate Bonds												
Global	BofA-ML	9.00	0.6	4.0	2.8	8.3	9.2	0.5	3.2	2.1	7.7	8.0
US	BofA-ML	9.00	0.4	3.6	2.2	8.3	7.6	0.4	3.6	2.2	8.3	7.6
Europe	BofA-ML	7.62	0.8	5.8	5.2	10.7	12.6	0.3	2.5	1.8	8.0	7.1
Cash (Overnight LIBOR)												
US		5.32	0.1	0.4	0.6	4.3	4.9	0.1	0.4	0.6	4.3	4.9
Euro Area		3.90	-0.4	1.1	1.5	2.5	7.7	0.1	0.3	0.4	2.7	2.9
UK		5.19	-1.1	-0.1	0.8	5.0	8.9	0.1	0.5	0.6	4.0	4.4
Japan		-0.01	-1.4	-1.9	-1.4	-13.5	-7.0	0.0	0.0	0.0	0.0	0.0
Real Estate (REITs)												
Global	FTSE	1418	0.9	8.8	3.9	-0.6	-2.3	0.5	5.4	0.6	-3.1	-7.0
Emerging Markets	FTSE	1189	2.3	10.4	3.9	-3.9	-0.2	1.8	7.0	0.6	-6.3	-5.1
US	FTSE	2636	1.0	7.8	3.4	1.1	-2.2	1.0	7.8	3.4	1.1	-2.2
Europe ex-UK	FTSE	2078	0.9	19.4	12.4	8.5	5.7	0.4	15.7	8.8	5.8	0.5
UK	FTSE	721	-0.1	17.9	12.3	6.1	0.1	-1.5	13.9	8.7	1.2	-3.7
Japan	FTSE	2010	0.3	3.9	0.8	-1.2	-3.5	0.3	3.6	1.0	11.9	4.3
Commodities												
All	GSCI	3450	-0.3	-4.9	-8.0	-1.3	-1.6	-	-	-	-	-
Energy	GSCI	611	0.1	-7.5	-12.1	0.1	-2.1	-	-	-	-	-
Industrial Metals	GSCI	1547	0.4	2.0	-2.6	-7.7	-3.9	-	-	-	-	-
Precious Metals	GSCI	2261	1.1	1.7	8.3	8.8	14.2	-	-	-	-	-
Agricultural Goods	GSCI	524	-0.5	-1.9	1.4	-6.4	-4.6	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.09	0.3	3.3	3.5	2.2	5.1	-	-	-	-	-
JPY		149.44	0.1	0.3	0.0	-12.3	-7.2	-	-	-	-	-
GBP		1.26	1.4	3.6	3.3	4.9	3.9	-	-	-	-	-
CHF		1.13	0.4	1.2	3.7	4.8	6.9	-	-	-	-	-
CNY		7.15	0.9	2.2	2.1	-3.5	0.0	-	-	-	-	-

Notes: *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). **Past performance is no guarantee of future results.** Please see appendix for definitions, methodology and disclaimers.
Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Figure 4 – Global equity sector total returns relative to market (%)

Data as at 24/11/2023	Global				
	1w	**1m**	**QTD**	**YTD**	**12m**
Energy	**-0.6**	**-6.3**	**-6.9**	**-4.8**	**-5.1**
Basic Materials	**-0.2**	**0.3**	**-1.3**	**-8.9**	**-7.9**
Basic Resources	0.0	-0.4	-1.6	-9.4	-6.2
Chemicals	-0.4	1.3	-0.9	-8.4	-10.1
Industrials	**0.1**	**1.5**	**-0.4**	**-3.4**	**-3.3**
Construction & Materials	-0.4	3.6	-0.1	5.7	5.9
Industrial Goods & Services	0.2	1.2	-0.5	-4.6	-4.5
Consumer Discretionary	**-0.1**	**1.0**	**0.1**	**5.2**	**3.0**
Automobiles & Parts	-1.4	-1.0	-6.9	16.7	3.1
Media	1.4	2.3	6.9	5.6	3.8
Retailers	0.4	1.2	1.7	6.0	3.9
Travel & Leisure	-0.6	1.2	-0.9	-0.1	1.8
Consumer Products & Services	0.1	1.8	2.2	0.1	2.6
Consumer Staples	**0.4**	**-2.1**	**-2.1**	**-13.7**	**-11.5**
Food, Beverage & Tobacco	0.5	-1.3	-2.1	-13.4	-11.2
Personal Care, Drug & Grocery Stores	0.2	-3.7	-2.2	-14.3	-11.9
Healthcare	**0.9**	**-3.3**	**-2.8**	**-12.5**	**-9.8**
Financials	**0.0**	**0.7**	**-0.2**	**-4.7**	**-3.4**
Banks	-0.4	0.3	-1.3	-6.7	-5.3
Financial Services	0.1	1.8	0.2	-2.5	-3.3
Insurance	1.0	0.1	2.0	-3.1	1.7
Real Estate	**0.3**	**2.2**	**0.2**	**-13.1**	**-11.7**
Technology	**-0.2**	**2.6**	**5.7**	**28.3**	**23.9**
Telecommunications	**-0.2**	**-2.3**	**-1.3**	**-5.4**	**-5.1**
Utilities	**-0.5**	**0.1**	**0.2**	**-13.0**	**-11.2**

Notes: Returns shown are for Datastream sector indices versus the total market index. **Past performance is no guarantee of future results.** Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Figure 5a – US factor index total returns (%)

Data as at 24/11/2023	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	1.4	8.5	5.1	20.6	16.1	0.4	0.9	-1.4	0.1	0.8
Low volatility	1.3	6.3	5.0	0.2	-0.6	0.3	-1.2	-1.5	-16.8	-13.6
Price momentum	1.3	9.1	6.7	6.5	3.5	0.3	1.5	0.1	-11.6	-10.0
Quality	0.8	4.4	1.0	11.5	7.7	-0.2	-2.9	-5.2	-7.5	-6.4
Size	0.7	7.2	1.4	1.9	-2.1	-0.3	-0.3	-4.9	-15.5	-15.0
Value	0.7	8.7	4.1	1.7	-2.4	-0.3	1.1	-2.3	-15.6	-15.2
Market	1.0	7.5	6.6	20.5	15.1					
Market - Equal-Weighted	1.0	7.3	3.8	5.6	2.0					

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: Refinitiv Datastream and Invesco Global Market Strategy Office

Figure 5b – European factor index total returns relative to market (% annualised)

Data as at 24/11/2023	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	1.1	10.9	4.0	6.8	1.4	0.1	4.7	1.5	-4.5	-5.9
Low volatility	1.1	4.8	1.7	8.8	5.9	0.1	-1.1	-0.7	-2.7	-1.8
Price momentum	1.2	8.7	4.0	7.7	5.3	0.2	2.6	1.6	-3.7	-2.3
Quality	0.5	6.8	1.0	8.6	4.1	-0.5	0.8	-1.4	-2.9	-3.4
Size	-0.1	10.4	2.2	3.3	-2.2	-1.1	4.2	-0.2	-7.6	-9.3
Value	0.0	10.1	2.4	10.3	7.1	-1.0	3.9	0.0	-1.3	-0.6
Market	1.0	5.9	2.4	11.8	7.8					
Market - Equal-Weighted	0.7	8.4	2.8	8.8	4.5					

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: Refinitiv Datastream and Invesco Global Market Strategy Office

Figure 6 – 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%**	↑	**50%**			
Government	25%	10-40%		22%			
US	8%			13%			
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%	↑	20%			
US Dollar	5%			10%		40%	JPY
Euro	2%		↑	4%			
Sterling	1%			2%			
Japanese Yen	1%		↑	1%			
Emerging Markets	1%			3%			
China**	0.1%			0%			
Corporate HY	5%	0-10%	↑	8%			
US Dollar	4%		↑	6%			
Euro	1%		↑	2%			
Bank Loans	**4%**	**0-10%**	↑	**7%**			
US	3%		↑	5%			
Europe	1%			2%			
Equities	**45%**	**25-65%**	↑	**37%**			
US	25%			12%			
Europe ex-UK	7%		↑	10%			
UK	4%		↑	5%			
Japan	4%			2%			
Emerging Markets	5%			8%			
China**	2%			4%			
Real Estate	**4%**	**0-16%**	↑	**6%**			
US	1%		↑	2%			
Europe ex-UK	1%			1%			
UK	1%		↑	2%			
Japan	1%		↓	1%			
Emerging Markets	1%			0%			
Commodities	**2%**	**0-4%**		**0%**			
Energy	1%			0%			
Industrial Metals	0.3%			0%			
Precious Metals	0.3%			0%			
Agriculture	0.3%			0%			
Total	**100%**			**100%**			

Currency Exposure (including effect of hedging)				
USD	52%	↑	44%	
EUR	19%	↑	21%	
GBP	7%	↓	10%	
JPY	13%	↓	10%	
EM	9%		15%	
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 7 – Model allocations for global sectors

	Neutral	Invesco		Preferred Region
Energy	**8.1%**	**Neutral**	↑	**EM**
Basic Materials	**4.2%**	**Neutral**		**Europe**
Basic Resources	2.4%	Neutral		Europe
Chemicals	1.8%	Neutral		US
Industrials	**12.8%**	**Overweight**	↑	**US**
Construction & Materials	1.6%	Underweight		US
Industrial Goods & Services	11.2%	Overweight	↑	US
Consumer Discretionary	**14.5%**	**Underweight**	↓	**Europe**
Automobiles & Parts	2.9%	Underweight		Japan
Media	1.0%	Underweight		Japan
Retailers	4.8%	Neutral	↓	US
Travel & Leisure	2.1%	Underweight		EM
Consumer Products & Services	3.7%	Neutral		Europe
Consumer Staples	**6.0%**	**Overweight**		**Europe**
Food, Beverage & Tobacco	3.9%	Overweight		Europe
Personal Care, Drug & Grocery Stores	2.1%	Overweight		US
Healthcare	**9.7%**	**Overweight**		**US**
Financials	**15.3%**	**Neutral**		**Europe**
Banks	7.3%	Neutral		Europe
Financial Services	4.9%	Underweight		US
Insurance	3.0%	Neutral		Europe
Real Estate	**2.8%**	**Overweight**		**US**
Technology	**19.7%**	**Neutral**		**US**
Telecommunications	**3.6%**	**Overweight**		**Europe**
Utilities	**3.3%**	**Underweight**		**Europe**

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: Refinitiv 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 3

Sources: we source data from Refinitiv 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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