The Big Picture
Global Asset Allocation 2021 Q4

Quarterly update
From Invesco's Global Market Strategy Office

For professional/qualified/accredited investors only

19 September 2021
Data as of 31 August 2021 unless stated otherwise

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Global Asset Allocation 2021 Q4

Despite another good three months for cyclical assets, we are sticking with them within our Model Asset Allocation. We make minimal changes, with a reduction in the allocation to high-yield credit (to Underweight) and a corresponding increase to equities (going further Overweight). Real Estate and equities remain our favoured cyclical assets, while cash is our diversifier of choice. We boost allocations to emerging market (EM), Japanese and UK assets, with an overall preference for UK and EM assets.

Model asset allocation

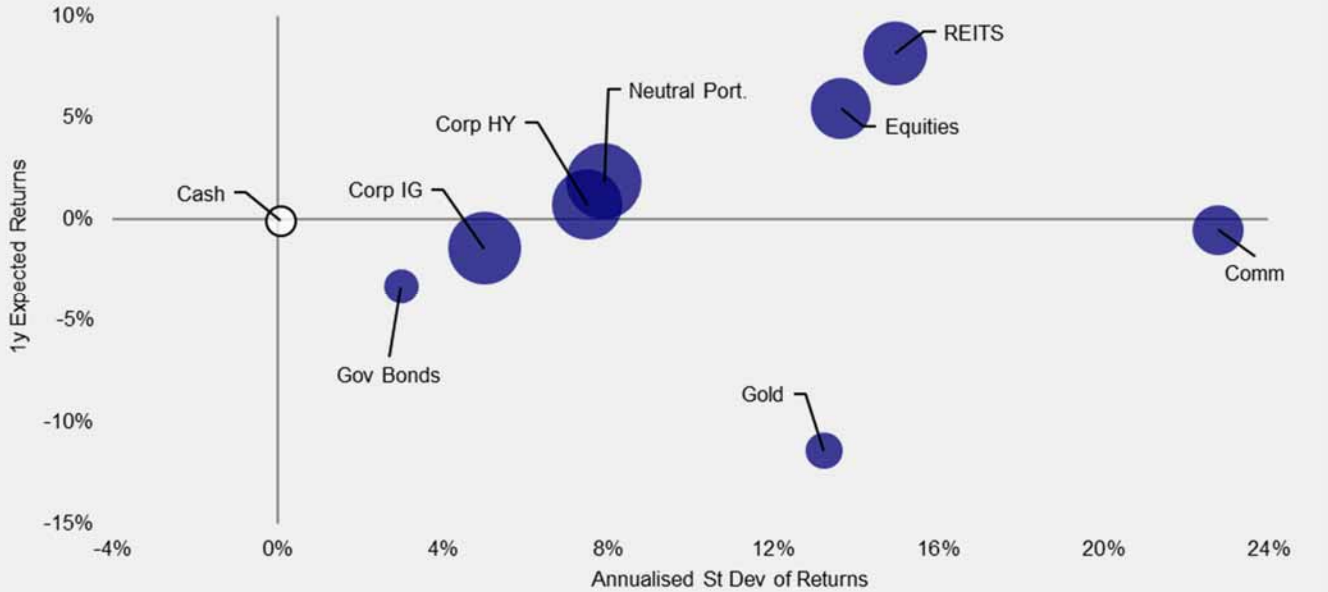
In our view:

- Equities offer good returns as the global economy recovers. We go further Overweight.
- Real estate (REITS) has the potential to produce the best returns. We stay at Maximum.
- Corporate high-yield (HY) is now less attractive. We reduce to Underweight.
- Corporate investment-grade (IG) now holds no advantage over cash. We stay at zero.
- Government debt outlook is poor. We remain Underweight.
- Cash returns are low but stable and de-correlated (it is our diversifier of choice). We stay at Maximum.
- Commodities are supported by the cycle but some are expensive. We remain Underweight.
- Gold is threatened by rising yields and a stronger USD. We remain at zero.
- Regionally, we favour the UK and EM (and are Underweight US assets)

Our best-in-class assets (based on 12m projected returns)

- UK equities
- EM real estate
- EM government bonds
- USD cash

Figure 1 – Projected 1-year returns for global assets and neutral portfolio



Based on annualised local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in **Figure 3**. As of 31 August 2021. **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers. Source: BAML, MSCI, GSCI, FTSE, Refinitiv Datastream and Invesco

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Summary and conclusions: More equities; less high-yield

We stick with the preference for cyclical assets but switch from HY to equities

Despite another good three months for cyclical assets, we are sticking with them within our Model Asset Allocation. We make minimal changes, with a reduction in the allocation to high-yield credit (to Underweight) and a corresponding increase to equities (going further Overweight). Real Estate and equities remain our favoured cyclical assets, while cash is our diversifier of choice. We boost allocations to emerging market (EM), Japanese and UK assets, with an overall preference for UK and EM assets.

Economies appear to be stumbling but we think the cycle has legs

After rebounding strongly, the global economy is showing signs of hesitancy. We think this is a transition to a more sustainable rate of growth, rather than the start of a recession but suspect that financial markets could experience some volatility until that is confirmed. If anything, we feel that central banks are now starting to withdraw the generous support offered during the pandemic.

Equity dividend yields have risen despite the climb in prices

Cyclical assets have again outperformed during the most recent three months but valuations have not deteriorated (while fixed income yields have fallen). In fact, global equity dividend yields have risen slightly, suggesting that dividends have been growing more rapidly than equity prices.

Underlying assumptions

Underpinning our projections for the next 12 months are the following assumptions:

- Central bank rates remain stable and asset purchases continue but tapering starts
- Yield curves steepen as tapering approaches; US yields rise more than most
- IG and HY spreads approach historical tights and default rates decline
- USD strengthens as bond yield spreads move in its favour
- Equity dividends continue to rebound but yields rise slightly (with bond yields)
- Real estate (REIT) dividends rebound and yields stabilise
- Commodities consolidate recent gains (and gold falls due to rising yields/dollar)

Strong growth brings the risk of central bank tapering over the next 12 months; 10-year treasury yield to rise to 2.20%

The full set of assumptions are shown in **Appendix 4**, while the resultant market targets are shown in **Figure 21** and projected returns for global assets are shown in **Figure 2**. Perhaps the most important forecast is that the 10-year US treasury yield will rise to 2.20% and that consequently the US dollar will strengthen slightly. This suggests to us a re-emergence of some earlier trends (outperformance of value versus growth, weakness of gold and defensive fixed income assets). However, it also suggests that commodity prices may find it harder to advance from here (especially given that many of them are now expensive, in our view) and that EM assets may consequently face a headwind, despite being among our favourites.

We expect the highest return on REITS

The 12-month asset class projections shown in **Figures 1** and **2** suggest we believe the best returns will be achieved on Real Estate (REITS). Not only are REIT yields higher than for other assets but global REIT dividends have only just bottomed and are at only 80% of the December-2019 level, while equity dividends are almost back to where they were. Despite the fundamental challenges presented by the pandemic, we suspect that REIT dividends will now outstrip those for equities.

And the optimisation process favours real estate, along with cash

Not surprisingly, given the information in **Figure 1**, our optimisation process favours cash and real estate and accords zero allocations to gold, investment-grade (IG) and high-yield (HY) credit (see **Figure 23**). It also suggests a zero allocation to commodities, no doubt partly due to the volatility of the asset class. The results are less clear for equities and government bonds and depend on whether we maximise the Sharpe Ratio or returns.

HY reduced to Underweight

In determining our Model Asset Allocation, we follow the optimisation results where they are clear cut, except that we have chosen to reduce **HY** to an Underweight 2% (from the previous 5%, which is also Neutral), rather than go all the way to zero (see **Figure 2**). Though the cycle may still favour HY, spreads are tight and we expect benchmark government yields to rise. That we have maintained any HY allocation at all is because we were already zero allocated to IG credit and did not want to eliminate all credit assets. **Figure 3** shows the detailed Model Asset Allocation and it can be seen that the HY allocation remains focused in the US (because we expect slight dollar strength).

Equities increased to further Overweight, with additions to Japan and EM

The question is then which assets to boost. Counter to what we expected when we started this process, we have chosen to add to the **equities** allocation. We find that the rise in equity prices over recent months has been more than justified by the rise in earnings and dividends. Hence, valuations relative to fixed income assets have actually improved, in our opinion, and we are choosing to rotate from one cyclical asset (HY) to another (equities). The allocation to equities is consequently raised from 51% to 54%, versus a Neutral 45% (we would have added to real estate but are already at the upper end of our policy range). Specifically, we have added to equities in Japan (to further Overweight) and in EM (to the maximum allowed 10% -- see **Figure 3**). We remain Underweight US equities, a market that we find expensive and that we think will suffer relative to others as bond yields rise. Also, despite the addition to EM equities, we remain Neutral on Chinese stocks.

Real estate remains at the maximum allowed but UK boosted at expense of US and Eurozone

Real estate remains our favourite cyclical asset category. It may suffer a loss of demand for office and retail space as a result of Covid-19 but we find the yields to be attractive (a lot of bad news is in the price, in our opinion) and expect growth to resume as economies recover. We remain at the maximum 16% allocation, but have boosted the UK to the maximum allowed, while reducing exposure to the US and the Eurozone (**Figure 3** shows the regional detail). **Appendix 2** shows that US REITS have performed very well.

Among other cyclical assets, we remain Underweight **commodities**, with a small 1% position entirely dedicated to the agriculture sub-group which we find to be good value.

Bonds remain out of favour

Within the bond segment, we continue to have a zero allocation to **IG** and are sticking to an Underweight allocation to **government bonds**, within which EM is the only region that is Overweight.

Cash is favoured among defensive assets

Cash remains our defensive asset of choice (low returns, low volatility and low correlation place it on the efficient frontier). We think **gold** will struggle if treasury yields and the dollar rise, so we maintain a zero allocation.

UK & EM favoured

From a regional perspective, we have switched the emphasis within Europe (from Eurozone to UK) and our preferred regions across all assets are now the UK and EM.

What if we are wrong?

We consider a number of ways in which we may be wrong about the outlook, the obvious ones being that recession arrives sooner than we thought or that conversely inflation proves to be more than a transitory phenomenon. We outline the assets we would prefer under each of those outcomes. We also consider how a number of geopolitical issues could impact markets: political volatility in Germany, negotiations with Iran, Afghanistan centred tensions (including the potential re-emergence of Donald Trump), China-US rivalry and COP-26 failure. Needless to say, gold features among assets we believe could receive a boost from many of these scenarios.

Figure 2 – Expected total returns (annualised, local currency) and Model Asset Allocation*

	Expected 1-year Total Return	Neutral Portfolio	Policy Range		Model Asset Allocation	Position Vs Neutral
Cash & Gold	-5.8%	5%	0-10%		10%	Overweight
Cash	-0.1%	2.5%	0-10%		10%	Overweight
Gold	-11.4%	2.5%	0-10%		0%	Underweight
Government Bonds	-3.3%	25%	10-40%		17%	Underweight
Corporate IG	-1.4%	10%	0-20%		0%	Underweight
Corporate HY	0.7%	5%	0-10%	↓	2%	Underweight
Equities	5.4%	45%	25-65%	↑	54%	Overweight
Real Estate (REITS)	8.2%	8%	0-16%		16%	Overweight
Commodities	-0.5%	2%	0-4%		1%	Underweight

*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers. There is no guarantee that these views will come to pass. Source: Invesco Global Market Strategy Office

Model asset allocation*

Figure 3 – Model asset allocation (19/06/2021)

	Neutral	Policy Range		Allocation	Position vs Neutral	Hedged	Currency
Cash Equivalents	**5%**	**0-10%**		**10%**			
Cash	2.5%			10%			
Gold	2.5%			0%			
Bonds	**40%**	**10-70%**		**19%**			
Government	25%	10-40%		**17%**			
US	8%			5%			
Europe ex-UK (Eurozone)	7%			4%			
UK	1%			1%			
Japan	7%			4%			
Emerging Markets	2%			3%			
China**	0.2%			0%			
Corporate IG	10%	0-20%		0%			
US Dollar	5%			0%			
Euro	2%			0%			
Sterling	1%			0%			
Japanese Yen	1%			0%			
Emerging Markets	1%			0%			
China**	0.1%			0%			
Corporate HY	5%	0-10%	↓	**2%**			
US Dollar	4%		↓	2%			
Euro	1%			0%			
Equities	**45%**	**25-65%**	↑	**54%**			
US	25%			18%			
Europe ex-UK	7%			12%			
UK	4%			8%			
Japan	4%		↑	6%			
Emerging Markets	5%		↑	10%			
China**	2%			2%			
Real Estate	**8%**	**0-16%**		**16%**			
US	2%		↓	3%			
Europe ex-UK	2%		↓	3%			
UK	1%		↑	3%			
Japan	2%			4%			
Emerging Markets	1%			3%			
Commodities	**2%**	**0-4%**		**1%**			
Energy	1%			0%			
Industrial Metals	0.3%			0%			
Precious Metals	0.3%			0%			
Agriculture	0.3%			1%			
Total	**100%**			**100%**			
Currency Exposure (including effect of hedging)							
USD	48%		↓	34%			
EUR	20%		↓	21%			
GBP	7%		↑	13%			
JPY	15%		↑	16%			
EM	9%		↑	16%			
Total	**100%**			**100%**			

*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. **China is included in Emerging Markets allocations. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Currency exposure calculations exclude cash. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers. Source: Invesco Global Market Strategy Office

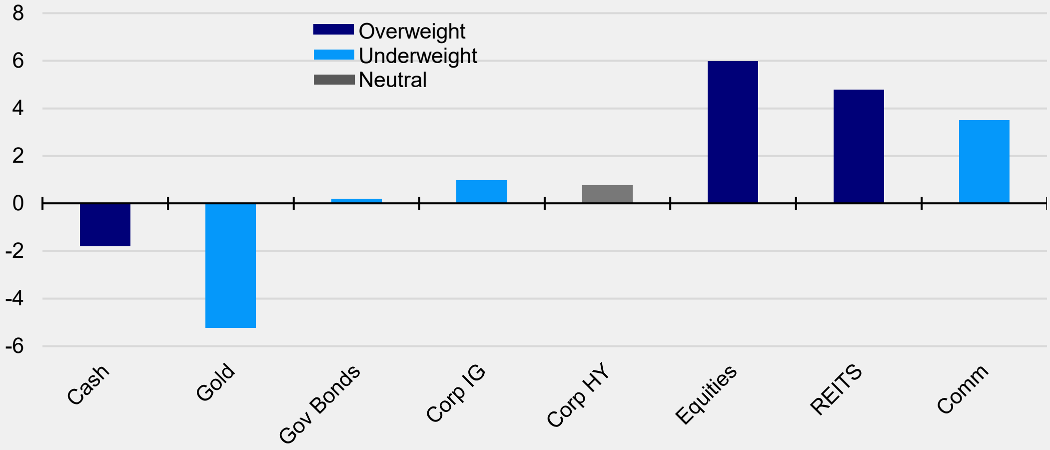
Since we last wrote

When we published our 2021 Q3 edition, we chose to maintain our bias towards cyclical assets within our Model Asset Allocation, though we worried about how much good news was already in the price (see More equities, less commodities published on 17 June 2021). As suggested by the title of that document, we added a small amount to the equities allocation by reducing commodities. We also added to UK allocations (via UK equities) and remained Overweight Europe and Emerging Markets (EM), though Underweight China. **Figure 4** shows how global assets have performed since then (as of 31 August 2021). Full regional detail is shown in **Appendix 2**.

Cyclical assets have outperformed again, but EM lagged

Most assets delivered positive returns in USD but returns were strongest for equities, real estate (REITS) and commodities. Defensive assets such as gold cash and government bonds were among the worst performers. Though our broad preference for cyclical assets served us well, our regional preferences didn't work so well, with **Appendix 2** showing that EM assets were often laggards.

Figure 4 – Global asset class total returns since 31/05/21 (USD, %) *

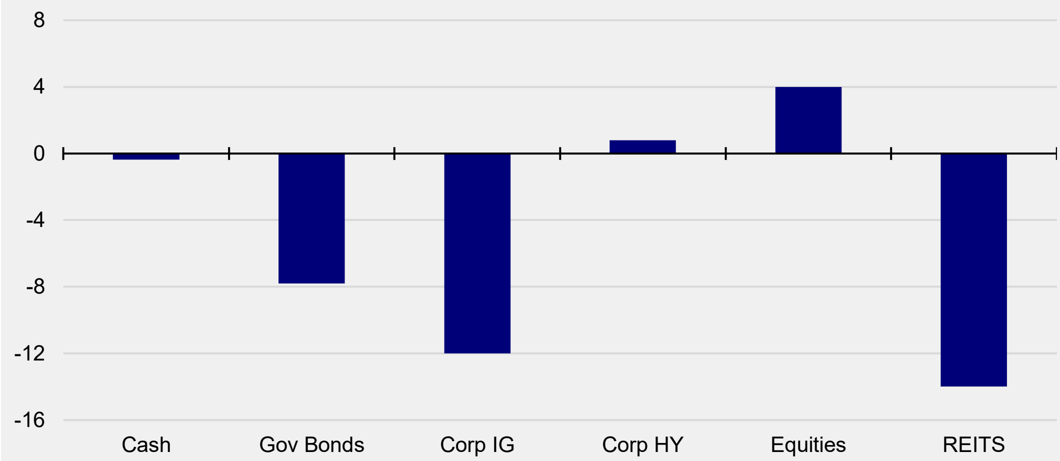


*31/05/21 to 31/08/21. Colours represent model allocations during this period. See appendices for definitions and disclaimers. **Past performance is no guarantee of future results**. Source: Refinitiv Datastream, Invesco

Despite the price gains, equity yields have risen

Interestingly, asset class yields have not necessarily moved in favour of defensive assets (see **Figure 5**), with the strong economic rebound boosting equity dividends, for example, thus allowing a rise in dividend yields despite strong price gains. The question now is for how long that can continue. We remain bullish on cyclical assets but use later sections to examine some potential pitfalls.

Figure 5 – 3m change in global yields (bps)



From 31/05/21 to 31/08/21. See appendices for definitions and disclaimers. **Past performance is no guarantee of future results**. Source: Refinitiv Datastream and Invesco

Taking a step back: focusing on the next decade using Invesco's CMAs

Invesco's 10-year CMAs have been published

Before considering projections for the next year, it may be instructive to use longer term return projections as a guide. Invesco Investment Solutions have just published their 10-year capital market assumptions. **Figure 6** shows their projected returns for global asset classes in a range of currency bases (their framework differs from ours, so we have had to adapt some of their categories – for instance, we use their US Treasury Short category to represent cash and precious metals for gold). A more detailed version showing regional projections is contained in **Appendix 3**.

Figure 6: Invesco 10-year capital market assumptions (global assets, % ann.)

	USD	EUR	GBP	CHF
Cash & Gold	1.5	-0.1	0.8	-0.2
Cash - US Treasury Short	0.8	-0.8	0.1	-0.9
Gold	2.3	0.6	1.5	0.6
Government Bonds	2.2	0.5	1.4	0.5
Corporate IG	1.9	0.2	1.1	0.2
Corporate HY - US HY	2.8	1.2	2.1	1.1
Equities	6.7	5.0	5.9	5.0
Real Estate (REITS)	7.7	6.1	7.0	6.0
Commodities	4.7	3.1	4.0	3.0

Note: Estimates as of 30 June 2021 and based on the 10-year capital market assumptions published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (September 2021). The USD version of the CMAs is reproduced in Appendix 3. The above table uses the geometric expected return version for global asset classes ("gold" is based on the projections for precious metals and the "Cash & Gold" category shows the average of those two assets). These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** Source: Invesco Investment Solutions

Real estate, equities and government bonds dominate 10-year CMA based optimal portfolios

Not surprisingly, the further we move along the risk spectrum, the higher the projected returns. There is one exception: commodities. The latter is the only cyclical asset class that hardly features in the optimal solutions (see **Figure 7**). Though results vary by currency base and depend on what is maximised (Sharpe Ratio or returns), there are some broad themes: real estate is maximised in nearly all cases, while IG, HY and commodities are mainly zero allocated; equities are usually Overweight, while government bond allocations are mixed. The combination of cash and gold is often either maximum or minimum allocated (but they are rarely present together). Let's see how shortening the time horizon and allowing for the cycle impacts the conclusions.

Figure 7: Optimised global allocations based on Invesco's 10-year CMA projected returns

	Neutral Portfolio	Policy Range	Maximise Sharpe Ratio				Maximise Return			
			USD	EUR	GBP	CHF	USD	EUR	GBP	CHF
Cash & Gold	5%	0-10%	10%	5%	10%	10%	0%	5%	0%	10%
Cash	2.5%	0-10%	10%	0%	4%	0%	0%	0%	0%	0%
Gold	2.5%	0-10%	0%	5%	6%	10%	0%	5%	0%	10%
Government Bonds	25%	10-40%	40%	19%	27%	14%	38%	33%	10%	23%
Corporate IG	10%	0-20%	4%	0%	0%	0%	0%	0%	0%	0%
Corporate HY	5%	0-10%	0%	0%	0%	0%	0%	0%	5%	0%
Equities	45%	25-65%	32%	60%	47%	60%	46%	46%	65%	51%
Real Estate (REITS)	8%	0-16%	14%	16%	16%	16%	16%	16%	16%	16%
Commodities	2%	0-4%	0%	0%	0%	0%	0%	0%	4%	0%

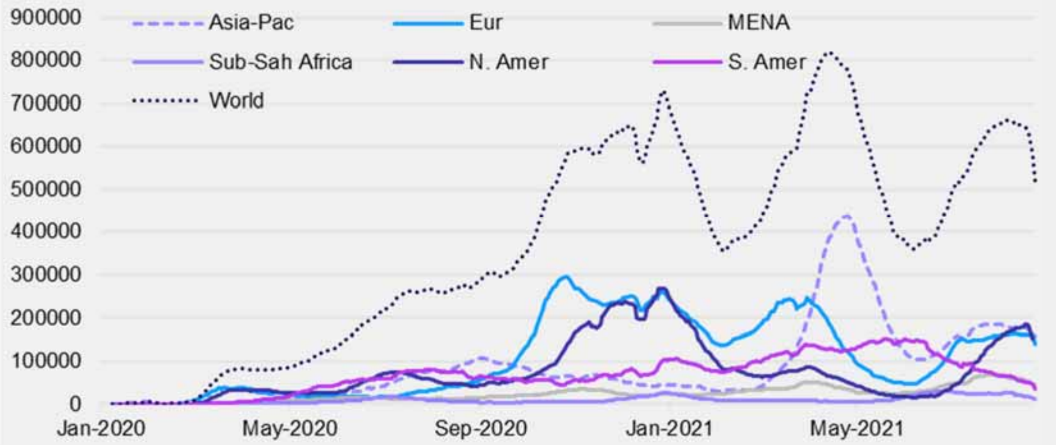
Note: optimisations are based on the 10-year projected returns published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (September 2021), as shown in **Figure 6** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance matrices (for each currency). "Gold" is based on the projections for precious metals and the "Cash & Gold" category shows the sum of allocations for those two assets). "Maximise Sharpe Ratio" optimisations are performed by maximising the Sharpe Ratio subject not violating the constraints implied by the policy ranges shown in the table. "Maximise Return" optimisations are performed by maximising return subject to the policy range constraints but also subject to the standard deviation of returns not exceeding that of the Neutral Portfolio (as shown in **Figure 3**). Though based on the projected returns provided by Invesco Investment Solutions, these optimal allocations do not represent their views, nor those of any other investment team at Invesco. See appendices for definitions, methodology and disclaimers.
Source: Invesco Investment Solutions, Invesco

The latest Covid resurgence is fading

The global economy has shifted to a lower rate of growth

The resurgence of Covid cases in many parts of the world appears to be coming under control (see **Figure 8**). Though vaccine rollouts appear to have weakened the link between infections and hospitalisations/deaths, this resurgence had threatened economic performance in some parts of the world that had previously managed the pandemic with little recourse to lockdowns (Japan and other Asia-Pacific countries, for example). Nevertheless, this round of lockdowns has been less dramatic than in 2020.

Figure 8 – Daily Covid-19 cases (7-day moving average)



Based on daily data from 23 January 2020 to 7 September 2021
Source: Reuters and Invesco

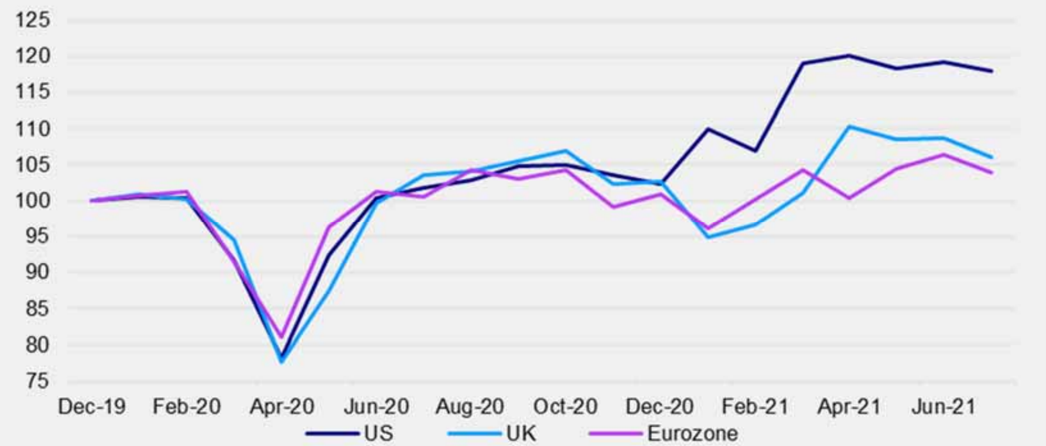
But economies appear to be levelling off

However, even in the US and Europe, the pace of growth appears to have slowed versus that seen earlier in 2021. **Figure 9** shows that retail sales on either side of the Atlantic have levelled-off in recent months (note that US data is in value terms, while that for the UK and Eurozone is in volumes, which may explain some of the apparent lag in Europe, especially given the sharp rise in US consumer prices).

We don't think this cycle is yet over…

Does this indicate the end of this economic cycle or just a pause? We consider it more likely to be the latter, as the global economy transitions from the ultra-high growth rebound phase to a more "normal" trajectory. In support of this hypothesis we cite a number of factors: first, the fact that some of that earlier growth came from one-off fiscal support (especially in the US); second, supply-chain issues are causing shortages in some key products, while consumer spending is broadening from products to "experiences"; third, personal savings rates remain historically high (9.6% in the US in July, for example, a rate rarely seen in the two decades prior to the pandemic) and, finally, central banks remain extremely supportive of their economies.

Figure 9 – Retail sales since December 2019 by region (Dec 2019 = 100)



Note: Monthly sales data from December 2019 to July 2021. US data is the value of retail sales, UK and Eurozone is volume data. Source: Refinitiv Datastream, Invesco

…if history is any guide, there is still some way to go

We noted in the previous edition that over the last fifty years, G7 economic upswings have tended to last for at least five years. That precedent and the points made above make us comfortable that more is yet to come from this cycle, even if we expect occasional moments of doubt, especially as we transition to that “normal” trajectory.

But we wouldn’t be surprised to see market volatility…

However, any deceleration in the global economy is likely to bring uncertainty and market volatility, as investors assess what is happening. As we have often noted, equity market volatility tends to be higher when economic growth is lower, which we presume is related to the slowing of profits. Hence, it is not surprising that, despite markets continuing to trend higher, recent weeks have witnessed more uncertainty, especially given the strong performance of cyclical assets over the last 16-17 months.

…especially as the Fed considers tapering its asset purchases

Given that our analyses find that equity volatility (measured by the VIX index) is often highest at this time of year, we would not be surprised to see choppy markets over the coming months, especially as the Fed considers whether or not to taper its assets purchases. Though we expect the Fed to start that tapering process sometime this year, we do not believe that will derail riskier assets for any sustained period, of which more later. We also note that the ECB’s announcement of tapering (though they don’t call it that) on 9 September 2021 received little in the way of adverse market reaction.

Hence, despite some concerns about volatility in the short term, we still consider that we are somewhere between the early and mid-expansion phases and therefore have a bias towards the sort of cyclical assets that our historical analyses suggest tend to do well in those parts of the cycle (see “Preferred assets” in **Figure 10**). However, we are not the only ones to believe this, judging by the asset performance data shown in **Figure 4** and **Appendix 2** (markets appear to have priced in an optimistic scenario).

Figure 10 – The economic and asset class roller coaster

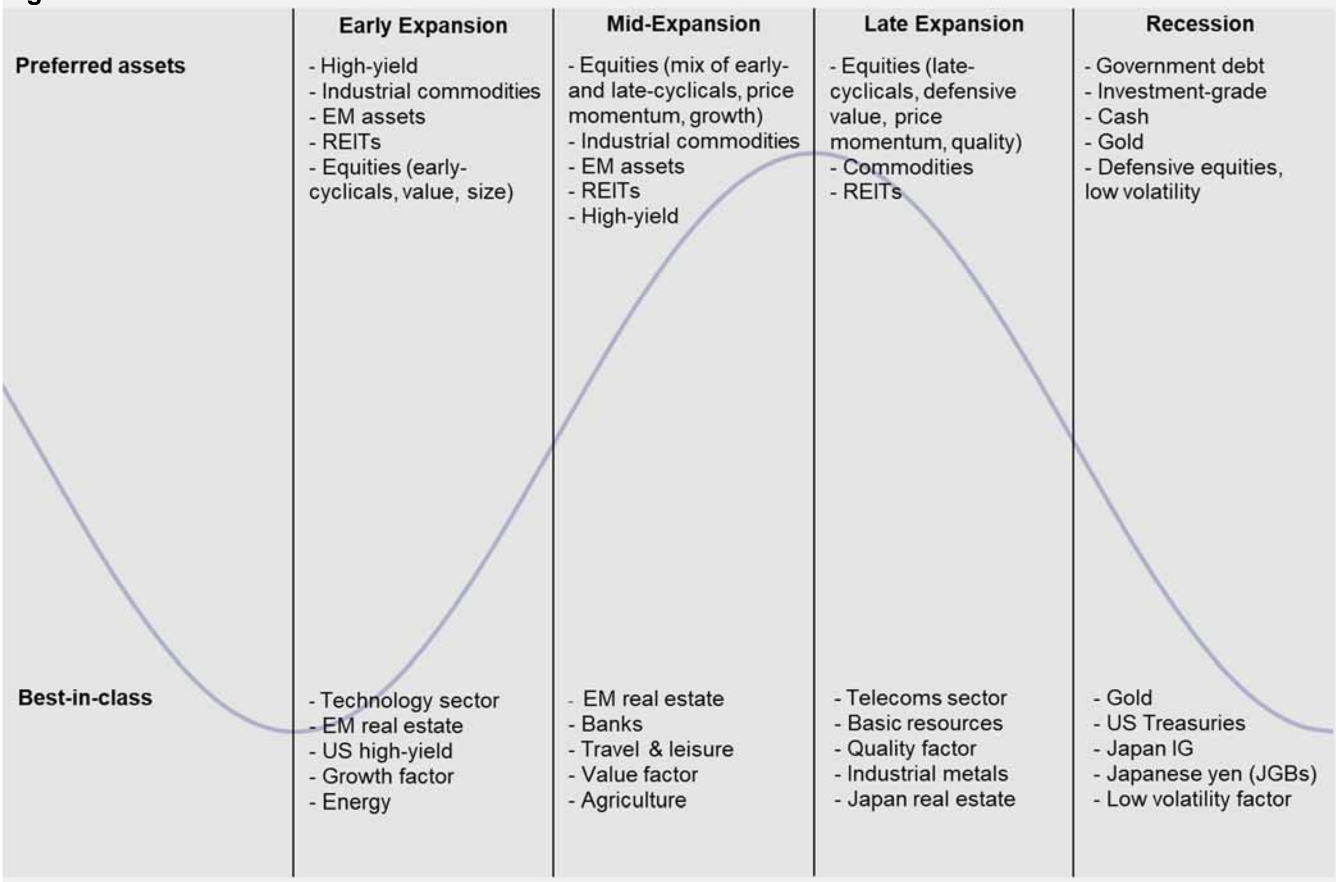


Chart shows a schematic portrayal of the global economic cycle. The selection of preferred assets is based on our research published in “Asset allocation in pictures” in November 2017. “Best-in-class” shows our view of which parts of those preferred assets we would favour at each stage of the cycle based on current valuations and projected returns. See appendices for definitions, methodology and disclaimers.
Source: Invesco Global Market Strategy Office

Figure 11 – Global risk appetite and the global business cycle

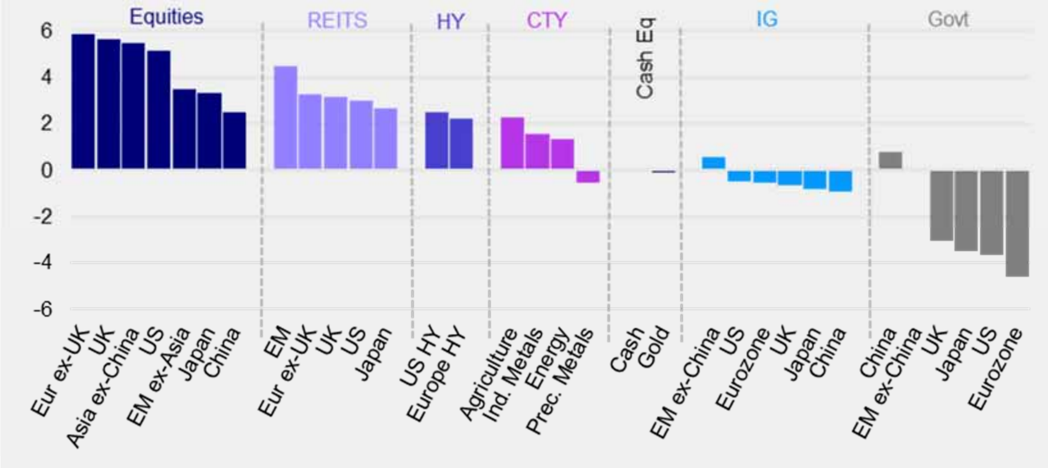
Note: monthly data from January 1992 to August 2021. Both Global LEI (Leading Economic Indicator) and GRACI (Global Risk Appetite Cycle Indicator) are provided by Invesco Investment Solutions (IIS). Global LEI is a weighted average of leading indicators for 23 countries (both developed and emerging). GRACI is a measure of relative risk-adjusted performance between riskier and safer asset classes (it measures how much investors have been rewarded, on average, for taking an incremental unit of risk in global financial markets on a trailing medium-term basis). A rising index signals improving market sentiment and vice-versa. **Past performance does not guarantee future results**. Source: Federal Reserve, Barclays, BEA, Bloomberg L.P., Citigroup, JP Morgan, Macrobond, Moody's and Invesco Investment Solutions

Further confirmation is provided by the Global Risk Appetite Cycle Indicator (GRACI) shown in **Figure 11** (provided by Invesco Investment Solutions). This measures the reward earned for taking extra units of risk and has followed the rebound in the global economy (measured by leading indicators). GRACI is now close to post-GFC peaks, though we also note that during recent cycles it has remained elevated for some time.

The GMS team still favours cyclical assets in EM and Europe

Invesco's Global Market Strategy Office (GMS) continues to prefer cyclical assets. **Figure 12** shows the outcome of a survey in which GMS team members (including the authors of this document) expressed their views about relative performance over the next 12 months. Apart from a clear preference for equities, real estate (REITS), HY and commodities versus cash equivalents, IG and government debt, the team also favours European and EM assets. However, one of the big changes since last time is the waning enthusiasm for the underperforming corporate assets (equity and IG) of China.

Figure 12 – The wisdom of the GMS crowd (asset preferences for the next year)



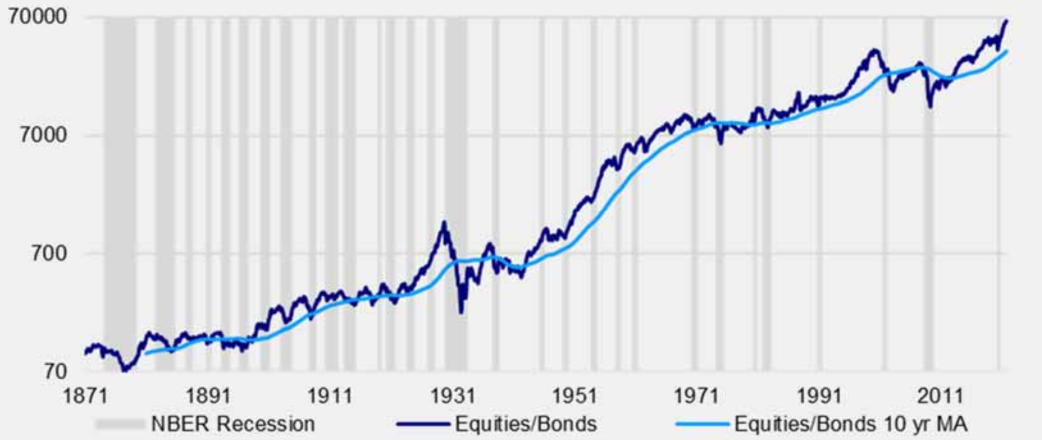
The chart shows the opinions of the Global Market Strategy Office (GMS -- see back cover page for membership) about asset returns over the next 12 months in USD. Each member of the team was asked to give a score from -10 to +10 for each asset (-10 being large underperformance and +10 being large outperformance versus the average of all assets). Those scores are then averaged across members of the team and organised by asset category according to the average score across regions and then ranked within each category. Abbreviations: Cash Eq. is cash equivalents; CTY is commodities; Asia ex-China includes only emerging markets; Ind. Metals is industrial metals; Prec. Metals is precious metals. There is no guarantee that these views will come to pass. Source: Invesco Global Market Strategy Office

Equities have outperformed bonds most of the time

From economic to market cycles

If we consider that the most important decision is the choice between equities and bonds, and that the prevailing tendency is for equities to outperform bonds (see **Figure 13**), the question becomes when to temporarily switch from equities (and other cyclical assets) to bonds.

Figure 13 – US equities versus bonds and recessions since 1870 (log scale)



Notes: based on monthly data from January 1870 to August 2021. "Equities/Bonds" shows a broad US equity index divided by a US treasury index (both in total return format), with the index set to 100 in January 1870 (see appendices for definitions and data sources). "Equities/Bonds 10yr MA" is a 10-year moving average of the Equity/Bond index. Shaded areas show periods of US economic recession as defined by the National Bureau of Economic Research. **Past performance is no guarantee of future results**.
Source: BoAML, Robert Shiller, Refinitiv Datastream and Invesco

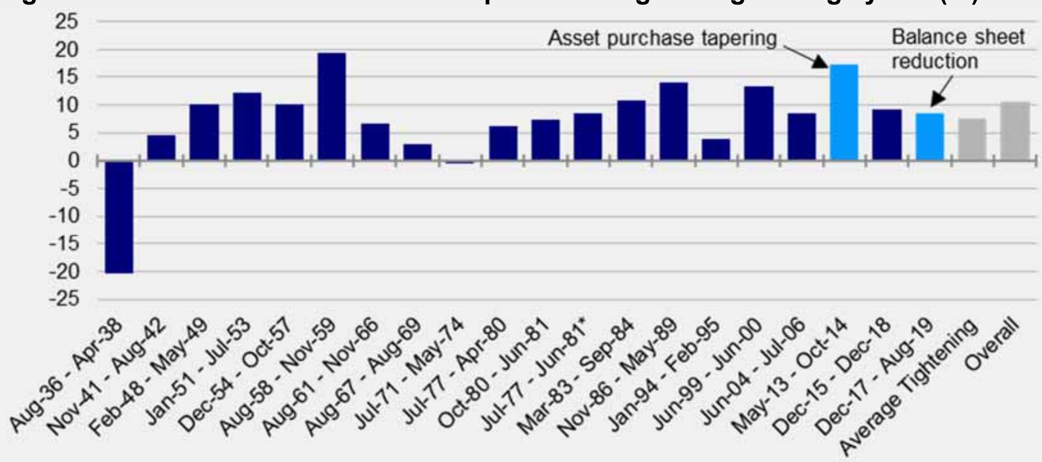
Interruptions to that trend are often associated with recession

Luckily, **Figure 13** gives a clue: many (but not all) interruptions to the outperformance of equities versus bonds coincide with economic recession. The bad news is that it tells us nothing about when recessions will occur. However, the previous analysis about the length of economic cycles is reassuring, especially when it is considered that after the most recent market disturbance (February/March 2020), there has been barely 18 months of equity market outperformance (these market cycles can last for decades).

Central banks are not a threat

Perhaps a tightening of central banks policies (from what we consider to be extremely loose settings in many developed countries) could pose a threat to cyclical assets but **Figure 14** offers some comfort on that front. As can be seen, Fed tightening cycles have historically tended to be associated with positive equity returns, even the more recent periods when tapering and balance sheet reduction have taken place.

Figure 14 – Ann. total returns on US equities during Fed tightening cycles (%)

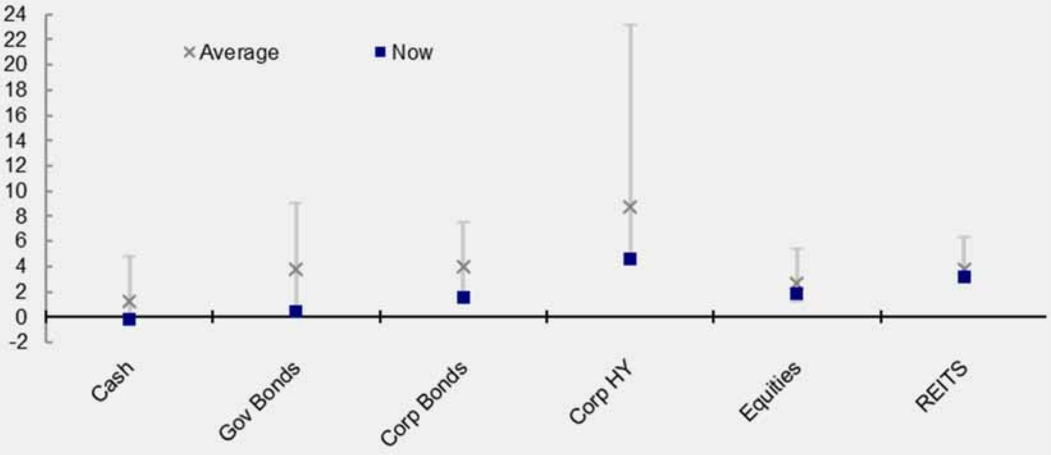


Based on monthly data from August 1936 to August 2021, the chart shows the annualised total return on a broad US equity index during periods of Fed tightening ("Overall" shows the returns over the full period considered). See appendices for detailed methodology, sources and disclaimers. **Past performance is no guarantee of future results.** Source: Robert Shiller, Federal Reserve, Refinitiv Datastream and Invesco

Low yields reduce the scope for future returns

Nevertheless, it is hard to escape the conclusion that valuations are stretched across most assets, with yields at the lower end of historical ranges (see **Figure 15**). This suggests to us that, even if we favour cyclical assets, the return potential is more limited than it would otherwise have been.

Figure 15 – Global asset class yields within historical ranges (%)



Start dates are cash 1/1/01; govt bonds 31/12/85; corp bonds 31/12/96; corp HY 31/12/97; equities 1/1/73; REITs 18/2/05. See appendices for definitions, methodology and disclaimers. As of 31 August 2021.
Source: Refinitiv Datastream and Invesco

But growth can support economically sensitive assets

Of course, the returns on cyclical assets such as equities and real estate are not just about yield, they are also about growth. **Figure 16** suggests to us that there remains scope for dividends to recover. Global equity dividends are almost back to where they were at the end of 2019 (currently 95% of that level) and we suspect they will continue advancing as long the economic cycle is moving in the right direction.

REIT dividend growth may now exceed that for equities

Real estate (REIT) dividends have not enjoyed the same recovery. First, the low point was at 77% of the end-2019 level (83% in the case of equities) and the limited rebound so far leaves them at 80% of that end-2019 level. This may reflect the fact that demand for some categories of real estate has been weakened by the pandemic but we believe it offers more scope for growth in REIT dividends (as reflected in the assumptions shown in **Appendix 4**). That, added to the more generous yields available on REITS (global yield of 3.2% versus 1.9% on equities), explains why we continue to expect higher total returns on REITS over the next year.

Figure 16 – Global real estate (REIT) and equity dividends (31/12/19 = 100)

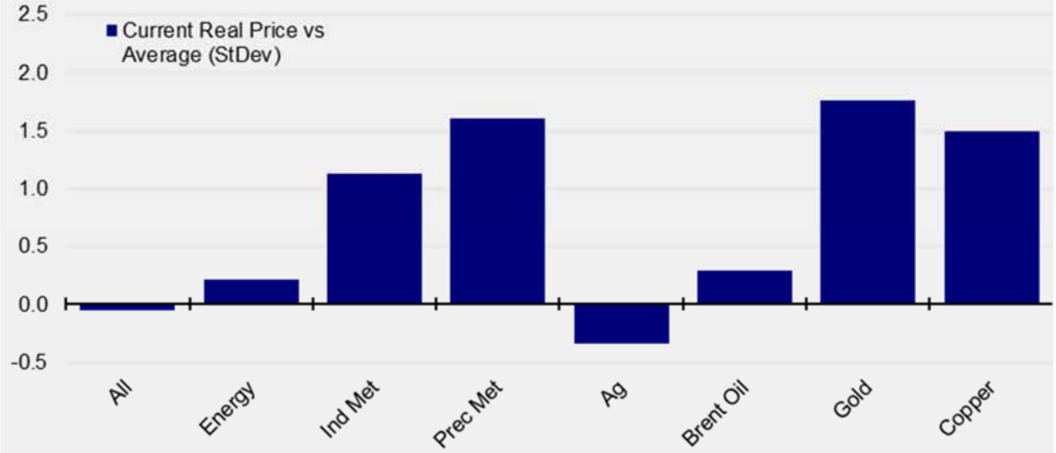
Note: daily data from 2 March 2010 to 9 September 2021. For both REITS and Equities, the level of dividends is calculated from the reported dividend yield and index levels (and indexed to 100 on 31 December 2019). REIT dividends are based on FTSE EPRA/NAREIT Global Index. Equity dividends are based on the Datastream World Index. Shaded area shows the Covid-19 pandemic period (from 1 February 2020 to today).
Source: FTSE EPRA/NAREIT, Refinitiv Datastream and Invesco

Commodities are no longer cheap

Commodities and currencies

Despite our view that commodities had started to look expensive, they performed well over the last three months (or rather the energy sub-category did, while precious metals struggled – see **Appendix 2**). Not surprisingly, then, most commodity groups still look more expensive than usual when measured in real terms (see **Figure 17**). The economic cycle may favour industrial commodities such as energy and industrial metals but they could no longer be described as cheap.

Figure 17 – Commodity prices deflated by US CPI versus historical norms

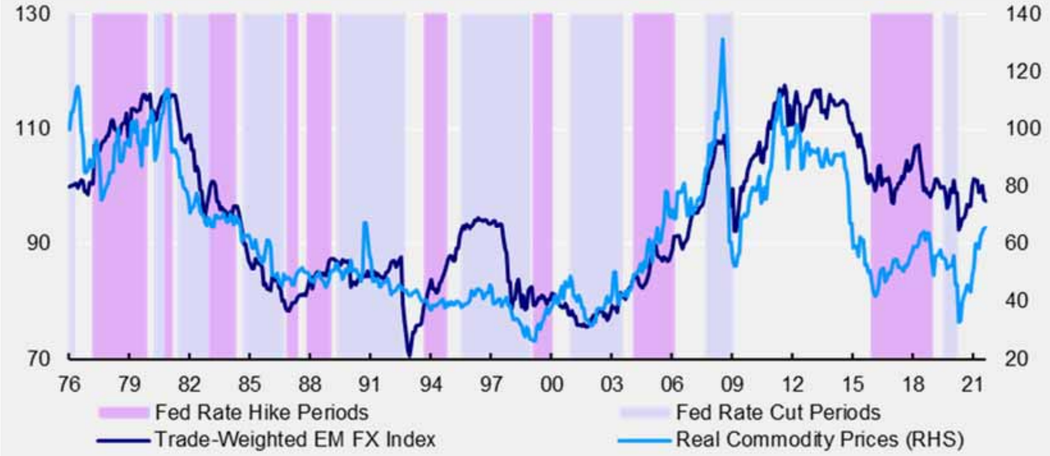


Abbreviations: "Ind Met" is industrial metals, "Prec Met" is precious metals and "Ag" is agriculture. Historical ranges start on: All and Ag 31/12/69; Energy 31/12/82; Ind Met 3/1/77; Prec Met 2/1/73; Brent 1/6/87; gold 1/1/74; copper 1/1/74. As of 31 August 2021. See appendices for definitions, methodology and disclaimers. Source: GSCI, Refinitiv Datastream, Invesco

This could limit the upside to EM currencies

Figure 18 suggests a good historical relationship between our EM FX index and commodity prices (though weakened in recent years, perhaps due to the growing importance of the Chinese yuan). It also suggests the oft-quoted negative correlation between Fed tightening and EM currencies is something of a myth. We believe the path of commodity prices is more important than the Fed in determining what happens to EM currencies and we expect little movement in the EM FX basket over the next year.

Figure 18 – Emerging market currencies, commodities and the Fed

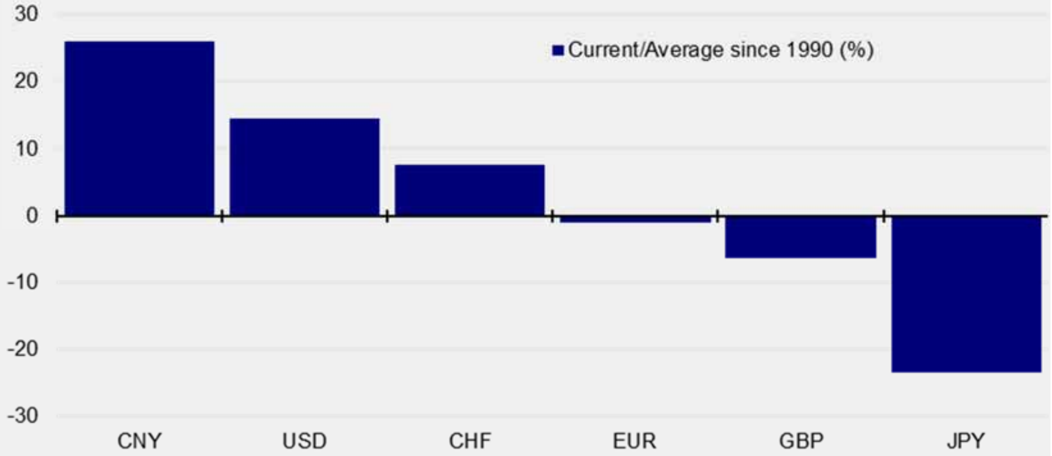


Note: monthly data from January 1976 to August 2021. Real trade-weighted EM FX index is a trade weighted average of national currencies versus US dollar (trade weights are based on total trade flows for each country). There are 18 currencies in the EM basket – those of China, Brazil, South Korea, Mexico, Singapore, India, Russia, Poland, Thailand, Turkey, Czech Republic, Malaysia, Indonesia, Hungary, Philippines, South Africa, Chile and Nigeria (ordered by size of trade flows). Real adjustments use national CPI indices versus that of the US. Real commodity price index is based on the S&P GSCI Commodity Spot Price Index, adjusted by the US CPI index. All indices rebased to 100 as of January 1976. As of 31 August 2021. **Past performance is no guarantee of future returns.**
Source: IMF, OECD, Oxford Economics, S&P GSCI, Bloomberg L.P., Refinitiv Datastream and Invesco.

JPY could get even cheaper if the "risk-on" mood prevails

When it comes to major currencies, the big valuation contrast remains that between CNY and JPY (see **Figure 19**). The Japanese currency continues to look cheap in real terms (compared to historical norms) but we wouldn't expect it to do well in the economic environment we predict for the next year (we view it as a so-called defensive currency).

Figure 19 – Real effective exchange rates*



*Currency indices measured against a trade-weighted basket of currencies and adjusted for inflation differentials. As of 31 August 2021. Source: OECD, Datastream and Invesco

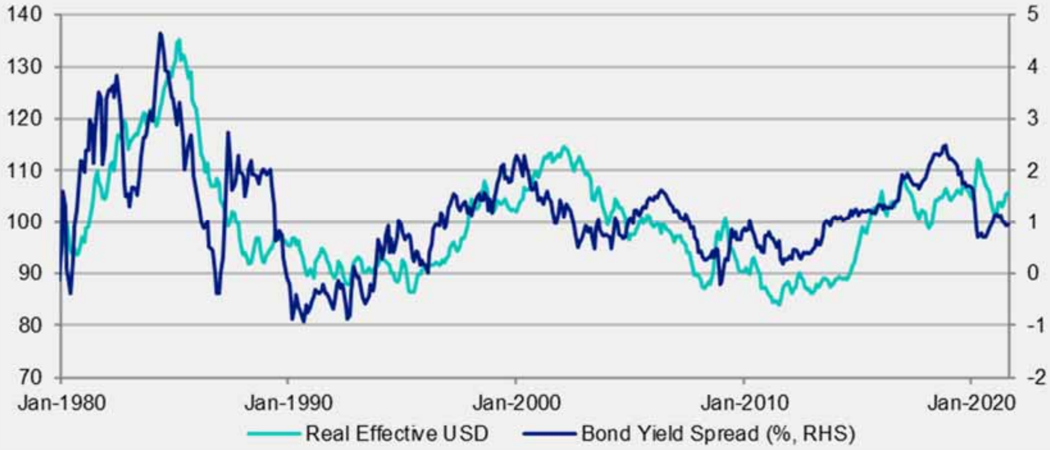
There are many reasons why the dollar could weaken…

Of course, the path of the US dollar has an impact on many other assets. It is not hard to find fundamental reasons why the dollar should weaken: first, a chronic current account deficit has led to the US accumulating a large negative net international investment position (the US is increasingly indebted to the rest of the world); second, a more expansive fiscal response to the Covid crisis than in other countries has worsened that current account deficit; third, the US central bank seems happier than many others to let its economy run hot, suggesting it may lag other central banks when it comes to tightening and, fourth, that may lead to higher inflation than elsewhere. Added to which, **Figure 19** suggests the dollar is above its normal value in real terms.

…but we still think it could strengthen slightly over the next 12 months

However, many of those factors are long term in nature and we believe that a more immediate driver of currencies is the movement of yield gaps (see **Figure 20** for the case of the dollar). Yield spreads had started to move in favour of the dollar earlier this year and, if that continues, the greenback could strengthen. We suspect it will strengthen by a small amount over the next 12 months but accept it is finely balanced.

Figure 20 – Real effective US dollar and yield spread



Note: monthly data from January 1980 to August 2021. Real effective US dollar is an index calculated by the OECD as the trade weighted value of the US dollar versus a basket of currencies and adjusted for CPI inflation differentials. Bond yield spread is the US 10-year treasury yield minus the average of the 10-year government yields of: Australia, Canada, France, Germany, Italy, Japan, Sweden and the UK. As of 31 August 2021. **Past performance is no guarantee of future returns**. Source: OECD, Refinitiv Datastream and Invesco.

Projections for the next year

We assume the global economic cycle has legs

As already outlined, our confidence in the economic cycle pushes us to assume that cyclical assets will continue to perform well but our enthusiasm is tempered by valuations that suggest a lot of good news is already in the price.

Central banks to taper

Underpinning our projections for the next 12 months are the following assumptions:

- Central bank rates remain stable and asset purchases continue but tapering starts
- Yield curves steepen as tapering approaches; US yields rise more than most
- IG and HY spreads approach historical tights and default rates decline
- USD strengthens as bond yield spreads move in its favour
- Equity dividends continue to rebound but yields rise slightly (with bond yields)
- Real estate (REIT) dividends rebound, pushing yields higher
- Commodities consolidate recent gains (and gold falls due to rising yields/dollar)

10-year treasury yield rises to 2.20% and dollar strengthens

The assumptions behind our projections are laid out in **Appendix 4**, while **Figure 21** shows how they translate into market targets. Perhaps the single most important forecast is that the 10-year US treasury yield will rise to 2.20% (based largely on an increase in the real yield as the Fed tapers its asset purchases). As seen earlier this year, this could have a number of important implications: a stronger dollar, underperformance of growth stocks (and markets heavily biased to that factor), downward pressure on gold, a tempering of enthusiasm for other commodities and renewed doubts about the ability of EM countries to finance their debt burdens.

We expect better returns on cyclical assets

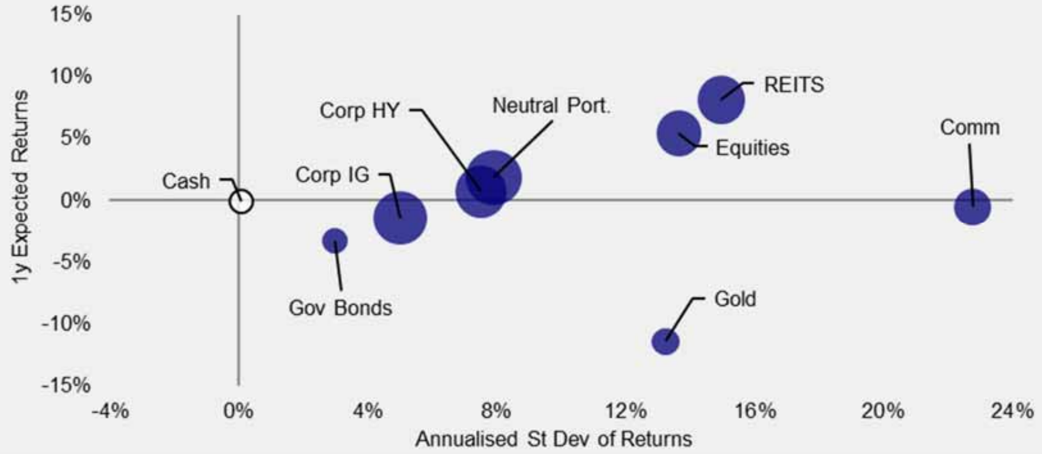
Though we believe the cycle will favour equity-like assets, we find that many of them require heroic assumptions to see them going higher. For example, though we expect a dividend rebound in the US, the dividend yield is extremely low and without assuming further declines, the projected returns will be limited (hence the flat forecast for the S&P 500). In general, we need to be generous with our equity market assumptions, while we achieve aggressive outcomes for REITS with what we think are conservative assumptions. Though we still imagine upside for cyclical assets, we believe the potential is less than it was at the start of the year.

Figure 21 – Market forecasts

		Current (31/08/21)	Forecast 12-month
Central Bank Rates	US	0.25	0.25
	Eurozone	-0.50	-0.50
	China	4.35	4.35
	Japan	-0.10	-0.10
	UK	0.10	0.10
10yr Bond Yields	US	1.28	2.20
	Eurozone	-0.42	0.15
	China	2.86	3.40
	Japan	0.02	0.15
	UK	0.72	1.10
Exchange Rates/US$	EUR/USD	1.18	1.15
	USD/CNY	6.46	6.60
	USD/JPY	110.04	112.00
	GBP/USD	1.38	1.35
	USD/CHF	0.91	0.95
Equity Indices	S&P 500	4523	4500
	Euro Stoxx 50	4196	4400
	FTSE A50	14759	16500
	Nikkei 225	28090	31000
	FTSE 100	7120	7800
Commodities (US$)	Brent/barrel	72	70
	Gold/ounce	1806	1600
	Copper/tonne	9528	10000

Notes: **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Figure 22 – Projected 12m return versus risk for global assets



Based on local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in **Figure 3**. As of 31 August 2021. **There is no guarantee that these views will come to pass**. See Appendices for definitions, methodology and disclaimers. Source: BAML, MSCI, GSCI, FTSE, Refinitiv Datastream and Invesco

We expect real estate to be the most remunerative asset; we are wary of gold

Our own return projections are roughly in line with the GMS rankings shown in **Figure 12**, with the best returns expected on equities, real estate, HY and commodities (see **Figure 22**). However, we are more optimistic on real estate as we believe that elevated REIT yields will mitigate against the upward pressure from bond yields. Conversely, we expect rising government yields to result in negative total returns on government debt and IG credit. The anticipated rise in US treasury yields, along with an associated appreciation of the US dollar, leads us to predict negative returns on gold.

Cash remains the diversifier of choice

Trying to construct a diversified multi-asset portfolio on the back of our projections requires more than simply choosing our favourite assets: after all, we may be wrong. We use an optimisation process to help do that and **Figure 23** shows the results. The outcome favours real estate and equities and cash is the diversifier of choice.

Equity allocation boosted at the expense of HY

We largely follow the suggestions of the optimiser when they are clear: we continue to be maximum allocated to real estate and cash, and zero allocated to IG and gold within our Model Asset Allocation. However, we have only reduced HY to an Underweight 2% (and not to the zero suggested by the optimiser). Elsewhere, we have boosted the allocation to equities (taking it further Overweight), while maintaining the underweight allocations to government bonds and commodities.

Figure 23 – Optimised allocations for global assets (using local currency returns)

	Neutral Portfolio	Policy Range	Projected Returns	Optimisations Sharpe Ratio	Optimisations Max Return	Model Asset Allocation*
Cash & Gold	5%	0-10%	-5.8%	10%	10%	10%
Cash	2.5%	0-10%	-0.1%	10%	10%	10%
Gold	2.5%	0-10%	-11.4%	0%	0%	0%
Govt Bonds	25%	10-40%	-3.3%	10%	30%	17%
Corporate IG	10%	0-20%	-1.4%	0%	0%	0%
Corporate HY	5%	0-10%	0.7%	0%	0%	↓ 2%
Equities	45%	25-65%	5.4%	64%	44%	↑ 54%
Real Estate	8%	0-16%	8.2%	16%	16%	16%
Commodities	2%	0-4%	-0.5%	0%	0%	1%

Notes: Based on local currency returns (for both the one-year projected returns and five-year historical covariance matrix). Cash is an equally weighted mix of USD, EUR, GBP and JPY. "Sharpe Ratio" shows the results of maximising the Sharpe Ratio. "Max Return" maximises returns while not exceeding the volatility of the Neutral Portfolio. *This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. See appendices for definitions, methodology and disclaimers. Source: Invesco Global Market Strategy Office

Model Asset Allocation: More equities; less high-yield

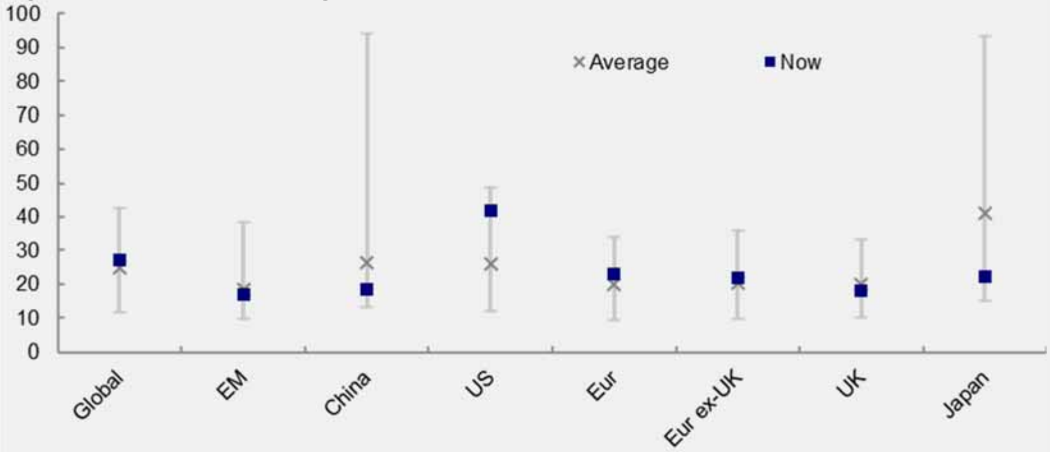
We add to equities and to UK, Japanese and EM exposure

Despite strong recent performance, we are sticking with our preference for real estate and equities (see **Figure 23**). In fact, we are adding to equities (going further Overweight), while reducing the allocation to high-yield (to Underweight). From a regional perspective we have added to UK, Japanese and EM allocations, while reducing exposure to the US and the Eurozone (see **Figure 3** for the full regional detail).

Rising dividends more than justify the rise in equity process and we go further Overweight

Rather than fleeing equities because prices have risen, we find those gains to be more than justified by the rebound in earnings and dividends (**Figure 5** shows there was actually a small rise in equity dividend yields). Hence, we are raising the **equity** allocation from 51% to 54% (versus the Neutral 45%). We have added to the EM position, taking it the maximum allowed 10%, though within that we remain Neutral on Chinese stocks. We have also added marginally to Japanese equities (to further Overweight). We remain at the maximum allowed allocation to UK equities and maintain an Overweight allocation to the Eurozone. We remain Underweight US equities, a market that we find relatively expensive – see **Figure 24**.

Figure 24 – Historical ranges for CAPEs



Note: CAPE = Cyclically Adjusted Price/Earnings and uses a 10-year moving average of earnings. Based on daily data from 3 January 1983 (except for China from 1 April 2004 and EM from 3 January 2005), using Datastream indices. As of 31 August 2021. Source: Refinitiv Datastream and Invesco

Real estate still at maximum but some regional changes

Our favourite cyclical asset remains **real estate** (we remain at the maximum 16%). Based on our regional REIT return projections we reduce allocations to the US and Eurozone and boost the UK, though EM remains our favourite region.

HY reduced to Underweight

Room to increase the equity allocation is created by reducing **HY** to an Underweight 2% (from the Neutral 5%). We project only a small positive return and our optimisation process finds that insufficient to justify a HY allocation (**Figure 23**), though we resist the temptation to go all the way to zero. We stick with the US market, though that has as much to do with currency considerations as with the regional HY projections (we expect the dollar to rise). Among other fixed income groups, we remain zero allocated to **IG** and Underweight **government bonds**, with EM being the only region that is Overweighted.

Cash is our diversifier of choice

Cash remains our diversifier of choice (we maintain the maximum 10% allocation). Though policy rates are low (and negative in some cases), the lack of volatility and low correlation to other assets explains why it is favoured by our optimisation processes (see **Figures 22** and **23**). **Gold** performed extremely well during 2020 but we worry that it will continue to decline if bond yields and the dollar rise (as we expect). We remain zero-weighted. Finally, we maintain an **Underweight** stance in **Commodities**.

UK and EM favoured

Regionally, we favour areas that we think have most to gain during an expansionary phase of the global economy: namely, EM and the UK. We continue to not hedge currency exposures – the dollar strength that we expect is not enough to justify such action, in our opinion.

Short economic cycle would favour defensives

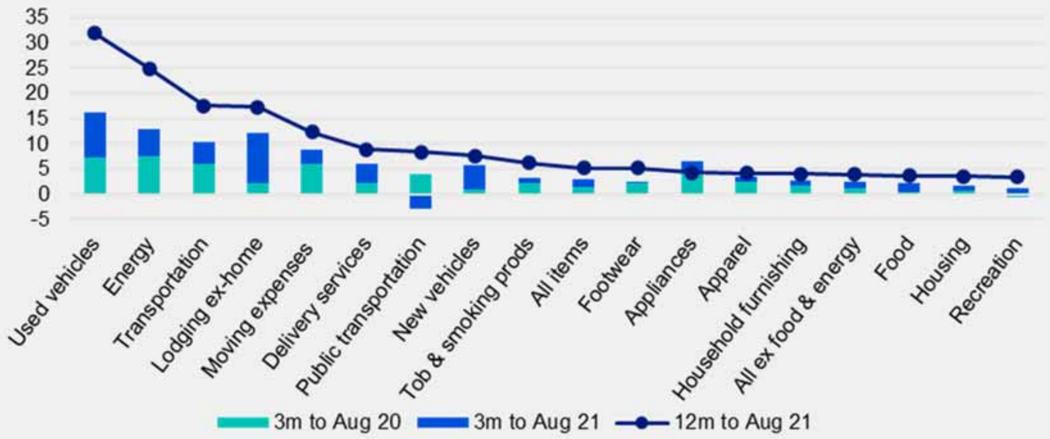
What could go wrong?

We have already considered the risk of this cycle being cut short and concluded that it is unlikely. Nevertheless, were this to be the case (for example due to some new more dangerous Covid variant), the assets that we think most likely to outperform would be defensive assets such as cash, gold, government bonds, IG credit, the JPY and, among equities, the low volatility factor (see the recession section of **Figure 10**). We suspect there will be periodic moments of doubt about the cycle and are currently using cash as our diversifier of choice.

Is inflation more than transitory?

Though August CPI data from the US was lower than generally expected, with a year-on-year gain of 4.2% in core-CPI, there are still reasons to be concerned that higher inflation may prove more than transitory. First and foremost is the very strong monetary growth seen in the US during the pandemic, with M2 growth peaking at 27% in the year to February 2021 (though that had eased to 12% in July 2021 and was less noticeable in most other countries). Second, global supply chain problems have led to bottlenecks in some industries and this could lead to higher prices. Finally, labour market mismatches appear to be a feature in many countries, with relatively high unemployment but labour shortages in some industries (especially in the UK which is also impacted by Brexit). This latter point could put upward pressure on wages in some sectors.

Figure 25 – US consumer price inflation by selected category (%)



Note: shows the change in consumer prices over the periods specified for a selection of CPI categories: “3m to Aug 20” measures the change in prices in the three months to August 2020; “3m to Aug 21” measures the change in prices in the three months to August 2021; “12m to Aug 21” measures the change in prices in the twelve months to August 2021. Source: Refinitiv Datastream and Invesco

We think not but are watching closely

Figure 25 is an update of a chart that we showed last time and there have been some important changes. First, headline and core inflation were a bit higher in August than in May. Second, the 12-month gain in prices now has much more to do with rising prices now than with falling prices a year ago (base effects have virtually disappeared). Finally, high inflation seems to have become more concentrated in fewer sectors than it was three months ago. The second and third points are somewhat contradictory in terms of whether we should worry about this inflation being permanent. However, given that we would put many of the categories with the highest inflation rates in the “rebound” category (used vehicles, transportation, lodging ex-home etc.), we still favour a “transitory” interpretation of the current inflation rate.

Which assets could mitigate against higher inflation?

However, were US inflation to settle in the 3%-5% range, our historical analyses suggest it would not be easy to find assets that could mitigate the effects of higher inflation. When examining this question in July 2020, we concluded that the following were the most likely candidates: inflation protected government bonds, gold (a strong bout of inflation could be to its benefit), cash (not initially but short-term rates would eventually rise), commodities (the relationship goes both ways), emerging markets (via the link with commodities) and value versus growth (we presume higher bond yields would penalise long duration assets).

Could German politics destabilise markets?

Geopolitical considerations are never far away and we can think of a number of issues that could increase risk-premia. First, the German elections on 26 September will herald the replacement of Angela Merkel as chancellor of Germany (and putative leader of Europe). The problem is that opinion polls suggest that virtually any outcome is possible – the question being which coalition will prevail (remembering that Germany has been governed by a grand-coalition between the CDU/CSU and SPD for much of the period since 2005). The Greens could well form part of a new coalition government and perhaps the most worrying possibility for financial markets would include the SPD, Die Linke (The Left) and Greens. Whatever the outcome, it is likely to take some time to negotiate the new coalition and the ending of the Merkel era could bring uncertainty. We doubt that German politics will prove pivotal for markets but will be keeping an eye on the situation, with the possibility that Eurozone assets could be destabilised.

Iran back into the fold?

The second geopolitical flashpoint on our radar is the attempt to rekindle the Iranian nuclear deal. With hard-line Ebrahim Raisi installed as president, it would be easy to conclude that the negotiations between Iran and the US (and partners) are unlikely to succeed. However, we have a feeling that progress will be made and that tensions will be calmed. If we are right, we suspect that global risk-premia could fall slightly and that the oil price would fall, perhaps by up to $5 per barrel (Iran may be given more freedom to sell its oil).

Afghanistan and the return of Donald Trump?

The departure of NATO forces from Afghanistan did not go as planned and the region feels less stable that it was a few months ago (remember also that Iran is a neighbour). The involvement of Pakistan (neighbour), Russia (historical reasons) and China (filling the vacuum left by the US with financing) suggests it is worth watching, especially if the US decides it has unfinished business. Among the collateral damage may be the chances of the Democrats in the 2022 mid-term elections (which were already looking bleak) and the presidency of Joe Biden (despite the fact it was President Trump who negotiated the US withdrawal). That latter point could open the door to a return of Donald Trump to the White House which could raise global tensions and widen risk-premia (in our opinion). One asset we think could benefit from such a scenario is gold.

Don’t forget about US-China rivalries

Talking of heightened global tensions, let’s not forget that relations between the US and China remain on a knife-edge. Tempers have been calmed relative to what we experienced during the Trump presidency but it wouldn’t take a lot to rekindle the fires (in our opinion). Apart from anything else, the departure of the US from Afghanistan could embolden China in its attempts to assert strategic superiority, while US allies in Asia must be wondering how much they can count on its support if China flexes its muscles.

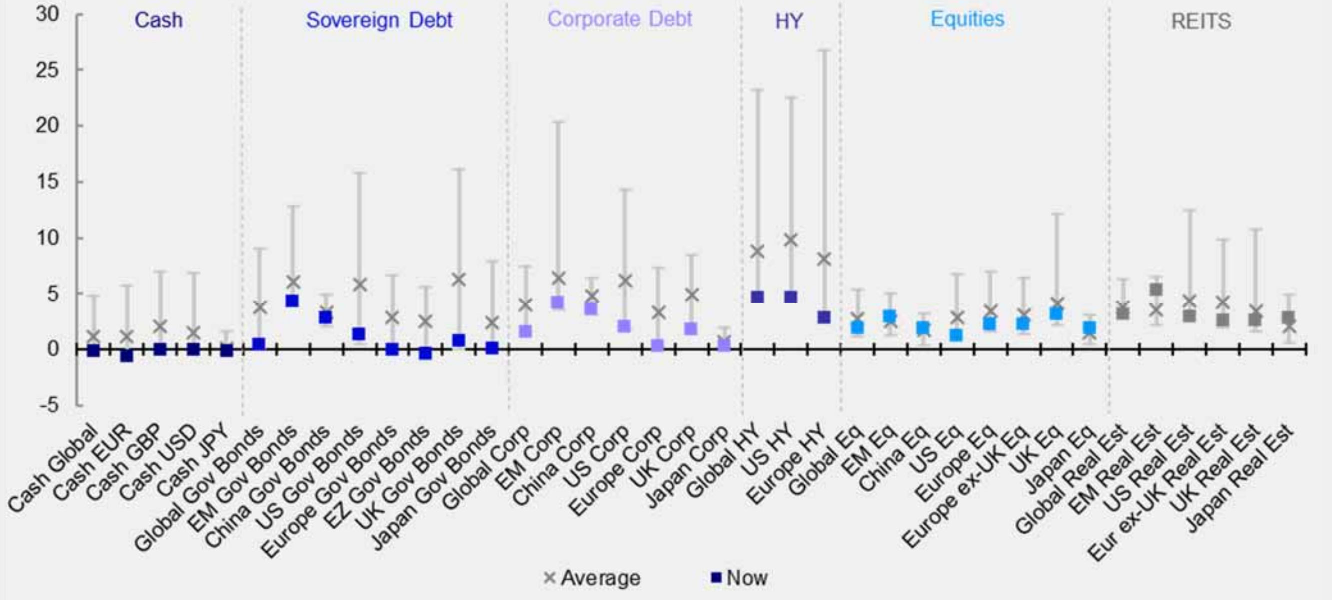
COP-26 could go either way

Finally, the UN COP-26 climate change summit taking place in Glasgow in the first half November offers the chance for world leaders to take an important step forward in mitigating climate change. That would be an amazing outcome, reducing as it would the economic damage that would otherwise occur in the future. Any solid agreements could help reduce risk-premia and would likely boost the demand for carbon reducing and carbon removing technologies. However, it could all go terribly wrong, with developed world countries once again failing to bring developing countries along with them, perhaps because too little financial assistance is offered. China and India are likely to be at the centre of this debate and failure to come up with ambitious targets could not only threaten our long-term futures but could also raise short-term geopolitical tensions.

Appendices

Appendix 1: Global valuations vs history

Regional yields within historical ranges (%)



Notes: As of 31 August 2021. **Past performance is no guarantee of future results.** See appendices for definitions, methodology and disclaimers. Source: Bloomberg Barclays, BofAML, FTSE, Refinitiv Datastream and Invesco

Appendix 2: Asset class total returns

Data as at 31/08/2021		Current	Total Return (USD, %)				Total Return (Local Currency, %)			
	Index	Level/RY	3m	YTD	12m	5y*	3m	YTD	12m	5y*
Equities										
World	MSCI	741	4.7	16.2	29.2	14.9	5.7	17.5	29.1	14.9
Emerging Markets	MSCI	1309	-4.0	3.1	21.5	10.8	-3.1	3.9	18.6	11.5
China	MSCI	94	-13.7	-12.2	-5.0	11.0	-13.4	-12.1	-5.5	10.9
US	MSCI	4399	8.3	21.1	31.9	18.5	8.3	21.1	31.9	18.5
Europe	MSCI	2088	2.0	16.1	29.8	10.7	5.4	19.2	30.3	9.6
Europe ex-UK	MSCI	2648	2.8	16.5	30.5	12.5	6.2	20.9	32.2	11.3
UK	MSCI	1145	-0.7	14.5	27.3	5.5	2.6	13.8	23.8	4.5
Japan	MSCI	3935	1.5	3.3	20.4	9.5	1.9	9.9	24.7	10.8
Government Bonds										
World	BofA-ML	0.43	0.2	-3.8	-1.7	1.6	1.6	-1.3	-0.6	1.5
Emerging Markets (USD)	BBloom	4.28	3.1	0.1	4.1	5.0	3.1	0.1	4.1	5.0
China	BofA-ML	2.83	0.2	5.4	11.4	3.9	1.8	4.2	5.0	3.2
US (10y)	Datastream	1.28	3.3	-1.5	-3.2	3.1	3.3	-1.5	-3.2	3.1
Europe	Bofa-ML	-0.08	-1.8	-5.2	-0.5	2.7	1.7	-1.8	0.8	1.5
Europe ex-UK (EMU, 10y)	Datastream	-0.42	-1.3	-4.7	-0.9	2.8	2.3	-1.2	0.4	1.6
UK (10y)	Datastream	0.72	-1.5	-3.0	0.1	2.5	1.8	-3.6	-2.7	1.5
Japan (10y)	Datastream	0.02	0.2	-5.7	-2.8	-0.9	0.6	0.3	0.7	0.3
IG Corporate Bonds										
Global	BofA-ML	1.60	1.0	-1.0	2.4	4.2	2.2	0.0	2.6	3.9
Emerging Markets (USD)	BBloom	4.15	0.6	1.1	6.6	8.5	0.6	1.1	6.6	8.5
China	BofA-ML	3.67	0.0	4.9	11.2	3.4	1.6	3.7	4.8	2.8
US	BofA-ML	2.06	2.7	-0.1	2.7	4.8	2.7	-0.1	2.7	4.8
Europe	BofA-ML	0.34	-2.3	-3.2	1.3	3.0	1.2	0.3	2.6	1.8
UK	BofA-ML	1.75	-1.0	-0.6	6.0	4.3	2.3	-1.2	3.1	3.2
Japan	BofA-ML	0.35	0.0	-5.3	-2.2	-0.7	0.4	0.7	1.3	0.5
HY Corporate Bonds										
Global	BofA-ML	4.64	0.8	3.0	9.1	6.4	1.5	3.7	9.3	6.2
US	BofA-ML	4.62	2.3	4.6	10.3	6.5	2.3	4.6	10.3	6.5
Europe	BofA-ML	2.86	-2.2	0.1	7.4	5.6	1.3	3.8	8.8	4.3
Cash (Overnight LIBOR)										
US		0.08	0.0	0.1	0.1	1.1	0.0	0.1	0.1	1.1
Euro Area		-0.59	-3.6	-3.7	-1.6	0.6	-0.1	-0.4	-0.6	-0.5
UK		0.04	-3.2	0.6	2.9	1.3	0.0	0.0	0.0	0.4
Japan		-0.10	-0.5	-6.2	-3.8	-1.3	0.0	-0.1	-0.1	-0.1
Real Estate (REITs)										
Global	FTSE	2073	4.8	19.3	30.5	6.3	8.5	23.6	32.2	5.1
Emerging Markets	FTSE	1783	-9.2	-6.4	-2.4	4.1	-6.0	-3.0	-1.1	2.9
US	FTSE	3596	9.0	30.3	42.6	6.7	9.0	30.3	42.6	6.7
Europe ex-UK	FTSE	4108	5.4	12.3	27.9	8.5	9.2	16.4	29.6	7.2
UK	FTSE	1393	8.3	25.4	37.7	6.8	11.8	24.6	33.9	5.8
Japan	FTSE	2879	2.0	12.1	20.3	4.7	2.4	19.3	24.7	6.0
Commodities										
All	GSCI	2578	3.5	30.4	43.9	3.3	-	-	-	-
Energy	GSCI	390	7.8	45.9	56.8	0.7	-	-	-	-
Industrial Metals	GSCI	1735	0.0	24.0	38.0	11.4	-	-	-	-
Precious Metals	GSCI	2084	-5.9	-5.3	-9.9	5.3	-	-	-	-
Agricultural Goods	GSCI	468	-1.6	16.9	45.0	2.0	-	-	-	-
Currencies (vs USD)**										
EUR		1.18	-3.4	-3.3	-1.1	1.1	-	-	-	-
JPY		110.04	-0.4	-6.2	-3.8	-1.2	-	-	-	-
GBP		1.38	-3.2	0.7	2.8	1.0	-	-	-	-
CHF		1.09	-1.7	-3.3	-1.3	1.5	-	-	-	-
CNY		6.46	-1.4	1.0	6.0	0.7	-	-	-	-

Notes: *Five-year returns are annualised. **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.

Appendix 3: Invesco 10-year Capital Market Assumptions (USD version)

	Asset Class	Index	Expected geometric return %	Expected arithmetic return %	Expected Risk %	Arithmetic return to risk ratio
Fixed income	US Treasury Short	BBG BARC US Treasury Short	0.8	0.8	1.5	0.54
	US Treasury Intermediate	BBG BARC US Treasury Intermediate	1.3	1.4	4.5	0.30
	US Treasury Long	BBG BARC US Treasury Long	0.9	1.6	11.7	0.14
	US TIPS	BBG BARC US TIPS	0.7	0.9	5.5	0.16
	US Bank Loans	CSFB Leverage Loan Index	4.1	4.4	8.5	0.52
	US Aggregate	BBG BARC US Aggregate	1.9	2.0	5.9	0.34
	US Inv Grd Corps	BBG BARC US Investment Grade	1.6	1.9	7.6	0.25
	US MBS	BBG BARC US MBS	2.4	2.6	6.5	0.40
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	3.0	3.7	12.4	0.30
	US High-Yield Corps	BBG BARC US High Yield	2.8	3.3	10.1	0.33
	US Intermediate Municipals	BOA ML US Municipal (3Y-15Y)	1.6	1.9	7.2	0.26
	US High-Yield Municipals	BBG BARC Municipal Bond High Yield	1.7	2.0	7.8	0.25
	Global Aggregate	BBG BARC Global Aggregate	2.2	2.4	6.8	0.36
	Global Aggregate-Ex US	BBG BARC Global Aggregate- Ex US	2.4	2.9	10.2	0.28
	Global Treasury	BBG BARC Global Treasuries	2.2	2.5	8.4	0.30
	Global Sovereign	BBG BARC Global Sovereign	1.7	1.9	6.9	0.28
	Global Corporate	BBG BARC Global Corporate	2.0	2.3	7.7	0.30
	Global Inv Grd	BBG BARC Global Corporate Inv Grd	1.9	2.2	7.8	0.28
	Eurozone Corporate	BBG BARC Euro Aggregate Credit - Corporate	1.9	2.8	13.4	0.21
	Eurozone Treasury	BBG BARC Euro Aggregate Government - Treasury	1.9	2.7	12.4	0.22
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	2.4	2.7	8.3	0.33
	Asian Dollar High Yield	BOA Merrill Lynch ACHY	7.4	8.9	18.5	0.48
	EM Aggregate	BBG BARC EM Aggregate	3.1	3.9	13.1	0.29
	EM Aggregate Sovereign	BBG BARC EM Sovereign	2.0	2.4	8.2	0.29
	EM Aggregate Corporate	BBG BARC EM Corporate	1.9	2.0	5.3	0.39
	EM Corporate IG	BBG BARC EM USD Aggregate - Corporate -IG	2.2	2.3	4.6	0.51
Equities	World Equity	MSCI ACWI	6.7	8.0	17.0	0.47
	World Ex-US Equity	MSCI ACWI Ex-US	7.2	8.8	19.0	0.47
	US Broad	Russell 3000	6.5	7.9	17.5	0.45
	US Large Cap	S&P 500	6.3	7.6	16.8	0.45
	US Mid Cap	Russell Midcap	7.2	8.9	19.7	0.45
	US Small Cap	Russell 2000	8.9	11.2	23.1	0.48
	MSCI EAFE	MSCI EAFE	6.4	8.0	18.7	0.43
	MSCI Europe	MSCI Europe	6.5	8.1	18.8	0.43
	Eurozone	MSCI Euro X UK	6.1	7.8	19.8	0.40
	UK Large Cap	FTSE 100	7.9	9.7	20.2	0.48
	UK Small Cap	FTSE Small Cap UK	8.8	11.7	25.8	0.45
	Canada	S&P TSX	7.1	8.9	20.4	0.44
	Japan	MSCI JP	5.7	8.0	22.6	0.36
	Emerging Market	MSCI EM	9.0	11.7	25.1	0.46
	Asia Pacific Ex JP	MSCI APXJ	8.5	11.3	25.3	0.45
	Pacific Ex JP	MSCI Pacific X JP	9.5	14.6	35.4	0.41
Alternatives	US REITs	FTSE NAREIT Equity	8.1	9.7	18.7	0.52
	Global REITs	FTSE EPRA/NAREIT Developed Index	7.7	9.2	18.5	0.50
	Hedge Funds	HFRI HF Index	6.5	6.9	8.8	0.78
	Commodities	S&P GSCI	4.7	7.3	23.8	0.31
	Agriculture	S&P GSCI Agriculture	0.2	2.4	21.5	0.11
	Energy	S&P GSCI Energy	7.2	12.8	37.1	0.35
	Industrial Metals	S&P GSCI Industrial Metals	4.5	7.0	24.0	0.29
	Precious Metals	S&P GSCI Precious Metals	2.3	3.9	18.6	0.21

Notes: Estimates as of 30 June 2021, as published in Long-Term Capital Market Assumptions (September 2021). These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** TIPS = treasury inflation protected securities, MBS = mortgage-backed securities.
Source: Invesco Investment Solutions

Appendix 4: Key assumptions

Key assumptions for 1-year projected returns

	US	Eurozone/ Europe ex-UK	UK	Japan	EM	China
Central bank rates (%)	0.25	-0.50	0.10	-0.10	-	4.35
Sovereign spreads vs rates (bps)	175	110	105	30	-	-
Corporate IG spreads vs sovereign (bps)	100	25	100	15	-	-
Corporate HY spreads vs sovereign (bps)	350	250	-	-	-	-
Corporate HY default rates (%)	3.0	3.0	-	-	-	-
Corporate HY recovery rates (%)	43	50	-	-	-	-
Equities dividend growth (%)*	7.5	10.0	10.0	10.0	15.0	5.0
Equities dividend yield (%)*	1.4	2.3	3.2	1.9	2.9	1.8
Real estate (REITS) dividend growth (%)*	10.0	20.0	20.0	10.0	10.0	-
Real estate (REITS) dividend yield (%)*	3.2	3.0	2.7	2.9	5.0	-

Notes: *assumptions for Europe ex-UK. One-year assumptions are based on our analysis of how current values compare to historical norms (assuming some degree of reversion to the mean, except where our analysis suggests historical norms are unlikely to be a guide to the future), adjusted for our view about the development of the economic and financial market cycles over the next year in each region. **There is no guarantee that these views will come to pass.**
Source: Invesco Global Market Strategy Office

Appendix 5: 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.

Appendix 6: Definitions of data and benchmarks

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). 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 values in the market forecast table (figure 21) use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK and the Thomson Reuters China benchmark 10-year yield for China. Historical and projected yields and returns (figures 1, 2, 4, 5, 22, 23) are based on Bank of America Merrill Lynch government bond indices with historical ranges starting on 31 December 1985 for the Global, Europe ex-UK, UK and Japanese indices, 30 January 1978 for the US and 31 December 2004 for China. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index with the historical range starting on 28 February 2003. The same indices are used to construct Appendix 1.

Corporate investment grade (IG) bonds: Bank of America Merrill Lynch investment grade corporate bond indices with historical ranges starting on 31 December 1996 for the Global, 31 January 1973 for the US dollar, 1 January 1996 for the euro, 31 December 1996 for the British pound, 6 September 2001 for the Japanese yen and 31 December 2004 for the China indices. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets corporate US dollar bond index with the historical range starting on 28 February 2003.

Corporate high yield (HY) bonds: Bank of America Merrill Lynch high yield indices with historical ranges starting on 29 August 1986 for the US dollar, and 31 December 1997 for the Global and euro indices.

Equities: We use MSCI benchmark indices to calculate projected returns and calculate long-term total returns with historical ranges starting on 31 December 1969 for the Global, US, Europe ex-UK, UK and Japanese indices, 31 December 1987 for the emerging markets index and 31 December 1992 for the China index (figures 1, 2, 22 & 23). Equity index valuations (figures 4, 5, 15, 24 and Appendix 1) are based on dividend yields and price-earnings ratios using Datastream benchmark indices with historical ranges starting on 1 January 1973 for the Global, US, Europe ex-UK and Japanese indices, 31 December 1969 for the UK index, 2 January 1995 for the Emerging Markets index and 26 August 1991 for the China A-Shares index.

Real estate: We use FTSE EPRA/NAREIT indices with historical ranges starting on 29 December 1989 for the US, Europe ex-UK, UK and Japanese indices, 18 February 2005 for the Global index, and 31 October 2008 for the Emerging Markets index.

Commodities: Goldman Sachs Commodity Index with historical ranges starting on 31 December 1969 for the All Commodities and Agriculture indices, 31 December 1982 for the Energy index, 3 January 1977 for the Industrial Metals index, and 2 January 1973 for the Precious Metals index. “Industrial commodities” is oil & gas and industrial metals.

Definitions of data and benchmarks for Appendix 2

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 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 Bank of America Merrill Lynch government bond total return index for China, 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: Bank of America Merrill Lynch investment grade corporate bond total return indices and the Barclays Bloomberg emerging markets corporate US dollar bond total return index for emerging markets.

Corporate high yield (HY) bonds: Bank of America Merrill Lynch 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

Definitions of data and benchmarks for long term US equity and bond indices (Figures 13 & 14)

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.

We have calculated a total return index for US treasuries, which from January 1978 is based upon the Bank of America Merrill Lynch US Treasury Index. Prior to that it is based upon an index calculated by using movements in 10-year treasury yields to estimate movements in price, which are then combined with yield to give total return. The historical yields are sourced from Robert Shiller and Refinitiv Datastream.

Equity returns during Fed tightening cycles methodology (Figure 14)
The tightening periods Jul-77-Apr-80 and Oct-80-Jun-81 were separated by a short rate cut but could be considered to form one long tightening cycle (the full period is also shown but is excluded from the calculation of average returns across tightening cycles). "Overall" returns are based on monthly total returns data from August 1936 to August 2021 (see appendix for a description of the index used). Tightening periods are defined with reference to: Federal Reserve Member Bank Reserve Requirements (up to 1953) and the Federal Funds Effective Rate (from 1954). The "asset purchase tapering" period is considered to have started with the announcement by the Federal Reserve in May 2013 that it would start tapering in the future and ended in October 2014 when asset purchases ceased. The "balance sheet reduction" period is judged by the size of the Federal Reserve balance sheet. In all cases, the starting point for equity return calculations is the end of the month prior to the start of tightening and the end is the end of the month in which tightening ceased. Past performance is no guarantee of future results. Source: Robert Shiller, Federal Reserve, Refinitiv Datastream and Invesco

Appendix 7: IIS Capital Market Assumptions methodology (Figure 6 & Appendix 3)

We show a summary of the Capital Market Assumptions produced by Invesco's Investment Solutions team (IIS) and this is a summary of their methodology.

Invesco Investment Solutions (IIS) employ a fundamentally based "building block" approach to estimating asset class returns. Estimates for income and capital gain components of returns for each asset class are informed by fundamental and historical data. Components are then combined to establish estimated returns. This is a summary of key elements of the methodology used to produce long-term (10-year) and medium term (5-year) estimates.

Fixed income returns are composed of: the average of the starting (initial) yield and expected yield for bonds, estimated changes in valuation given changes in the Treasury yield curve, roll return which reflects the impact on the price of bonds that are held over time, and a credit adjustment which estimates the potential impact on returns from credit rating downgrades and defaults.

Equity returns are composed of: a dividend yield, calculated using dividend per share divided by price per share, buyback yield, calculated as the percentage change in shares outstanding resulting from companies buying back or issuing shares, valuation change, the expected change in value given the current Price/Earnings (P/E) ratio and the assumption of reversion to the long-term average P/E ratio, and the estimated growth of earnings based on the long-term average real GDP per capita and inflation.

Alternative returns are composed of a variety of public versus private assets with heterogenous drivers of return given their distinct nature. They range from a beta driven proxy to public markets or a bottom up, building block methodology like that of fixed income or equities, depending whether they are more bond like or stock like.

Volatility estimates for the different asset classes are derived using rolling historical quarterly returns of various market benchmarks. Given that benchmarks have differing histories within and across asset classes, volatility estimates of shorter-lived benchmarks are normalised to ensure that all are measured over similar time periods.

For the full Capital Market Assumptions methodology, please contact the IIS team.

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Telephone calls may be recorded.

Authors

Paul Jackson
Global Head of Asset Allocation Research,
Global Thought Leadership
Telephone +44(0)20 3370 1172
Email paul.jackson@invesco.com

Andras Vig
Multi-Asset Strategist
Telephone +44(0)20 3370 1152
Email andras.vig@invesco.com

Global Market Strategy Office

Kristina Hooper
Chief Global Market Strategist
Kristina.Hooper@invesco.com
New York, Americas

Brian Levitt
Global Market Strategist, Americas
Brian.Levitt@invesco.com
New York, Americas

Talley Léger
Investment Strategist, Equities
Talley.Leger@invesco.com
New York, Americas

Ashley Oerth
Investment Strategy Analyst
Ashley.Oerth@invesco.com
London, EMEA

Arnab Das
Global Market Strategist
Arnab.Das@invesco.com
London, EMEA

Luca Tobagi, CFA*
Product Director / Investment Strategist
Luca.Tobagi@invesco.com
Milan, EMEA

Paul Jackson
Global Head of Asset Allocation Research
paul.jackson@invesco.com
London, EMEA

András Vig
Multi-Asset Strategist
andras.vig@invesco.com
London, EMEA

David Chao
Global Market Strategist, Asia Pacific
David.Chao@invesco.com
Hong Kong, Asia Pacific

Tomo Kinoshita
Global Market Strategist, Japan
Tomo.Kinoshita@invesco.com
Tokyo, Asia Pacific

Adrian Tong
Investment Strategy Analyst, Asia Pacific
adrian.tong@invesco.com
Hong Kong, Asia Pacific

* Affiliated member

Further information

Telephone +44 (0)20 8538 4900
Email invest@invesco.com
etf.invesco.com

Portman Square House
43-45 Portman Square
London W1H 6LY

Telephone calls may be recorded.