Uncommon truths

Seeking reasons to buy US equities

After a 24% year-to-date decline in the S&P 500, we ask what could make us turn positive on equities. A 30% further decline would help but short of that, some combination of the start of recession, VIX above 40 and falling bond yields would do the trick.

Before turning to the main topic, we want to address recent questions about allocations to UK assets. Luckily, we had reduced our Model Asset Allocation weighting in UK government bonds to zero and that to UK equities to Neutral before the UK's mini budget, though remaining Overweight UK investment grade credit and UK REITS (see **Figure 6**). Most of the volatility in recent weeks was in sterling and in government bond yields. We suspect we may have seen the bottom in sterling (versus US dollar) and the peak in gilt yields. However many doubts remain about UK government finances, so we expect further volatility and are not changing our allocations for now.

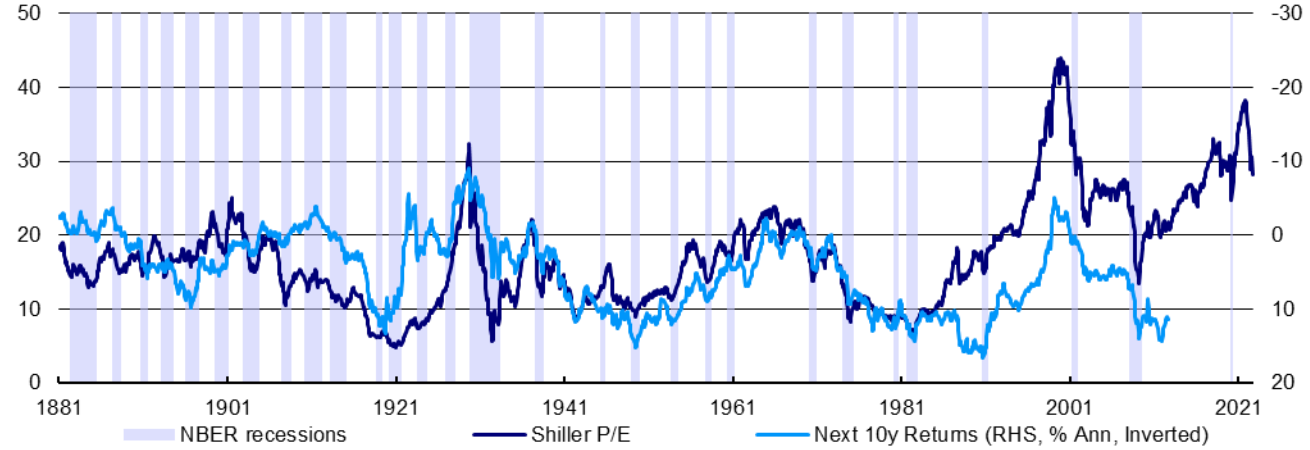
The S&P 500 is down 24% since the start of the year. Is that enough to make it safe to put a toe in the water (we are Underweight global equities within our Model Asset Allocation see **Figure 6**). We are wary but want to consider what conditions could force a change of mind. The ideal list includes a further 30% decline in the S&P 500, amid signs of capitulation (VIX index going above 40 and ideally above 50), in the midst of a US recession, with bond yields falling.

However, that seems like an extreme wish-list and the signals may not be so clear cut. **Figure 1** is the basis for saying that a further 30% S&P 500 decline would encourage us to look more favourably upon equities. There has historically been a reasonable inverse correlation between the level of the Shiller P/E and US equity returns over the following 10 years. If this relationship were to continue, the current Shiller P/E of around 28 is consistent with moderate (perhaps negative) returns over the coming ten years.

That is not very encouraging. The full history of the Shiller P/E shows that the best future returns have been achieved when it falls below 10 (around one-third of the current level). Further, they have often (but not always) been associated with recession, which provokes the equity sell-off that provides the springboard for generous future returns. However, in recent decades (since the mid-1980s), those strong returns appear to have been associated with Shiller P/E ratios in the 15-20 range (and often associated with recession). A 30% reduction in the S&P 500 from current levels would bring the Shiller P/E to around 20. Ideally, a recession would already be under way, which would remove a lot of uncertainty.

As economic data (and the declaration of recessions) often comes with a lag, one indicator that we have found to be a help is the ISM Manufacturing Index. We note that US equity returns over the coming 12 months are often at their strongest when this index falls to its weakest i.e. below 50 (the Institute of Supply Management calculates the breakeven for the full economy moving from expansion to contraction is 42.8 and the index was 50.9 in September). While the September employment report confirmed that job gains in the manufacturing sector are well below early 2022 levels, overall job gains remain respectable (if on a downward path). Apart from the housing sector, signs of US recession remain scarce.

Figure 1 – US Shiller P/E, recessions and future equity returns (1881-2022)



Notes: **Past performance is no guarantee of future results**. Monthly data from January 1881 to September 2022. "Shiller P/E" is constructed by Robert Shiller and compares price to a 10-year moving average of earnings, with adjustments for inflation. "Next 10-year returns" is the annualised gain in a broad US equity index (excluding dividends) over the next 10 years. NBER recessions are periods of US economic recession as defined by the US National Bureau of Economic Research. See appendices for definitions and disclaimers.
Source: Federal Reserve Bank of St. Louis, NBER, Robert Shiller and Invesco

Indicators of market sentiment are likewise not yet suggesting there has been a capitulation from which a solid rebound is likely. New York colleague Talley Leger follows eight tactical indicators, four of which are giving the green light (American Association of Individual Investors Sentiment Survey, CBOE Equity Put/Call Ratio, US Economic Policy Uncertainty Index and the NYSE Composite Advance/Decline Ratio). Talley reports that the other indicators are moving in the right direction but are not yet extreme enough to warrant a positive outlook.

Among Talley's other indicators is the CBOE VIX index (a measure of implied volatility), which we also like as a barometer of distress in markets. Though the current VIX index of around 31 is elevated compared to its lifetime average of 19.6 (since the start of 1990), it is not extreme. The VIX has gone above 40 on only eight occasions since 1990 and on six of those the S&P 500 rose by 20% or more over the next 12 months. It has gone above 50 on only two occasions (in fact going above 80 both times – during the Global Financial Crisis and the Covid pandemic), leading to the two highest 12-month returns since 1990. Hence, it would give us more comfort if the VIX went above 40 and ideally above 50.

As we have recently noted (see The Big Picture 2022 Q4), the decline in global equity markets during 2022 has not been about falling corporate earnings (there has not yet been a noticeable decline). Rather, it has been due to valuation multiple compression that has correlated with a rise in bond yields. In other words, equities have fallen because bond yields have risen, rather than because earnings have fallen.

Figure 2 shows an inverse correlation between the 10-year US treasury yield and the Shiller P/E since the mid-1960s. The correlation is not perfect but it seems that lower bond yields have been associated with higher valuation multiples. Bond yields would also have helped better judge the return potential indicated by a particular level of the Shiller P/E. For example, bond yields gave a reasonable guide to the extent of the overvaluation during the dotcom bubble and also the extent of the opportunity created during the GFC.

The rise in the Shiller PE after the initial shock of the Covid pandemic was in some way justified by the fall in treasury yields, just this year's decline appears linked to the rise in bond yields. If anything, the current Shiller P/E, though elevated in a historical context, appears appropriate given the current 10-year treasury yield.

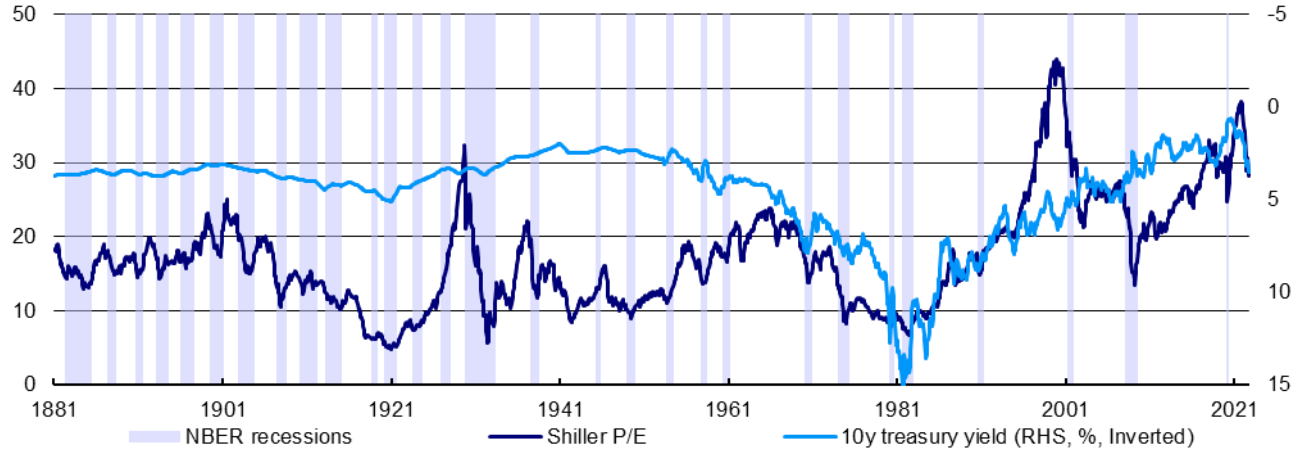
As discovered at the end of last week, a rise in treasury yields is likely to drive stocks lower. On the other hand, we suspect falling treasury yields could help offset the negative effect of a decline in earnings and perhaps even justify a rise in the stock market.

In conclusion, if a US recession is to occur (and we think it increasingly likely, given Fed policies), then we would feel more comfortable switching to an Overweight equity position once the recession has started (our analysis of past bear markets associated with recession suggests they rarely end before the recession has started).

However, mitigating factors that could persuade us to take a more positive stance on equities, whether recession has started or not, would be a 30% further decline in the S&P 500, with the VIX index going above 40 (and ideally 50) and/or a sizeable decline in long-term bond yields.

Unless stated otherwise, all data as of 07 October 2022.

Figure 2 – US Shiller P/E, bond yields and recessions



Notes: **Past performance is no guarantee of future results**. Monthly data from January 1881 to September 2022. "Shiller P/E" is constructed by Robert Shiller and compares price to a 10-year moving average of earnings, with adjustments for inflation. NBER recessions are periods of US economic recession as defined by the US National Bureau of Economic Research. See appendices for definitions and disclaimers. Source: Federal Reserve Bank of St. Louis, NBER, Robert Shiller and Invesco

Figure 3 – Asset class total returns (%)

Data as at 07/10/2022		Current	Total Return (USD, %)					Total Return (Local Currency, %)				
	Index	Level/RY	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Equities												
World	MSCI	563	1.8	-7.2	1.8	-24.0	-19.8	1.8	-6.5	1.8	-20.0	-15.3
Emerging Markets	MSCI	898	2.5	-5.9	2.5	-25.1	-26.0	2.3	-4.5	2.3	-18.6	-19.5
China	MSCI	57	1.5	-9.4	1.5	-30.1	-34.9	1.5	-9.1	1.5	-28.3	-33.4
US	MSCI	3467	1.6	-8.4	1.6	-23.6	-17.7	1.6	-8.4	1.6	-23.6	-17.7
Europe	MSCI	1468	1.0	-6.2	1.0	-27.7	-24.1	1.2	-4.2	1.2	-15.7	-10.6
Europe ex-UK	MSCI	1780	0.9	-6.3	0.9	-30.6	-27.1	1.1	-4.6	1.1	-20.1	-15.1
UK	MSCI	935	1.3	-5.8	1.3	-17.6	-13.8	1.5	-3.0	1.5	0.2	5.5
Japan	MSCI	2883	3.8	-0.4	3.8	-23.3	-22.8	4.1	0.0	4.1	-3.3	0.5
Government Bonds												
World	BofA-ML	3.02	-0.6	-4.0	-0.6	-21.8	-22.5	-0.5	-3.3	-0.5	-13.2	-13.0
Emerging Markets	BBloom	8.74	0.5	-7.7	0.5	-30.9	-30.6	0.5	-7.7	0.5	-30.9	-30.6
China	BofA-ML	2.57	0.1	-2.1	0.1	-7.1	-4.6	0.1	-0.4	0.1	3.4	4.7
US (10y)	Datastream	3.88	-0.6	-4.8	-0.6	-17.7	-16.7	-0.6	-4.8	-0.6	-17.7	-16.7
Europe	Bofa-ML	2.79	-0.7	-6.0	-0.7	-28.8	-30.3	-0.6	-4.4	-0.6	-17.3	-17.7
Europe ex-UK (EMU, 10y)	Datastream	2.20	-0.9	-6.8	-0.9	-29.9	-31.1	-0.8	-5.3	-0.8	-18.5	-18.6
UK (10y)	Datastream	4.24	-1.3	-11.4	-1.3	-36.5	-36.0	-1.0	-8.8	-1.0	-22.7	-21.7
Japan (10y)	Datastream	0.24	-0.2	-0.4	-0.2	-21.3	-23.7	0.1	0.1	0.1	-0.9	-0.8
IG Corporate Bonds												
Global	BofA-ML	5.35	0.0	-4.6	0.0	-21.0	-21.2	0.0	-4.0	0.0	-17.0	-16.8
Emerging Markets	BBloom	8.83	0.6	-7.1	0.6	-28.9	-29.9	0.6	-7.1	0.6	-28.9	-29.9
China	BofA-ML	3.21	0.0	-1.9	0.0	-7.3	-4.9	0.0	-0.2	0.0	3.1	4.3
US	BofA-ML	5.76	0.1	-4.2	0.1	-18.2	-17.8	0.1	-4.2	0.1	-18.2	-17.8
Europe	BofA-ML	4.18	-0.1	-5.0	-0.1	-26.9	-28.6	0.0	-3.4	0.0	-15.1	-15.6
UK	BofA-ML	6.72	-1.0	-11.1	-1.0	-38.8	-38.4	-0.7	-8.5	-0.7	-25.5	-24.6
Japan	BofA-ML	0.69	-0.2	-0.6	-0.2	-21.7	-24.1	0.1	-0.2	0.1	-1.4	-1.3
HY Corporate Bonds												
Global	BofA-ML	9.63	1.2	-3.3	1.2	-18.0	-18.1	1.2	-2.9	1.2	-15.1	-15.0
US	BofA-ML	9.29	1.4	-2.6	1.4	-13.4	-12.6	1.4	-2.6	1.4	-13.4	-12.6
Europe	BofA-ML	8.13	0.5	-4.4	0.5	-26.8	-27.9	0.7	-2.8	0.7	-14.9	-14.8
Cash (Overnight LIBOR)												
US		2.32	0.0	0.2	0.4	0.7	0.7	0.0	0.2	0.4	0.7	0.7
Euro Area		0.70	-0.2	-1.5	-4.5	-12.2	-15.3	0.0	0.0	0.0	-0.3	-0.5
UK		1.83	-1.5	-5.5	-5.9	-15.1	-16.6	0.0	0.2	0.3	0.7	0.7
Japan		-0.01	-0.3	-6.1	-5.0	-19.5	-23.3	0.0	0.0	0.0	-0.1	-0.1
Real Estate (REITs)												
Global	FTSE	1434	-1.9	-13.8	-1.9	-30.2	-24.7	-1.7	-12.4	-1.7	-18.9	-11.1
Emerging Markets	FTSE	1242	1.8	-7.2	1.8	-20.5	-23.5	1.9	-5.7	1.9	-7.6	-9.6
US	FTSE	2633	-3.1	-16.3	-3.1	-30.7	-21.2	-3.1	-16.3	-3.1	-30.7	-21.2
Europe ex-UK	FTSE	1789	-5.2	-19.8	-5.2	-51.1	-49.7	-5.1	-18.5	-5.1	-43.1	-40.5
UK	FTSE	631	-3.0	-20.2	-3.0	-47.9	-42.4	-2.8	-17.8	-2.8	-36.6	-29.5
Japan	FTSE	2098	1.0	-1.9	1.0	-17.5	-21.6	1.3	-1.5	1.3	4.0	2.0
Commodities												
All	GSCI	3721	10.1	7.1	10.1	34.1	32.2	-	-	-	-	-
Energy	GSCI	692	15.9	11.1	15.9	61.3	53.1	-	-	-	-	-
Industrial Metals	GSCI	1513	2.6	0.9	2.6	-16.6	-13.8	-	-	-	-	-
Precious Metals	GSCI	1922	2.7	0.2	2.7	-7.9	-4.4	-	-	-	-	-
Agricultural Goods	GSCI	565	-0.4	1.3	-0.4	13.3	19.3	-	-	-	-	-
Currencies (vs USD)*												
EUR		0.97	-0.6	-2.6	-0.6	-14.3	-15.7	-	-	-	-	-
JPY		145.35	-0.4	-1.1	-0.4	-20.8	-23.2	-	-	-	-	-
GBP		1.11	-0.3	-2.9	-0.3	-17.8	-18.3	-	-	-	-	-
CHF		1.01	-0.8	-1.8	-0.8	-8.3	-6.6	-	-	-	-	-
CNY		7.12	0.0	-2.1	0.0	-10.7	-9.4	-	-	-	-	-

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

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

Data as at 07/10/2022	Global				
	1w	1m	QTD	YTD	12m
Energy	**4.2**	**6.6**	**4.2**	**54.1**	**46.0**
Basic Materials	**1.5**	**4.3**	**1.5**	**6.9**	**8.7**
Basic Resources	1.9	7.0	1.9	11.5	15.6
Chemicals	1.0	1.0	1.0	1.4	0.7
Industrials	**0.9**	**-0.5**	**0.9**	**-3.2**	**-2.7**
Construction & Materials	-0.8	-1.0	-0.8	-6.9	-4.7
Industrial Goods & Services	1.1	-0.4	1.1	-2.6	-2.4
Consumer Discretionary	**-1.0**	**-1.7**	**-1.0**	**-9.8**	**-11.9**
Automobiles & Parts	-6.0	-7.2	-6.0	-14.4	-17.2
Media	-1.0	-1.0	-1.0	-21.8	-26.8
Retailers	-0.2	-1.4	-0.2	-5.2	-7.7
Travel & Leisure	1.0	1.9	1.0	0.4	-3.1
Consumer Products & Services	0.8	0.6	0.8	-13.0	-12.4
Consumer Staples	**-2.2**	**-0.4**	**-2.2**	**10.5**	**13.6**
Food, Beverage & Tobacco	-1.7	0.6	-1.7	13.7	16.2
Personal Care, Drug & Grocery Stores	-3.4	-2.3	-3.4	4.6	8.9
Healthcare	**-0.2**	**3.3**	**-0.2**	**5.2**	**6.4**
Financials	**-0.3**	**1.1**	**-0.3**	**6.0**	**3.3**
Banks	-0.4	2.1	-0.4	8.9	5.3
Financial Services	-0.5	-0.7	-0.5	-1.4	-3.5
Insurance	0.5	1.7	0.5	12.0	10.7
Real Estate	**-2.9**	**-6.8**	**-2.9**	**-7.9**	**-6.7**
Technology	**0.5**	**-2.4**	**0.5**	**-17.2**	**-15.1**
Telecommunications	**-1.2**	**-0.9**	**-1.2**	**2.3**	**3.6**
Utilities	**-2.6**	**-4.9**	**-2.6**	**14.2**	**17.0**

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

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

Data as at 07/10/2022	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	2.5	-8.1	2.5	-28.0	-20.6	1.0	0.3	1.0	-6.8	-5.5
Low volatility	0.4	-8.5	0.4	-11.4	-1.6	-1.2	-0.1	-1.2	14.6	17.1
Price momentum	3.8	-4.5	3.8	-13.3	-8.7	2.2	4.3	2.2	12.2	8.7
Quality	3.9	-6.3	3.9	-19.5	-11.7	2.3	2.3	2.3	4.1	5.1
Size	2.8	-9.3	2.8	-16.6	-14.1	1.2	-1.0	1.2	7.8	2.3
Value	2.0	-9.7	2.0	-13.8	-12.4	0.4	-1.5	0.4	11.5	4.3
Market	1.6	-8.4	1.6	-22.7	-16.0					
Market - Equal-Weighted	2.4	-8.3	2.4	-18.8	-13.6					

Notes: 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. **Past performance is no guarantee of future results.**
Source: Refinitiv Datastream and Invesco

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

Data as at 07/10/2022	Absolute					Relative to Market				
	1w	1m	QTD	YTD	12m	1w	1m	QTD	YTD	12m
Growth	-0.9	-10.1	-0.9	-38.9	-34.0	-1.9	-5.5	-1.9	-26.0	-25.1
Low volatility	-0.2	-6.4	-0.2	-13.6	-7.7	-1.2	-1.7	-1.2	4.6	4.8
Price momentum	1.6	-4.6	1.6	-27.4	-25.4	0.6	0.2	0.6	-12.1	-15.3
Quality	0.7	-8.1	0.7	-26.7	-21.1	-0.3	-3.4	-0.3	-11.2	-10.4
Size	0.0	-10.1	0.0	-32.9	-30.7	-1.0	-5.5	-1.0	-18.7	-21.3
Value	0.0	-8.2	0.0	-22.8	-19.9	-1.0	-3.6	-1.0	-6.5	-9.0
Market	1.0	-4.8	1.0	-17.4	-11.9					
Market - Equal-Weighted	0.3	-7.9	0.3	-26.6	-23.2					

Notes: 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. **Past performance is no guarantee of future results.**
Source: Refinitiv Datastream and Invesco

Figure 6 – Model asset allocation

	Neutral	Policy Range		Allocation	Position vs Neutral
Cash Equivalents	**5%**	**0-10%**	↑	8%	
Cash	2.5%		↑	8%	
Gold	2.5%			0%	
Bonds	**40%**	**10-70%**		**45%**	
Government	25%	10-40%		**30%**	
US	8%		↑	11%	
Europe ex-UK (Eurozone)	7%		↑	10%	
UK	1%		↓	0%	
Japan	7%			5%	
Emerging Markets	2%			4%	
China**	0.2%			0%	
Corporate IG	10%	0-20%		**15%**	
US Dollar	5%			7%	
Euro	2%			4%	
Sterling	1%			2%	
Japanese Yen	1%			0%	
Emerging Markets	1%			2%	
China**	0.1%			0%	
Corporate HY	5%	0-10%		**0%**	
US Dollar	4%			0%	
Euro	1%			0%	
Equities	**45%**	**25-65%**	↓	**37%**	
US	25%		↓	14%	
Europe ex-UK	7%			4%	
UK	4%		↓	4%	
Japan	4%			5%	
Emerging Markets	5%			10%	
China**	2%			4%	
Real Estate	**8%**	**0-16%**		**10%**	
US	2%		↑	3%	
Europe ex-UK	2%		↑	3%	
UK	1%			2%	
Japan	2%		↓	0%	
Emerging Markets	1%		↓	2%	
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	48%		↑	40%
EUR	20%		↑	23%
GBP	7%		↓	9%
JPY	15%		↓	11%
EM	9%		↓	18%
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

Figure 7 – Model allocations for global sectors

	Neutral	Invesco	Preferred Region
Energy	**8.2%**	**Underweight**	**US**
Basic Materials	**4.3%**	**Neutral ↓**	**Europe**
Basic Resources	2.4%	Neutral ↓	Europe
Chemicals	1.9%	Neutral	US
Industrials	**12.3%**	**Neutral ↓**	**US**
Construction & Materials	1.5%	Neutral	EM
Industrial Goods & Services	10.8%	Neutral ↓	US
Consumer Discretionary	**13.9%**	**Neutral**	**US**
Automobiles & Parts	2.8%	Underweight	Europe
Media	0.9%	Overweight ↑	US
Retailers	4.8%	Neutral ↓	US
Travel & Leisure	1.9%	Underweight ↓	US
Consumer Products & Services	3.5%	Neutral	Japan
Consumer Staples	**6.7%**	**Overweight ↑**	**US**
Food, Beverage & Tobacco	4.4%	Overweight ↑	US
Personal Care, Drug & Grocery Stores	2.3%	Overweight ↑	US
Healthcare	**10.5%**	**Overweight**	**US**
Financials	**15.2%**	**Underweight**	**Japan**
Banks	7.5%	Underweight	Japan
Financial Services	4.9%	Underweight ↓	Japan
Insurance	2.8%	Underweight	US
Real Estate	**3.5%**	**Overweight ↑**	**EM**
Technology	**18.0%**	**Overweight**	**EM**
Telecommunications	**3.8%**	**Neutral ↑**	**Japan**
Utilities	**3.7%**	**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

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), 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 and high-yield spreads are based upon our view of the economic cycle (as are forecasts of credit losses). Coupon 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 first 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 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). The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1st 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

Methodology, data and sources for long-term US equity index and Shiller PE (Figures 1 and 2)
We have calculated a total return index for broad US stocks based on index and dividend data from US academic Robert Shiller and 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.

The Shiller PE is a price to earnings ratio constructed by dividing price by the average earnings per share in the previous 10 years (with both numerator and denominator adjusted for inflation). It is what is commonly known as a cyclically-adjusted PE ratio. It is constructed by US academic Robert Shiller. Data is monthly from 1881 (source Robert Shiller – see here).

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