The Big Picture
Global Asset Allocation 2022 Outlook

Quarterly update
From Invesco's Global Market Strategy Office

For professional/qualified/accredited investors only

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Data as of of 29 October 2021 unless stated otherwise

Invesco

The Big Picture

Global Asset Allocation: 2022 Outlook

Given our view that 2022 will be a year of transition and that asset class returns will converge, we adopt a more balanced approach within our Model Asset Allocation, though still maintain a preference for cyclical assets. We reduce the equity allocation to Neutral and increase the allocation to bonds, by raising high-yield credit (to Maximum) and investment-grade credit (to just below Neutral), though we reduce government bonds to the Minimum allowed. From a regional perspective we have added to emerging market (EM) and Eurozone allocations, while reducing exposure to the US and Japan. We also consider alternative scenarios.

Model asset allocation

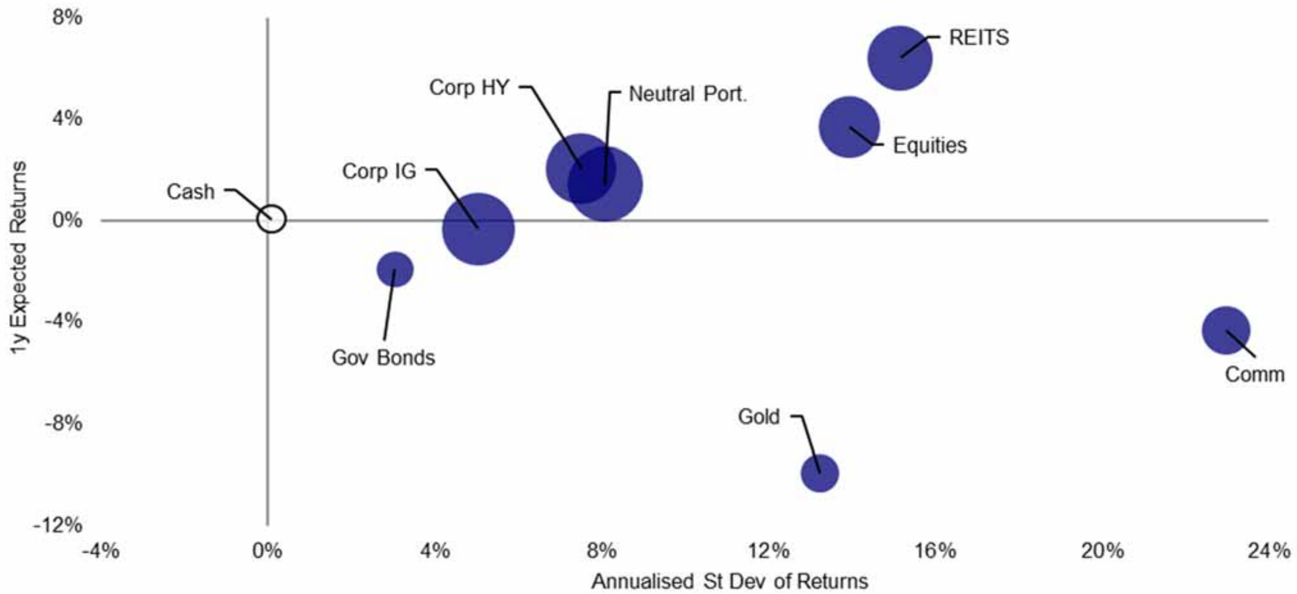
In our view:

- Equities offer limited potential as the global economy slows. We reduce to Neutral.
- Real estate (REITS) has the potential to produce the best returns. We stay at Maximum.
- Corporate high-yield (HY) is now more attractive (relative to equities). We increase to Maximum.
- Corporate investment-grade (IG) yields have increased. We increase to Neutral.
- Government debt outlook is poor. We reduce to Minimum.
- 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 reduce to Zero.
- 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 IG
- 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 29 October 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: 2022 - a year of transition

We still prefer cyclical assets but are now less aggressive

Given our view that 2022 will be a year of transition and that asset class returns will converge, we adopt a more balanced approach within our Model Asset Allocation, though still maintain a preference for cyclical assets. We reduce the equity allocation to Neutral and increase the allocation to bonds, by raising high-yield credit (to Maximum) and investment-grade credit (to just below Neutral), though we reduce government bonds to the Minimum allowed. From a regional perspective we have added to emerging market (EM) and Eurozone allocations, while reducing exposure to the US and Japan.

Slowdowns often produce convergence of returns

After deep recession and a strong rebound, we suspect the global economy is now decelerating towards a more normal rate of growth (perhaps 4% GDP growth in 2022). At the same time inflation has reached levels not seen for some time, though we expect it to peak in mid-2022 and to ease thereafter. Though we believe the current upswing will last for a number of years, we note that this slowdown phase of the economic cycle is often accompanied by a convergence of asset class returns. Coming after a period of strong outperformance by cyclical assets, we think it is now time to adopt a more balanced approach within our Model Asset Allocation (see **Figure 3** for the details).

Underlying assumptions

Underpinning our asset projections for 2022 are the following assumptions:
- Central bank tapering starts and asset purchases cease in many countries
- Central banks start the process of normalising (increasing) their policy rates (we assume two rate hikes from the Fed and even more from the BOE)
- Government bond yields rise across the maturity spectrum but yield curves start to flatten towards the end of the forecast horizon (bear flattening)
- IG and HY spreads narrow slightly and default rates decline
- USD strengthens marginally as bond yield spreads move in its favour
- Equity dividend growth slows; yields remain stable (except for a slight rise in the US)
- Real estate (REIT) dividends rebound, pushing yields higher
- Commodities consolidate recent gains (and gold falls due to rising yields/dollar)

10-year treasury yield to rise to 2.20%

The full set of assumptions is shown in **Appendix 4**, while the resultant market targets are shown in **Figure 20** and projected returns for global assets are shown in **Figures 1** and **22**. 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).

Optimisation process favours real estate, HY and cash

Not surprisingly, given the information in **Figure 1**, our optimisation process favours cash and real estate and accords minimum allocations to government bonds, gold and commodities (see **Figure 21**). Interestingly, high-yield credit (HY) is also favoured, while the results vary for equities and investment-grade credit (IG).

Equities reduced and credit boosted

Hence, within our Model Asset Allocation, we have chosen to reduce the **equity** allocation to a Neutral 45%, versus the previous Overweight 54% and have now reduced commodities to zero (see **Figure 3**). Though we boost the overall allocation to fixed income categories (yields are higher), we reduce the **government bond** allocation to the Minimum 10% (from 19%). These reductions allow us to boost the allocation to credit, with **high-yield (HY)** going to the Maximum 10% (from 2%) and **investment-grade (IG)** rising to 9% (versus the previous zero and just below the Neutral allocation of 10%).

Real estate still our favourite cyclical asset

Real estate remains our favourite cyclical asset. 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 and expect growth to resume as economies recover. We remain at the Maximum 16% allocation but have reduced the US and Japan while boosting EM and the Eurozone.

We prefer cash to gold as a diversifier

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

EM is our favoured region

Our preferred regions across all assets remain the UK and EM, while the US is the biggest Underweight (based largely on valuations). **Figure 3** shows EM are preferred in most categories, partly due to value considerations, partly for cyclical reasons and partly because many EM central banks have already tightened to a significant degree, whereas developed world counterparts are only just starting that process.

We prefer the basic resources sector to commodities

When focusing on equities, we expect a convergence of returns across factors and believe that factor positioning will be less rewarding. Looking at sectors, we view basic resources as a more attractive way than commodities to gain exposure to the economic cycle and, among other cyclical sectors, we favour real estate and financial services. We view technology as a good alternative in the event that growth disappoints.

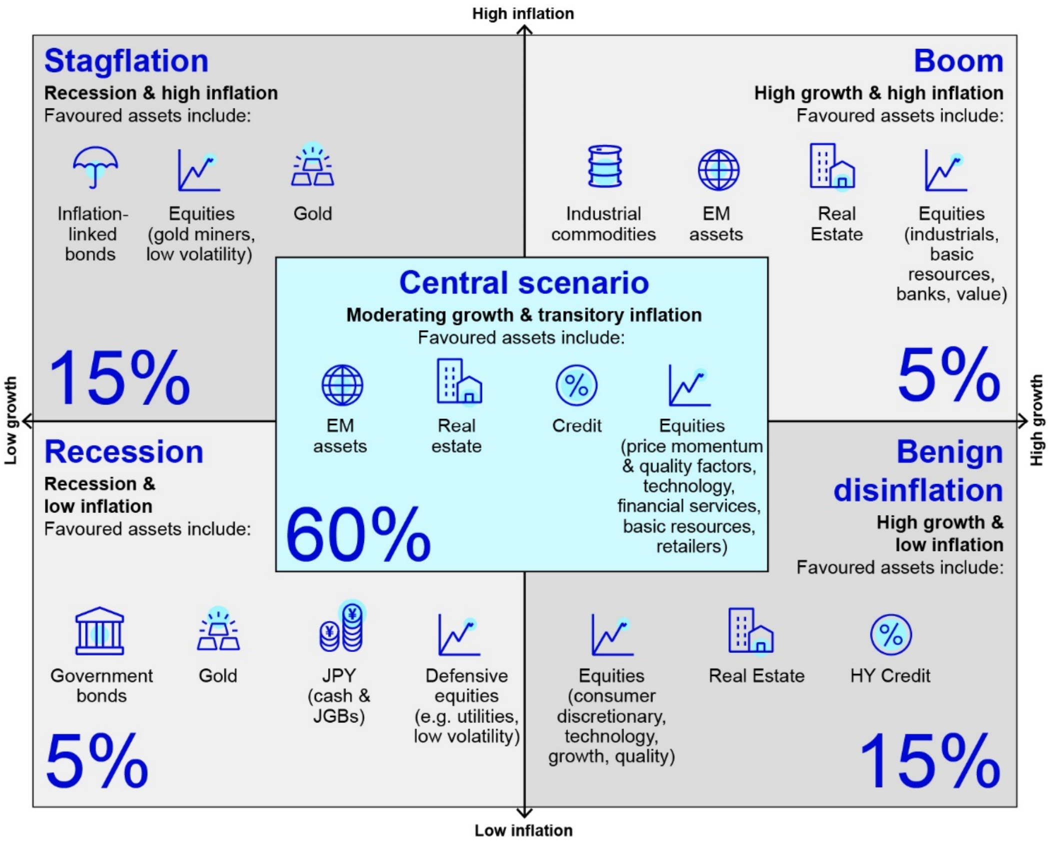
What if we are wrong?

There will be a number of important elections during 2022 (in the US and France, for example) and geopolitical tensions could flare up (China vs US, Russia vs the West, developed vs developing world). However, when it comes to consideration of risks to our central scenario, we focus on economic outcomes. **Figure 2** shows a range of possibilities. We would normally focus on the “Boom” and “Recession” alternatives that we consider to be either side of the Phillips Curve continuum that runs through the central scenario. However, given current circumstances, we prefer to focus on the “Stagflation” and “Benign disinflation” scenarios that we consider to be supply shocks.

Stagflation now more likely than for some time and difficult to mitigate

When we talk of stagflation, we don’t expect anything as extreme as in the 1970s/80s but we think it is more likely than for some time (given supply-chain disruptions and rising costs). We find it difficult to identify assets that could mitigate against a scenario of high inflation and recession (the latter perhaps provoked by the former and/or the policy response to it). Our favoured assets would be inflation-linked bonds, gold and, within equities, we would focus on gold miners and the low volatility factor. At the other extreme, with low inflation, relaxed central banks and high growth, we would favour equities (consumer discretionary, growth, quality), real estate and HY.

Figure 2 – Five scenarios for 2022 and our favoured assets



Percentages reflect our assigned probabilities. See appendices for definitions, methodology and disclaimers.
Source: Invesco

Model asset allocation*

Figure 3 – Model asset allocation (21/11/2021)

	Neutral	Policy Range		Allocation	Position vs Neutral
Cash Equivalents	**5%**	**0-10%**		**10%**	
Cash	2.5%			10%	
Gold	2.5%			0%	
Bonds	**40%**	**10-70%**	↑	**29%**	
Government	25%	10-40%	↓	**10%**	
US	8%		↓	2%	
Europe ex-UK (Eurozone)	7%		↓	2%	
UK	1%		↓	0%	
Japan	7%		↓	3%	
Emerging Markets	2%			3%	
China**	0.2%			0%	
Corporate IG	10%	0-20%	↑	**9%**	
US Dollar	5%		↑	2%	
Euro	2%		↑	2%	
Sterling	1%		↑	1%	
Japanese Yen	1%		↑	2%	
Emerging Markets	1%		↑	2%	
China**	0.1%			0%	
Corporate HY	5%	0-10%	↑	**10%**	
US Dollar	4%		↑	8%	
Euro	1%		↑	2%	
Equities	**45%**	**25-65%**	↓	**45%**	
US	25%		↓	12%	
Europe ex-UK	7%		↓	10%	
UK	4%			8%	
Japan	4%		↓	5%	
Emerging Markets	5%			10%	
China**	2%			2%	
Real Estate	**8%**	**0-16%**		**16%**	
US	2%		↓	2%	
Europe ex-UK	2%		↑	4%	
UK	1%			3%	
Japan	2%		↓	3%	
Emerging Markets	1%		↑	4%	
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%		↓	31%	
EUR	20%		↑	22%	
GBP	7%			13%	
JPY	15%		↓	14%	
EM	9%		↑	19%	
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

A glance in the rear-view mirror

2021 was as expected with cyclical assets outperforming by a large margin

A year ago, we suggested that cyclical assets would outperform during 2021 and that is pretty much what has happened (see **Figure 4**). After the winter surge in Covid infections, the rollout of vaccines has allowed a reopening of many economies and this has supported the divergence between cyclical and defensive assets.

Industrial and agricultural commodities led the way

In a reversal of what happened in 2020, commodities and real estate (REITs) have featured among the top-3 assets so far this year. However, it should be noted that within commodities, the performance has been divergent. **Appendix 2** shows that industrial commodities (energy and industrial metals) and agriculture have generated sizeable positive returns, while precious metals are in negative terrain (see the reversal of gold returns from 2020 to 2021 in **Figure 4**).

US assets excelled, while EM disappointed

From a regional perspective, US assets were among the best performers, both equity-like assets and fixed income (partly because of dollar appreciation). **Appendix 2** also shows that emerging market (EM) assets were among the worst performers, though the impact of China varied. EM equities were dragged down by the very weak performance of Chinese equities, while EM government bonds found support from the Chinese component. Though the US dollar has appreciated during 2021, the Chinese Yuan (CNY) has been even stronger (see **Appendix 2**).

The history shown in **Figure 4** shows that after 2009 and 2012 (years of strong rebound in cyclical assets), there was further outperformance by cyclicals but not to the same extent. 2019 was also a rebound year but what followed was distorted by the pandemic.

The transition to slower growth could provoke concerns

We suspect that the global economy will continue to grow over the coming years but not at the pace seen during 2021. This deceleration could be problematic, especially if it raises concern about recession. At the very least we believe it will be accompanied by less profit growth, which could dampen equity returns. Also impacting profits will be the higher level of inflation that we are now experiencing and what we believe will be a pattern among governments to raise business taxation.

Whether central banks remain in control could be key during 2022

This deceleration in economies and profits will come as developed world central banks start the process of normalising their collective monetary stance, which we deem to be extremely loose. Whether they are able to tighten gradually or are forced into rapid adjustments could be an important determinant of asset class performance during 2022.

Figure 4 – Total returns on global assets by calendar year (in USD)

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Govt 10.9%	HY 62.0%	Gold 29.3%	Gold 11.1%	REITS 27.3%	Stocks 27.4%	REITS 12.1%	Cash 0.2%	HY 14.8%	Stocks 23.1%	Cash 2.0%	Stocks 28.4%	Gold 24.8%	CTY 57.8%
Gold 3.1%	REITS 33.0%	REITS 18.6%	Govt 6.8%	HY 19.3%	HY 8.0%	Stocks 5.5%	REITS 0.1%	CTY 11.4%	REITS 13.9%	Govt -0.3%	REITS 21.7%	Stocks 16.5%	Stocks 24.3%
Cash 3.1%	Stocks 30.8%	HY 13.9%	IG 4.5%	Stocks 16.5%	REITS 3.3%	IG 3.1%	Stocks -0.3%	Gold 9.0%	Gold 12.6%	Gold -1.7%	Gold 18.7%	IG 10.3%	REITS 23.7%
IG -8.3%	Gold 27.1%	Stocks 12.3%	HY 2.6%	IG 11.1%	Cash 0.2%	Govt 0.2%	Govt -2.6%	Stocks 8.2%	HY 10.2%	HY -3.3%	CTY 17.6%	Govt 9.2%	HY 1.7%
HY -27.9%	IG 19.2%	CTY 9.0%	Cash 0.2%	Gold 5.6%	IG 0.1%	Cash 0.2%	IG -3.8%	REITS 4.4%	IG 9.2%	IG -3.5%	HY 13.7%	HY 8.0%	Cash 0.0%
Stocks -40.3%	CTY 13.5%	IG 6.0%	CTY -1.2%	Govt 1.7%	CTY -1.2%	HY -0.1%	HY -4.2%	IG 4.3%	Govt 6.5%	REITS -5.4%	IG 11.4%	Cash 0.5%	IG -2.9%
REITS -41.8%	Govt 2.3%	Govt 5.6%	Stocks -5.0%	Cash 0.2%	Govt -4.3%	Gold -1.8%	Gold -10.4%	Govt 1.7%	CTY 5.8%	Stocks -8.2%	Govt 5.5%	REITS -6.3%	Govt -7.5%
CTY -46.5%	Cash 0.4%	Cash 0.3%	REITS -5.6%	CTY 0.1%	Gold -27.3%	CTY -33.1%	CTY -32.9%	Cash 0.5%	Cash 1.1%	CTY -13.8%	Cash 2.3%	CTY -23.7%	Gold -7.6%

Notes: Based on annual total return data from 2008 to 2021 in USD (2021 is created by annualising data up to 29 October). Calculated using spot price of gold, BofAML 0-3-month US treasury index (Cash), BofAML Global Government Index (Govt), BofAML Global Corporate Index (IG), BofAML Global HY Index (HY), GPR General World Index (REITS), S&P GSCI total return index for commodities (CTY) and MSCI World Index (Stocks). **Past performance is no guarantee of future results.**
Source: BofAML, GPR, JP Morgan, MSCI, S&P GSCI, Refinitiv Datastream and Invesco.

Invesco's 10-year CMAs have been published

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

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 5** 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 5: Invesco 10-year capital market assumptions (global assets, % ann.)

	USD	EUR	GBP	CHF
Cash & Gold	1.6	-0.2	1.0	-0.2
Cash - US Treasury Short	0.8	-0.9	0.3	-0.9
Gold	2.3	0.5	1.7	0.5
Government Bonds	2.2	0.5	1.6	0.5
Corporate IG	1.9	0.2	1.3	0.2
Corporate HY - US HY	3.1	1.4	2.5	1.4
Equities	7.2	5.4	6.6	5.4
Real Estate (REITS)	8.1	6.4	7.5	6.4
Commodities	4.9	3.2	4.3	3.2

Note: Estimates as of 30 September 2021 and based on the 10-year capital market assumptions published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (November 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 and equities 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 6**). 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 all cases, while IG, HY and commodities are mainly zero allocated; equities are mainly 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 6: 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%	3%	10%	10%	0%	6%	0%	10%
Cash	2.5%	0-10%	10%	0%	7%	0%	0%	4%	0%	0%
Gold	2.5%	0-10%	0%	3%	3%	10%	0%	3%	0%	10%
Government Bonds	25%	10-40%	40%	16%	30%	11%	34%	30%	10%	23%
Corporate IG	10%	0-20%	0%	0%	0%	0%	0%	0%	0%	0%
Corporate HY	5%	0-10%	0%	0%	0%	0%	0%	0%	5%	0%
Equities	45%	25-65%	34%	65%	44%	63%	50%	48%	65%	51%
Real Estate (REITS)	8%	0-16%	16%	16%	16%	16%	16%	16%	16%	16%
Commodities	2%	0-4%	0%	0%	0%	0%	0%	0%	4%	0%

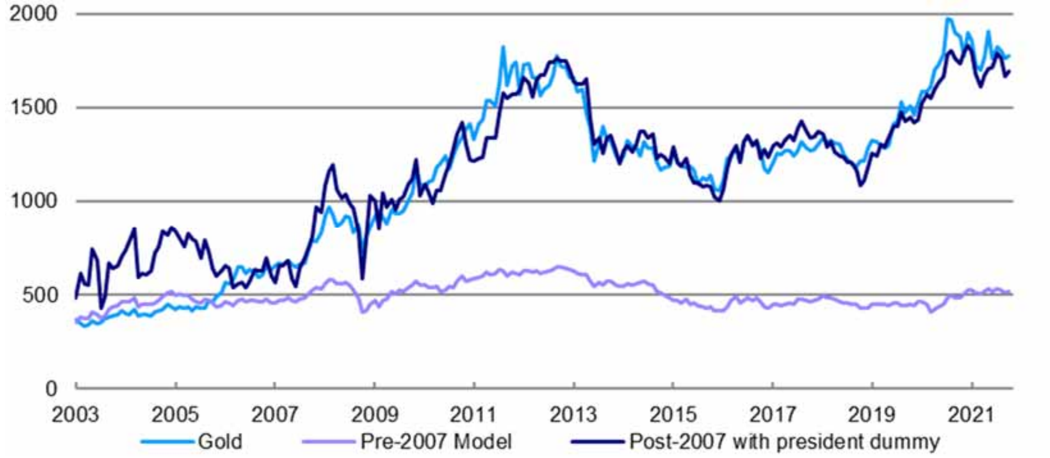
Note: optimisations are based on the 10-year projected returns published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (November 2021), as shown in **Figure 6** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance matrices (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

Calm after the storm

Politics in 2022: US politics back to centre stage

2021 has been a year of relative political calm after the high drama in the US during 2020. Though other factors are at play, we think this lack of "excitement" has contributed to the decline in the price of gold during this year (our gold model is shown in **Figure 7**).

Figure 7 – Gold versus model predicted values (USD per ounce)



Monthly data from January 2003 to October 2021 (as of 29 October 2021). Gold is modelled as a function of real 10-year US Treasury yield, 10-year US inflation breakeven and trade-weighted USD. "Pre-2007 Model" is based on data from 31 January 1997 to 31 December 2006. "Post-2007 Model" is based on data from 31 January 2007 to 30 April 2020. "President dummy" is a dummy variable that was set at zero prior to November 2016 (when President Trump was elected) and one thereafter. There is no guarantee that these views will come to pass.
Source: Refinitiv Datastream and Invesco

All change on Capitol Hill?

However, the peace may be short-lived, with US mid-term elections due on 8 November 2022. Things are not looking good for the Democrats, with approval ratings for President Biden weaker than for all post-war presidents at the same stage of their presidencies, except for Donald Trump and Gerald Ford (according to an analysis by FiveThirtyEight). On this basis, we reckon there is a good chance of seeing the usual mid-term swing against the party of the incumbent, which could confront the president with a hostile Congress for the final two years of his term. This could also strengthen the hand of Donald Trump were he to contest the result of the 2024 presidential election (assuming he runs and loses). US politics could become a destabilising force once again.

As you were in France

A selection of other 2022 elections is shown in **Figure 8**, with those of Australia and Brazil perhaps the most important for those hoping for a new approach towards climate change. We suspect the most followed election will be that that for the president of France. Despite perennial concerns about a far-right victory, opinion polls suggest President Macron will win the first round and that he will be victorious against whoever confronts him in the second round (especially if it is Marine Le Pen).

Figure 8: Selected elections and political events during 2022

09/03/2022	South Korea	Presidential election
27/03/2022	Hong Kong	Chief Executive election
27/03/2022	Lebanon	General election
27/04/2022	France	Presidential election (first round 10/04/22)
April 2022	Hungary	Parliamentary election
09/05/2022	Philippines	General election
June 2022	France	Legislative election
09/08/2022	Kenya	General election
03/09/2022	Australia	House of Representatives election
11/09/2022	Sweden	General election
02/10/2022	Brazil	General election
08/11/2022	United States	Mid-term congressional election

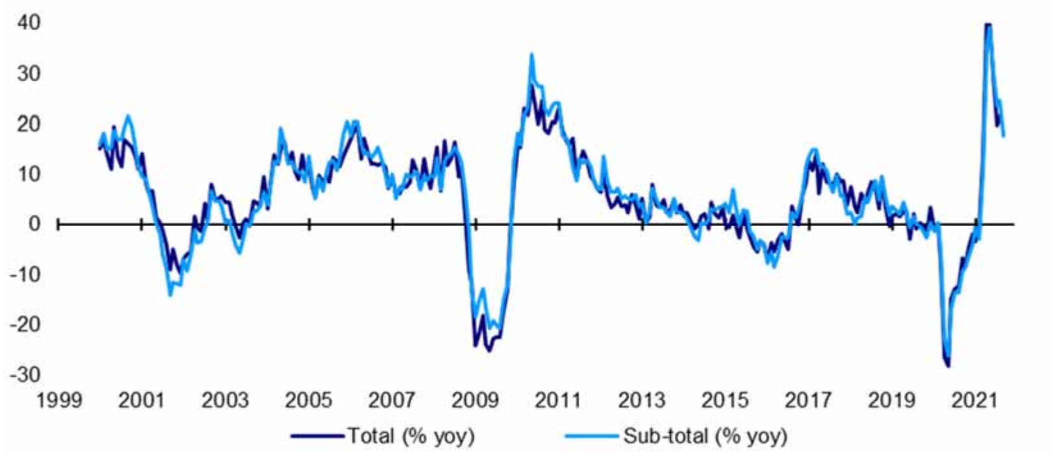
Source: International Foundation for Electoral Systems, Wikipedia, Invesco

A decelerating global economy

The global economic cycle: deceleration and inflation

After a sharp global recession in early 2020, came an equally impressive rebound later that year and into early 2021. The pace of that rebound could never be maintained and we are now going through a phase of deceleration (for example, annualised quarterly growth rates in US GDP so far this year have been 6.3%, 6.7% and 2.0%). **Figure 9** shows how this has translated into global trade flows.

Figure 9 – Global exports (% y-o-y, measured in SDRs)



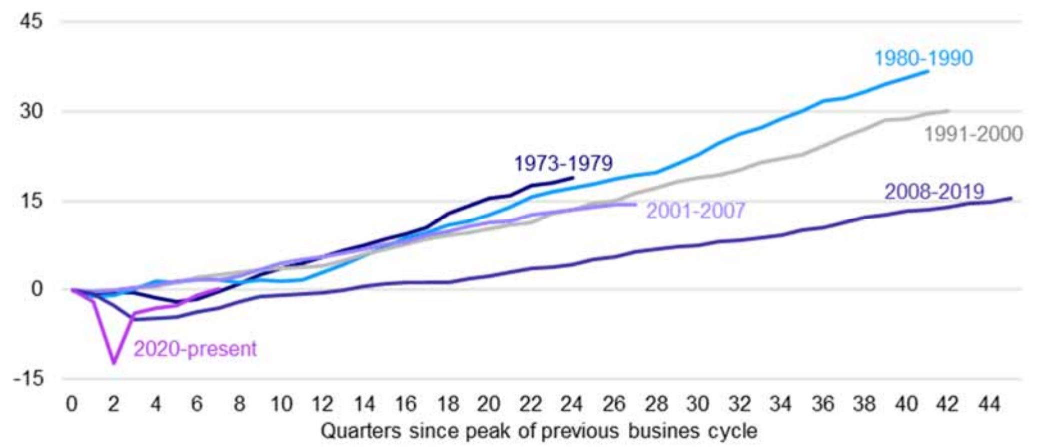
Note: the chart shows year-on-year growth in the aggregate of exports measured in SDRs (IMF Special Drawing Rights) across a range of major economies (Australia, Brazil, Canada, China, Eurozone, India, Japan, Mexico, Russia, South Korea, Sweden, Switzerland, Taiwan, UK and US) . "Total" is the aggregate across all countries. "Sub-total" is measured over the subset of countries for which the latest month of data (September 2021) is available, with the historical data based only on those countries. Monthly data from January 2000 to September 2021. Source: Datastream and Invesco.

But not recession

Rather than indicating a new slump in the world economy, we suspect this deceleration is indicative of a transition to more normal rates of growth. In support of this hypothesis we cite a number of factors: first, some of that earlier growth came from one-off fiscal support and was always going to wane (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 (7.5% in the US in September, for example, which is towards the upper end of the range seen during the two decades prior to the pandemic) and, finally, central banks remain extremely supportive of their economies, though now tightening.

While we have experienced extreme conditions, **Figure 10** shows that the G7 economy finds itself in a similar position to that seen during previous upswings. Those precedents suggest we can look forward to a number of years of further expansion.

Figure 10 – G7 GDP upswings (% change from previous peak)



Note: quarterly data, with quarter zero being the peak of the previous cycle. As of 14 November 2021. Source: Refinitiv Datastream and Invesco.

Inflation on the rise

As is normal during economic upswings, growth has been followed by inflation. Whether this is demand or supply led is hard to know and we suspect it is a bit of both (it is a bit like asking which scissor blade cuts the paper). Monetary growth picked up dramatically during the early stages of the pandemic, nowhere more so than in the US (see **Figure 11**). Assuming that excess monetary growth eventually impacts prices, this could explain the pick-up in inflation and suggests there is more to come (given that US M2 growth peaked in February 2021 and that we usually reckon on a two-year lag to prices).

Figure 11 – US money supply, bank credit and core inflation (% yoy)

Based on monthly data from January 1960 to October 2021. Bank credit consists of loans and leases provided by commercial banks. The shaded area is from January 1965 to January 1980.
Source: Refinitiv Datastream and Invesco

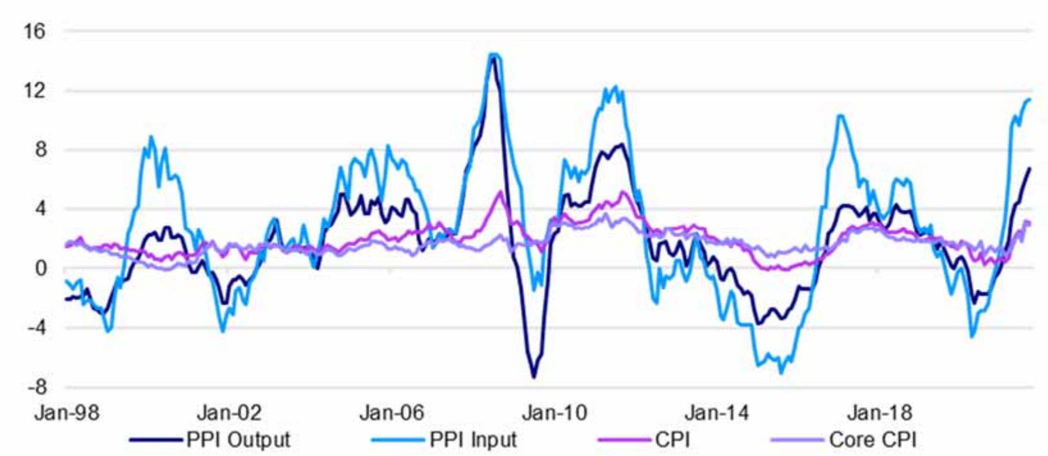
But we think it will be transitory

However, **Figure 11** also suggests the relationship between US money supply growth and future inflation is not what it was. Further, after an acceleration of bank lending in the early stages of the pandemic (emergency borrowing perhaps), subsequent strong money supply growth has not been associated with bank lending growth (bank lending bottomed in January 2021 and growth has since been negligible). This, and the fact that money supply growth has halved, suggests that any inflationary impulse stemming from excess US monetary growth will be limited and temporary in nature.

On both sides of the Atlantic

Figure 12 shows that UK input price inflation is about as high as it has been in recent decades, which is not surprising given the rise in raw material and shipping costs. That could suggest consumer price inflation will rise further (the Bank of England now expects CPI inflation to reach 5% in April 2022). However, to the extent that input cost inflation has been due to supply bottlenecks, we suspect PPI Input inflation will roll over and expect that global CPI inflation will peak in mid-2022.

Figure 12 – UK PPI and CPI inflation (%)



Note: monthly data from January 1998 to September 2021.
Source: Refinitiv Datastream and Invesco.

From economic to market cycles

Returns tend to converge during the slowdown phase

So, with less growth during 2022 and inflation peaking in mid-year, what could we expect from financial markets? The business cycle framework developed by Alessio de Longis (Invesco Investment Solutions) suggests the "slowdown" phase of the cycle usually witnesses a convergence of asset class returns (see **Figure 13**). In essence, this phase provides a transition from the outperformance of equity-like assets during the recovery and expansion phases to the outperformance of defensive assets during recession.

It seems premature to speak of slowdown this early in the economic cycle. However, that is literally what is happening and Alessio's definition of slowdown covers the deceleration from above average growth to something more in line with trend. Though **Figure 13** shows that equities have usually continued to provide decent excess returns versus cash, the best risk-adjusted returns have been found in government bonds.

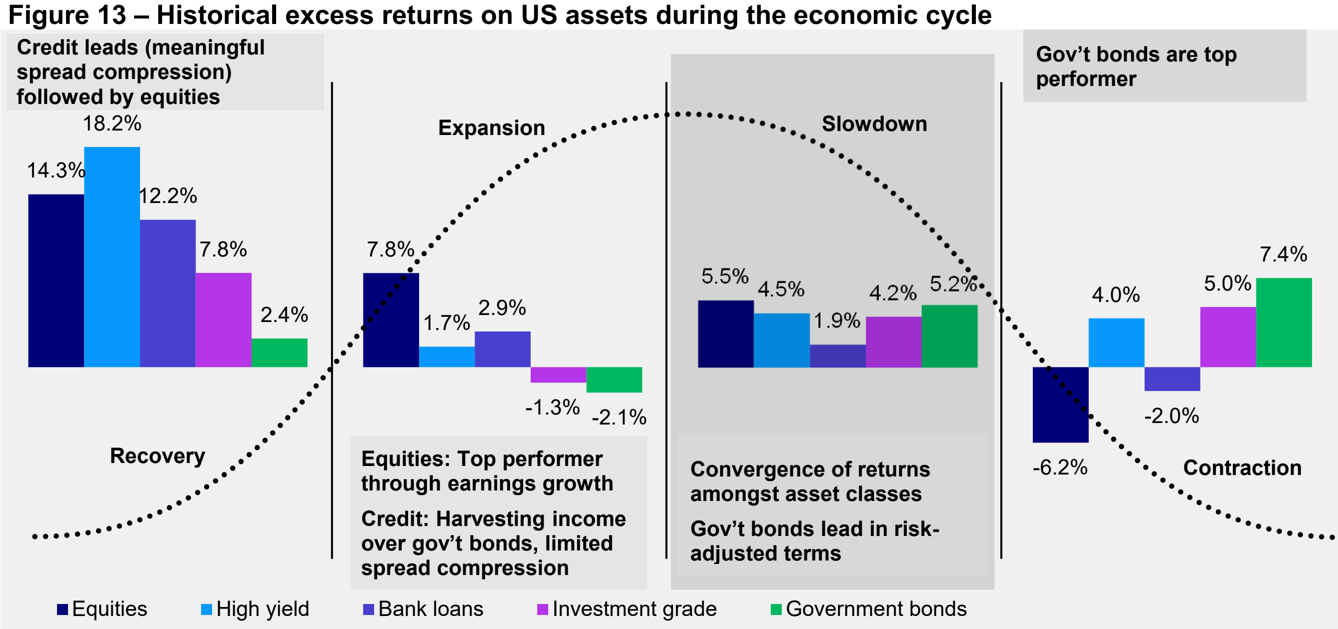
And we equities face a headwind as profits slow

The notion of a convergence of returns is supported by our belief that the best of the profit cycle is now behind us. We have often shown that profit growth is correlated to the economic cycle, with year-on-year growth of earnings per share lagging that of industrial production by six to nine months (operational gearing produces wild swings in profit growth). Hence, as production growth comes back to something more normal, so will profit growth. Further, the sharp rise in costs (raw materials, transportation and labour in some sectors), along with an upcoming rise in corporate tax rates in many countries, gives us even more reason to expect a sharp deceleration in profits.

But government bond yields are abnormally low

Nevertheless, every cycle is different and we worry that the starting point in terms of interest rates and bond yields is abnormally low. This is, of course, linked to the fact that many developed world central banks are currently extremely accommodative. For example, **Figure 14** shows that Fed interest rates are very low in relation to nominal GDP growth, when compared to post-WW2 history, even if we assume that growth returns to the 5%-7% range. Even worse, when we allow for the effect of Fed asset purchases, by constructing a synthetic policy rate, the extreme laxity of the Fed becomes apparent. Hence, we see the risk of a sizeable increase in yields, which we think would penalise government bonds (and IG) relative to equities, though we are surprised that yields remain so low.

Figure 13 – Historical excess returns on US assets during the economic cycle

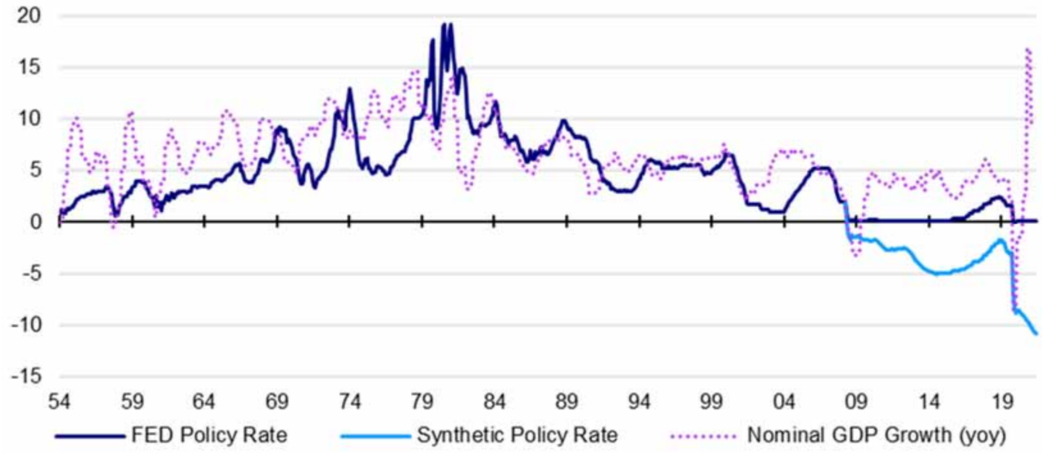


Notes: Index return information includes back-tested data. **Returns, whether actual or back-tested, are no guarantee of future performance**. Annualised monthly returns from January 1973 – December 2020, or since asset class inception if a later date. Includes latest available data as of most recent analysis. Asset class excess returns defined as follows: Equities = MSCI ACWI - US T-bills 3-Month, High Yield = Bloomberg Barclays HY - US T-bills 3-Month, Bank loans = Credit Suisse Leveraged Loan Index – US T-bills 3-Month, Investment Grade = Bloomberg Barclays US Corporate - US T-bills 3-Month, Government bonds = FTSE GBI US Treasury 7-10y - US T-bills 3-Month. For illustrative purposes only. Please see appendices for further information.
Sources: *Invesco Investment Solutions*' proprietary global business cycle framework and Bloomberg L.P.

Fed tightening is imminent

The Fed recently signalled that it would start tapering its asset purchases and, if it follows through on the announced plans, will have stopped all purchases by mid-2022. This should pave the way to interest rate increases during the second half of 2022.

Figure 14 – Fed policy rates and nominal GDP growth (%)



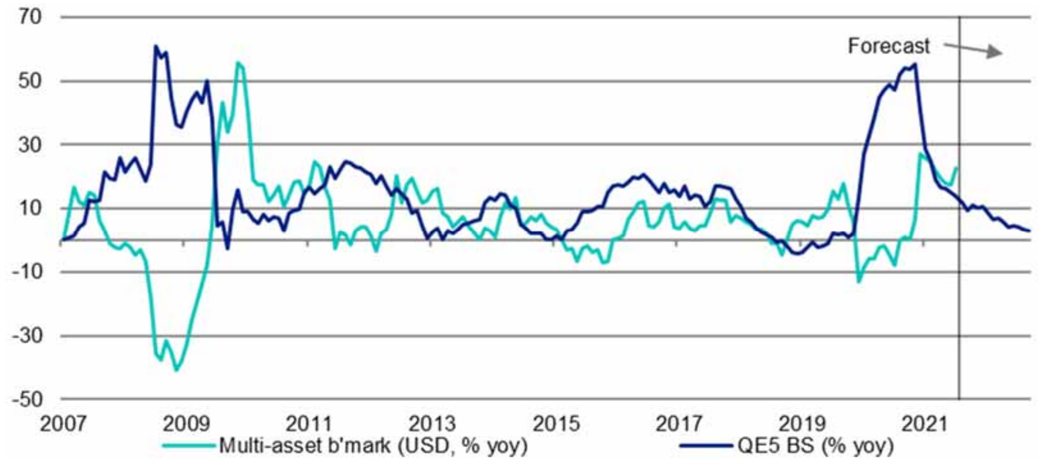
Monthly data from June 1954 to October 2021. "Fed Policy Rate" is the effective Fed Funds rate. "Synthetic Policy Rate" is the policy rate adjusted to take account of Fed asset purchases (using the rule of thumb that each $150bn-$200bn of asset purchases is equivalent to a 25bp cut in the policy rate, as explained by ex-Fed Chairman Bernanke to Congress in March 2011). Source: Refinitiv Datastream and Invesco

And it is not alone

Which could dampen asset returns

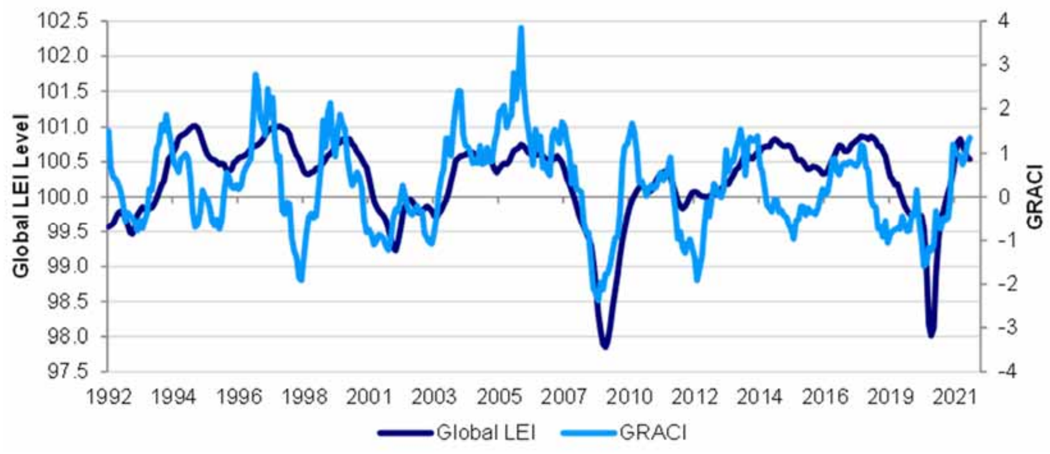
The Fed is not alone and **Figure 15** shows our projections for the aggregate balance sheet of the QE5 (the five central banks that have done most quantitative easing since the GFC). That aggregate balance sheet was growing at a rate of more than 50% y-o-y at end-2020/early-2021 but has since decelerated to a growth rate of around 15%. Our projections suggest that growth will slip to 2%-3% by end-2022. **Figure 15** also shows the relationship with global asset returns (judged by a global multi-asset index) . On a number of occasions since the GFC, acceleration (deceleration) in the QE5 balance sheet has been followed by higher (lower) asset returns, which suggests we should be cautious about portfolio returns during 2022.

Figure 15 – QE5 balance sheet growth and global asset returns



Note: QE5 BS is the aggregate balance sheet of Fed, ECB, BOE, BOJ and SNB in USD. Forecast considers asset purchase plans of the central banks but ignores other sources of growth. The Fed has announced a tapering process to bring asset purchases from $120bn per month to zero in June 2022. The ECB has reduced its purchase amounts: we assume $100bn per month for the rest of 2021, with gradual reduction to $22bn in August 2022, where we assume it remains for the rest of the year. The BOJ has recently been reducing its balance sheet but we assume no change from now to end-2022. The BOE has virtually stopped buying assets and we assume no further purchases from October 2021. The SNB has announced no plan but we assume $5bn per month to June 2022 and zero thereafter. The multi-asset benchmark is a fixed weighted index based on the Neutral asset allocation of Invesco's Asset Allocation Research team. From May 2007 to December 2022. As of 29 October 2021. **Past performance is no guarantee of future results**.
Source: BOE, Refinitiv Datastream and Invesco

Figure 16 – Global risk appetite and the global business cycle



Note: monthly data from January 1992 to October 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

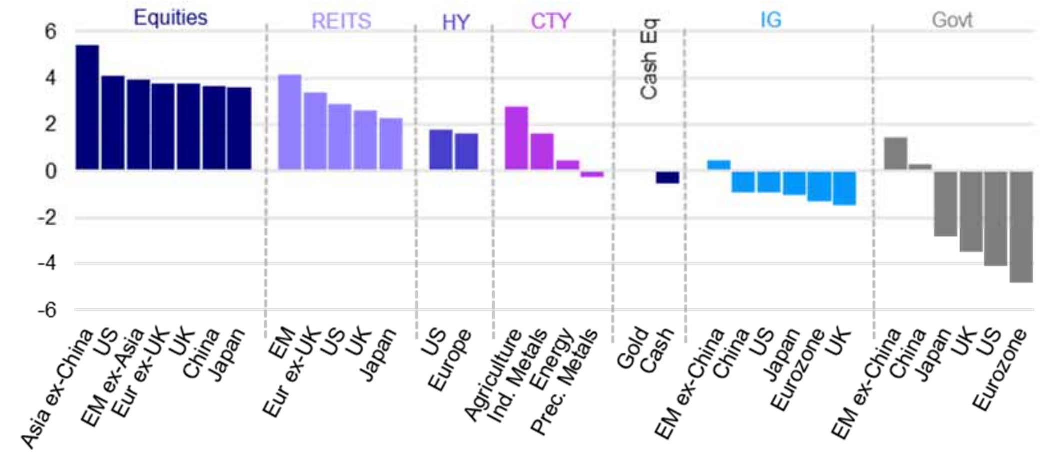
Risk premia unlikely to remain so elevated?

When it comes to the choice between assets, the Global Risk Appetite Cycle Indicator (GRACI, provided by Invesco Investment Solutions) confirms that investors have been amply rewarded for taking extra units of risk, which is not surprising given the rebound in the global economy (see **Figure 16**). However, leading indicators are now weakening which, with GRACI close to post-GFC peaks, supports the notion that asset class returns will converge (with lower return premiums earned on risky assets).

But the GMS team still favours cyclical and EM assets

Nevertheless, Invesco's Global Market Strategy Office (GMS) continues to prefer cyclical assets. **Figure 17** 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 EM assets.

Figure 17 – The wisdom of the GMS crowd (asset preferences for the next year)



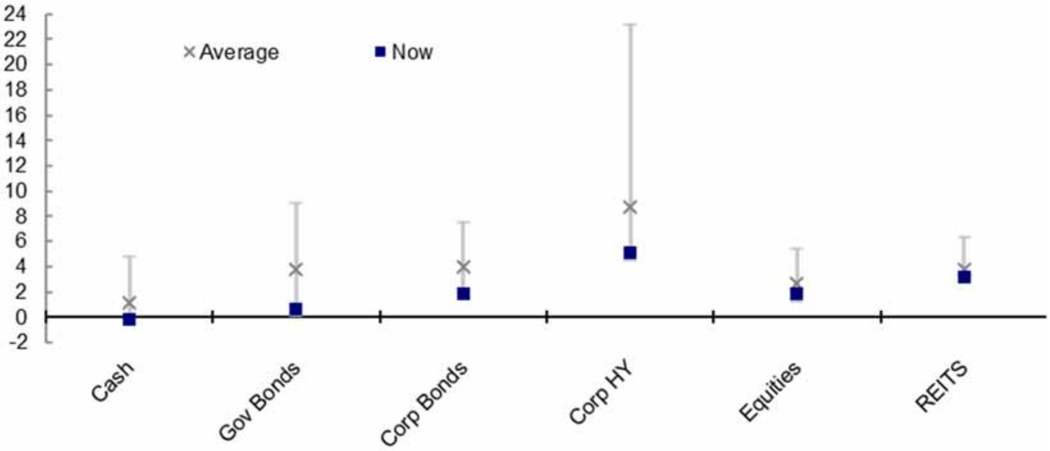
The chart shows the opinions of the Global Market Strategy Office (GMS -- see back cover page for membership) about asset returns over the next 12 months in USD. Each member of the team was asked to give a score from -10 to +10 for each asset (-10 being large underperformance and +10 being large outperformance 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

Projections for 2022

Valuations present a performance hurdle

A major constraint on portfolio returns over the coming years will be valuations: it is hard to imagine high returns when yields are so low (see **Figure 18**). Fixed income yields are close to historical lows and the same applies to equity and real estate (REIT) yields in many regions. However, they often exceed government and IG yields, which wasn't always the case (see **Appendix 2** for the regional detail).

Figure 18 – 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 29 October 2021. Source: Refinitiv Datastream and Invesco

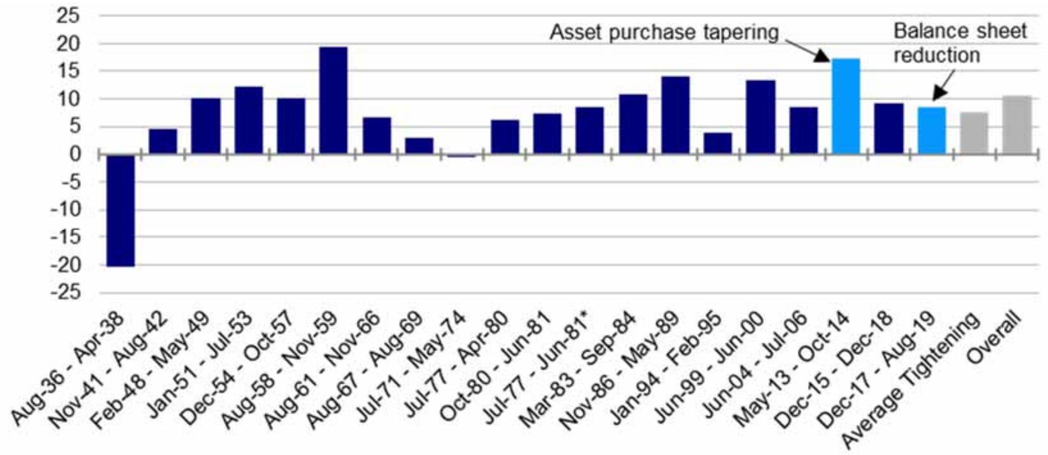
Central bank tightening may be worse for bonds than for equities

Another reason for concern is the fact that we expect central banks to start tightening. We would expect this to penalise fixed income assets both because short-term yields will rise with policy rates and because central banks cease their asset purchases, which have largely been focused on fixed income assets. On the other hand, **Figure 19** shows that Fed tightening has rarely been associated with US equity market losses (although returns during tightening cycles have on average been less than full period returns).

Cyclical impetus still favours equity-like assets but risk-premia likely to shrink

Rather than depending upon central bank actions, we suspect the fate of equity markets during 2022 will depend upon the path of profits. As already mentioned, we think there will be less profit growth in 2022 but do not expect it to be negative (based on the assumption of near-trend economic growth). We think this cyclical impetus should be to the continued benefit of equity-like assets (equities, real estate and high-yield credit), though again we expect less of a risk-premium than during 2021.

Figure 19 – Ann. total returns on US equities during Fed tightening cycles (%)



Based on monthly data from August 1936 to October 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

Assumptions include two Fed hikes in 2022

Underpinning our projections to end-2022 are the following assumptions:
- Central bank tapering starts and asset purchases cease in many countries
- Central banks start the process of normalising (increasing) their policy rates (we assume two rate hikes from the Fed and even more from the BOE)
- Government bond yields rise across the maturity spectrum but yield curves start to flatten towards the end of the forecast horizon (bear flattening)
- IG and HY spreads narrow slightly and default rates decline
- USD strengthens marginally as bond yield spreads move in its favour
- Equity dividend growth slows; yields remain stable (except for a slight rise in the US)
- 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%

The assumptions behind our projections are laid out in **Appendix 4**, while **Figure 20** 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). 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. However, the dollar has already travelled much of the path we predicted, so we expect limited further appreciation, which may help limit any damage to EM assets.

EM assets appear cheap but S&P 500 is stretched

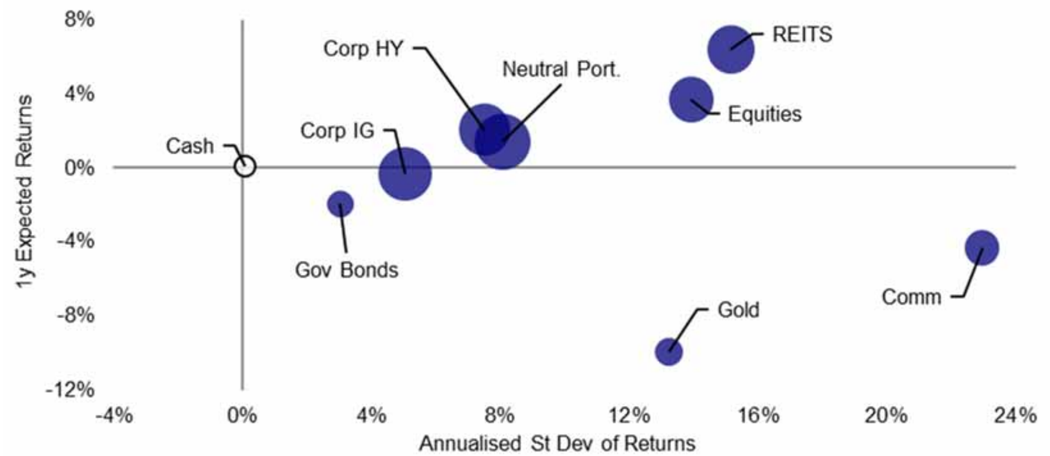
Talking of EM assets, 2021 has been a relatively difficult year (see **Appendix 2**), partly due to well publicised problems in China but also because of a range of problems in countries such as Turkey (surging money supply, high inflation, political interference, currency weakness), Brazil (high inflation, rising interest rates) and Russia (high inflation, rising interest rates). We suspect a lot of corrective action has already been taken in some of the largest EM countries, which helps explain why the assets appear so cheap to us. On the other hand, we need to make heroic assumptions about US equity valuations to avoid aggressive S&P 500 downside. Note that we don't need to be so aggressive when it comes to real estate (REIT) assumptions.

Figure 20 – Market forecasts

		Current (29/10/21)	Forecast End-2022
Central Bank Rates	US	0.25	0.75
	Eurozone	-0.50	-0.50
	China	4.35	4.35
	Japan	-0.10	-0.10
	UK	0.10	1.00
10yr Bond Yields	US	1.56	2.20
	Eurozone	-0.10	0.15
	China	2.98	3.40
	Japan	0.08	0.15
	UK	1.03	1.50
Exchange Rates/US$	EUR/USD	1.16	1.15
	USD/CNY	6.41	6.60
	USD/JPY	114.02	115.00
	GBP/USD	1.37	1.40
	USD/CHF	0.91	0.90
Equity Indices	S&P 500	4605	4500
	Euro Stoxx 50	4251	4600
	FTSE A50	15882	16750
	Nikkei 225	28893	31000
	FTSE 100	7238	8000
Commodities (US$)	Brent/barrel	83	75
	Gold/ounce	1777	1600
	Copper/tonne	9809	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 21 – Projected return versus risk for global assets to end-2022



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 29 October 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 17** (with the best returns expected on equities, real estate, HY and commodities). However, we are more optimistic on real estate as we believe that elevated REIT yields will mitigate against the upward pressure from bond yields (see **Figure 21**). 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 mild 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 22** shows the results. The outcome favours real estate, HY and cash (as the diversifier of choice).

Equity allocation reduced to Neutral, credit boosted

We largely follow the suggestions of the optimiser when they are clear: we continue to be maximum allocated to real estate and cash (and are now also maximum allocated to HY), and zero allocated to gold within our Model Asset Allocation (and have also chosen to go to zero in commodities). Elsewhere, we have reduced the allocation to equities (to Neutral) and government bonds (to the minimum allowed 10%), while stepping back into IG (at a 9% allocation versus a Neutral 10%).

Figure 22 – 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%	-5.0%	10%	10%	10%
Cash	2.5%	0-10%	0.1%	10%	10%	10%
Gold	2.5%	0-10%	-10.0%	0%	0%	0%
Govt Bonds	25%	10-40%	-1.9%	10%	10%	↓ 10%
Corporate IG	10%	0-20%	-0.3%	0%	19%	↑ 9%
Corporate HY	5%	0-10%	2.1%	10%	10%	↑ 10%
Equities	45%	25-65%	3.7%	54%	35%	↓ 45%
Real Estate	8%	0-16%	6.4%	16%	16%	16%
Commodities	2%	0-4%	-4.3%	0%	0%	↓ 0%

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: towards more balance

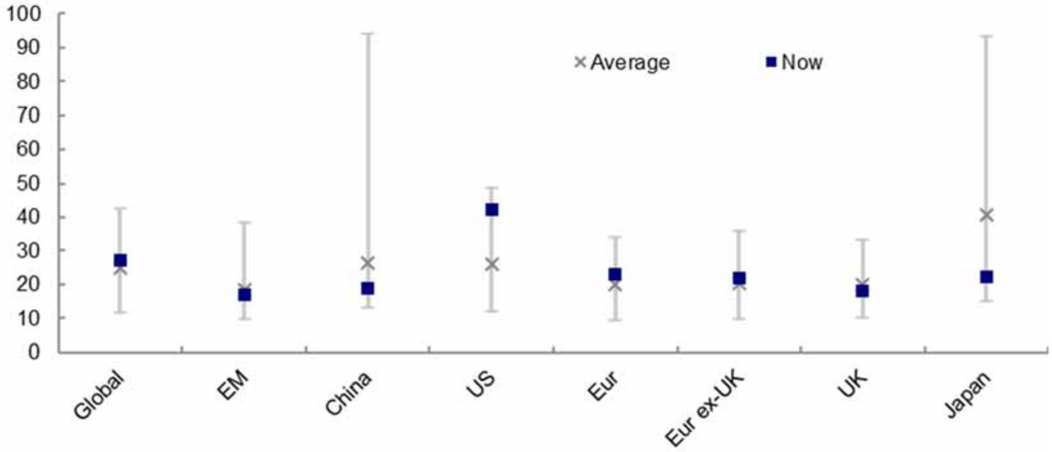
We reduce equities and government bonds while adding to credit

Given our view that 2022 will be a year of transition and that asset class returns will converge, we are adopting a more balanced approach within our Model Asset Allocation. We are reducing the equity allocation to Neutral. We increase the allocation to bonds, by increasing HY (to Maximum) and IG (to just below Neutral), though reducing government bonds to the Minimum allowed. From a regional perspective we have added to EM and Eurozone allocations, while reducing exposure to the US and Japan.

Equity risk-reward balance is no longer so attractive (EM and UK favoured)

Cyclical assets have been in the ascendancy for more than 18 months and with the global economy set to slow during 2022, we think the return advantage offered by such assets will be less than it has been. Hence, we are reducing the **equity** allocation from 54% to a Neutral 45% (the risk-adjusted returns are no longer as attractive, in our opinion). We do this by reducing the US allocation to even further below Neutral and by reducing the degree of Overweighting in the Eurozone and Japan (see **Figure 3** for the full regional detail). However, we remain at the maximum allowed allocation to EM and UK equities (markets that we find relatively cheap – see **Figure 23**).

Figure 23 – 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 29 October 2021. Source: Refinitiv Datastream and Invesco

Real estate still at maximum (EM and Eurozone favoured)

Nevertheless, we remain fully allocated to **real estate**, which we consider to be the other sizeable cyclical asset category (we are at the maximum 16%). Based on our regional REIT return projections we reduce allocations to the US and Japan, while boosting the allocations to the Eurozone and EM (the latter remains our favourite region).

HY increased to Maximum; IG boosted to near Neutral; government bonds reduced

The reduction in the equity allocation gives room to increase the allocation to **bonds** from 19% to 29% (Neutral is 40%). **HY** is returned to the Maximum 10% (from 2%) and **IG** is lifted from zero to 9% (versus Neutral 10%). Though we project only limited returns on credit assets (see **Figure 21**), the risk-adjusted comparison to equities has improved. Balancing the increase in credit allocations is a reduction in the **government bond** allocation to the Minimum 10% (from 17%), with EM the only region to be favoured.

Cash is our diversifier of choice but gold and commodities out of favour

Cash remains our diversifier of choice (we remain at the maximum 10%). 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 **Figure 22**). We remain zero-weighted in **Gold,** we worry that it will struggle if bond yields and the dollar rise (as we expect). Finally, we go to **zero** in **Commodities** – largely a cyclical asset class but one which we think has priced in a lot of good news (especially energy).

UK and EM favoured

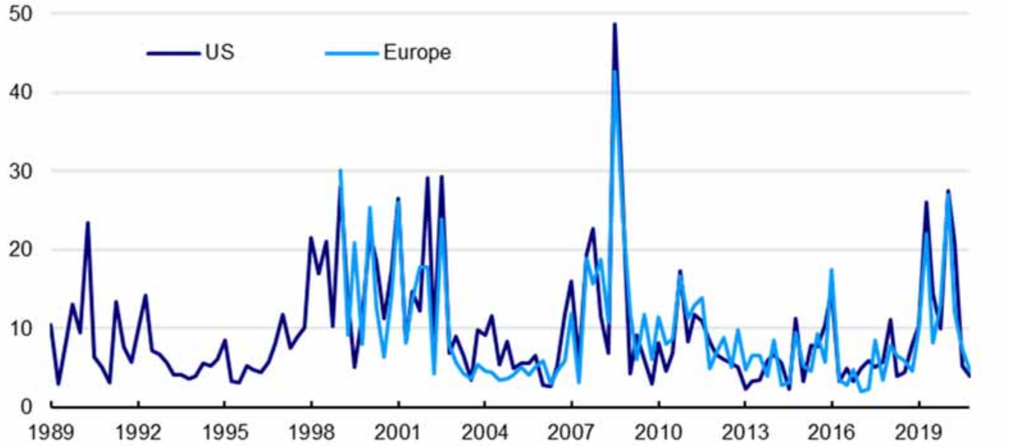
Regionally, we favour areas that we consider to be good value and that can gain from further expansion of the global economy: namely, EM and the UK. We continue to not hedge currency exposures – the dollar strength that we expect is not enough to justify such action, in our opinion.

Equity factors and sectors

Factor positioning will be less rewarding in 2022

Our base case of the economic cycle transitioning into a more settled mid-cycle phase suggests that factor returns will be closer than in the rebound phase (see **Figure 24**). This period in the past coincided with low equity market volatility. Hence, we believe that factor positioning will be less rewarding during 2022 than around turning points and, in our view, a balanced factor allocation is warranted. Inflation remains the main risk variable and, in case of an overshoot, we would expect value to outperform, while an undershoot would favour growth (because of the implications for bond yields).

Figure 24 – Factor index quarterly return spreads (percentage points)

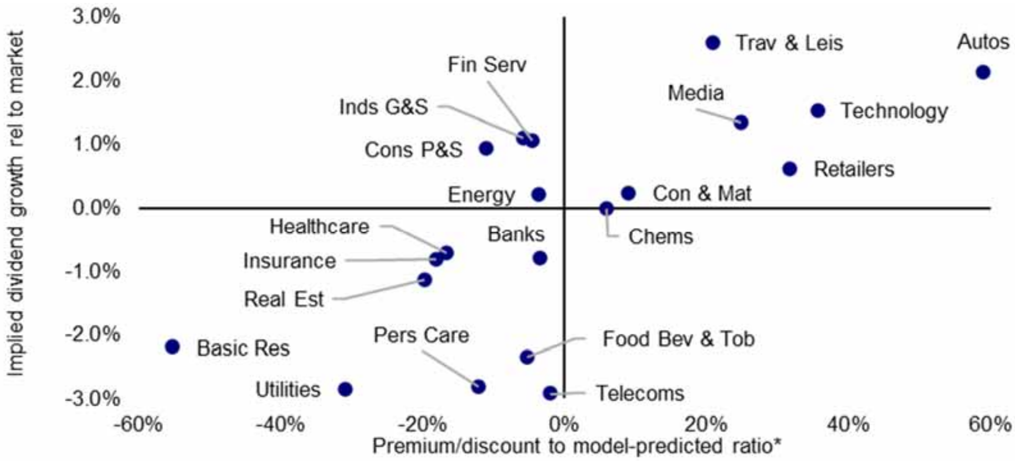


Notes: Data as of 30th September 2021. We use quarterly returns on our proprietary US and European factor indices. The spread shown is the difference between the highest and lowest quarterly returns across factor indices. See appendices for methodology and disclaimers. **Past performance is no guarantee of future returns.** Source: Refinitiv Datastream and Invesco

We prefer the basic resources sector to commodities as a way of gaining cyclical exposure

Our sector allocation follows a similar logic, trying to position ourselves for a more settled phase in the cycle by balancing early- and late-cyclicals and exposure to the growth and value factors as outlined in our latest Strategic Sector Selector. In our base case we would tilt our allocations towards basic resources, financial services and real estate as our favoured cyclical sectors with attractive valuations (**Figure 25**). Indeed, we view the basic resources sector as giving good value exposure to the economic cycle (when underlying commodities no longer appear cheap). We would have a Neutral allocation to "defensive growth" sectors (consumer staples and healthcare) and we would maintain our Overweight allocation to technology just in case growth underwhelms.

Figure 25 – Global sectors valuation matrix



Notes: On the horizontal axis, we show how far a sector's valuation is above/below that implied by our multiple regression model (dividend yield relative to market). The vertical axis shows the perpetual real growth in dividends required to justify current prices relative to that implied for the market. We consider the sectors in the top right quadrant expensive on both measures, and those in the bottom left are considered cheap. See appendices for methodology and disclaimers. Data as of 29 October 2021.
Source: Refinitiv Datastream and Invesco

Central scenario assumes 4% GDP growth and 4% inflation (global), with four alternatives

What could go wrong? Five scenarios for 2022

The earlier described central scenario assumes less growth in 2022 and that inflation proves transitory (equivalent to 4% global GDP growth and 4% CPI inflation). Though we could describe an infinite number of scenarios around the central case, we focus on just four (see **Figure 26**). “Recession” and “boom” are the extremes on what we might call the Phillips Curve continuum, whereby more (less) demand/growth is accompanied by more (less) inflation. The diagonal that links “stagflation” and “benign disinflation”, on the other hand, describes supply side-shocks. By the way, though we use the term stagflation, we do not imagine anything as extreme as in the 1970s/1980s

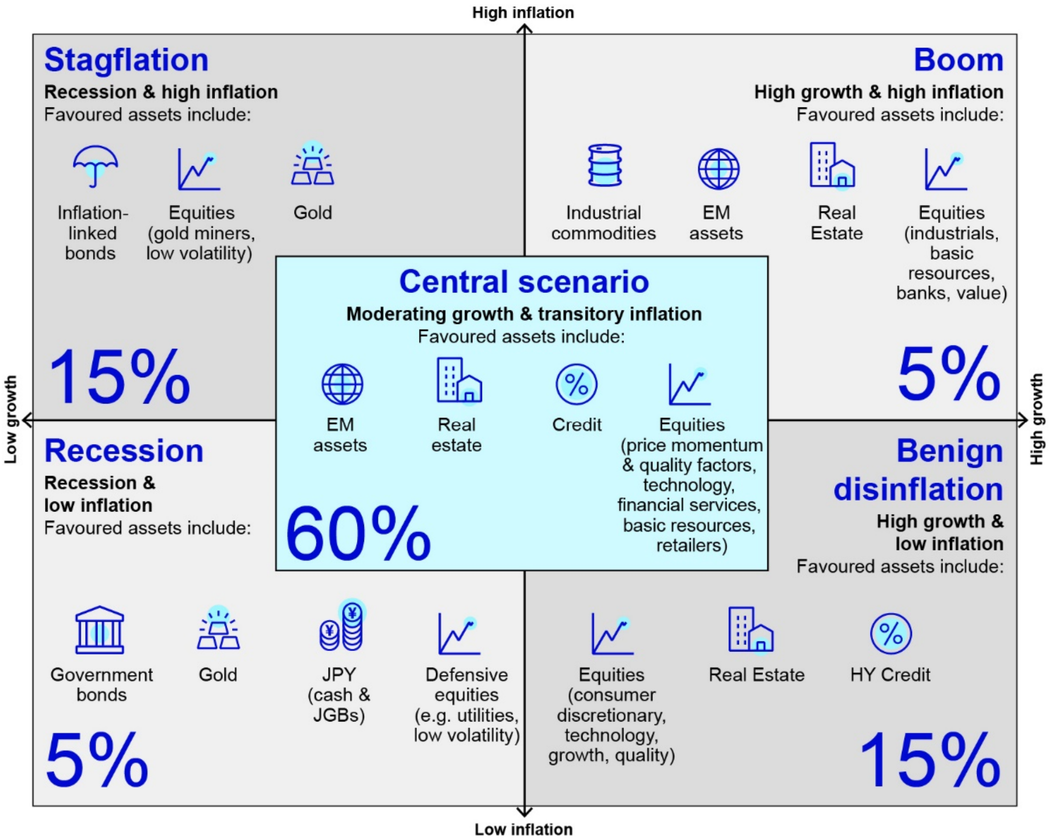
Figure 26 shows our favoured assets for each scenario. We assign a probability of 60% to the central scenario and, given current supply-side disruptions, we assign higher probabilities to stagflation and benign disinflation (15%) than to the alternatives (5%).

The **central scenario** selections should come as no surprise given the earlier sections. Though we are Maximum allocated to cash in the Model Asset Allocation, we have not included it in our favoured central scenario assets because we view it as a diversifier in the event that things go wrong, an eventuality covered by the other scenarios.

Stagflation more likely than for some time but hard to find assets to mitigate against such an outcome

There is a lot of talk of **stagflation**, which in the current context we take to mean a combination of high inflation and recession (the former perhaps provoking the latter). This could conceivably come about because supply shortages cause higher prices, which in turn provoke both falling real incomes and aggressive monetary tightening. Though we don’t think this is very likely, we believe it is more probable than for some time. The problem in such a scenario is to find assets that would offer mitigation against both inflation and recession. We suspect that inflation-linked bonds would benefit from a decline in real yields and would be impervious to the rise in inflation expectations that could still damage nominal bonds.

Figure 26 – Five scenarios for 2022 and our favoured assets



Percentages reflect our assigned probabilities. See appendices for definitions, methodology and disclaimers.
Source: Invesco

Gold and gold miners could be favoured in stagflation

Gold could be ideally placed for stagflation, so long as it displays positive correlation with inflation, which it has not done since the GFC (but we suspect it would if inflation threatens to remain elevated). Gold miners could therefore be one of the few segments of the equity market to do well. We would also expect the low volatility factor to outperform broad equity indices.

Benign disinflation would favour cyclical assets and long duration assets

At the other extreme is what we call **benign disinflation**, which assumes a combination of low inflation and strong growth (real incomes would grow more rapidly and central banks could be more leisurely in their normalisation process). We imagine that equities and real estate would benefit from a stronger economic cycle and HY would benefit from both a stronger cycle and lower government bond yields. Within equities, we imagine that consumer discretionary stocks would benefit from stronger growth and rising real household incomes, while growth stocks (including technology) would receive a boost from lower bond yields. We view the quality factor as having some of the same characteristics as growth but perhaps more defensive.

Recession would favour defensive assets

The **recession** scenario is relatively straightforward, as we also assume less inflation, which would allow central banks to loosen policy. We would expect government bond yields to fall (at least in the developed world), which we believe would also benefit gold. This is a scenario in which we would expect cash to outperform cyclical assets and among major currencies we would favour the Japanese yen (JPY), appreciation of which could also boost the return on Japanese government bonds. Among equities, we would favour the more defensive end of the spectrum (utilities and low volatility, say). The pandemic recession boosted technology stocks but we view that as an exceptional set of circumstances unlikely to be repeated in normal recessions.

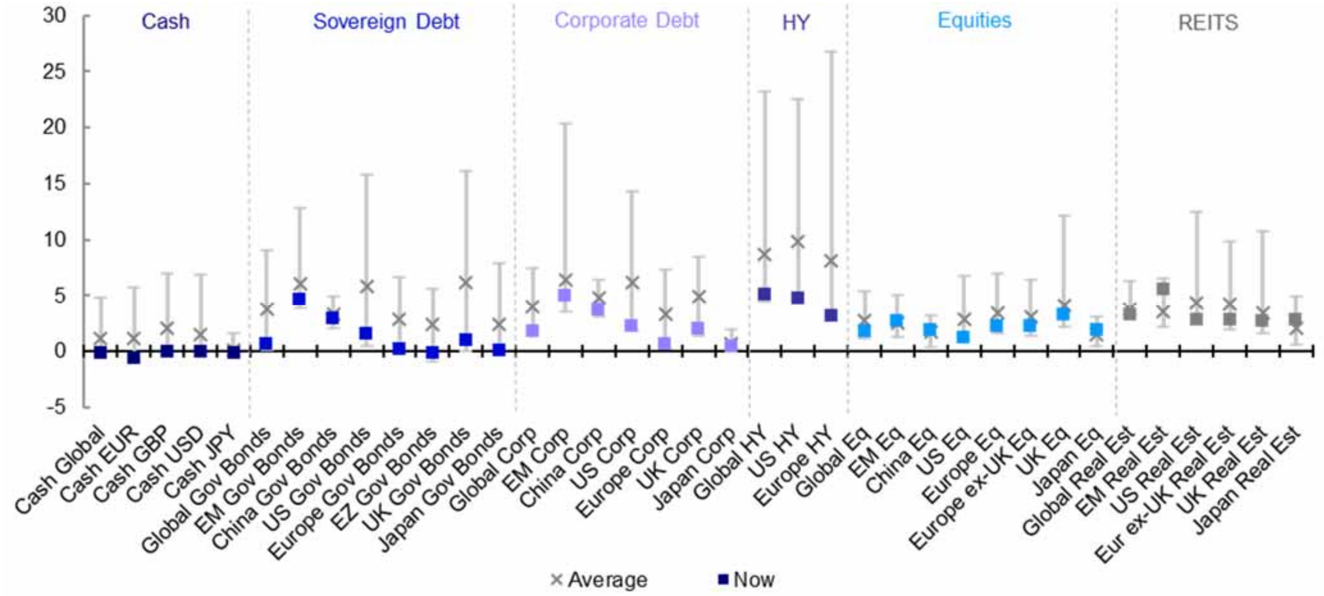
Strong growth and higher inflation likely to favour industrial commodities, real estate and equities

Finally, the **boom** scenario assumes an acceleration of growth (perhaps because households deploy their excess savings), which we suppose leads to higher inflation. This is a traditional acceleration in economic activity, which we assume will favour cyclical assets such as industrial commodities, real estate and equities. Within equities, we favour industrials, basic resources, banks (loan growth and steepening yield curve) and the value factor. We also believe that such a scenario would favour EM assets, partly due to the benefit of strong global growth and partly because of higher commodity prices. Though HY is believed to be an early cycle asset which may benefit from economic acceleration, we have not included it out of concern that bond yields would rise under this scenario (and credit spreads are already close to cyclical tights).

Appendices

Appendix 1: Global valuations vs history

Regional yields within historical ranges (%)



Notes: As of 29 October 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 31/10/2021	Index	Current Level/RY	Total Return (USD, %) 2m	YTD	12m	5y*	Total Return (Local Currency, %) 2m	YTD	12m	5y*
Equities										
World	MSCI	745	0.8	17.2	37.9	15.3	1.3	19.0	37.8	15.2
Emerging Markets	MSCI	1265	-3.0	0.0	17.3	9.8	-1.9	1.9	16.5	10.8
China	MSCI	92	-2.0	-14.0	-9.1	10.4	-2.1	-13.9	-9.4	10.3
US	MSCI	4475	1.9	23.4	43.3	19.4	1.9	23.4	43.3	19.4
Europe	MSCI	2074	-0.4	15.7	41.8	11.2	0.7	20.1	39.9	9.6
Europe ex-UK	MSCI	2614	-1.0	15.4	41.2	12.7	0.3	21.2	41.2	11.4
UK	MSCI	1162	1.9	16.7	43.8	6.8	2.3	16.4	35.6	4.4
Japan	MSCI	3881	-0.6	2.6	20.3	8.7	3.2	13.4	31.2	10.5
Government Bonds										
World	BofA-ML	0.66	-2.6	-6.3	-4.0	1.6	-1.3	-2.6	-2.3	1.6
Emerging Markets (USD)	BBloom	4.62	-3.1	-3.0	4.3	4.7	-3.1	-3.0	4.3	4.7
China	BofA-ML	2.89	1.0	6.5	10.2	4.2	0.0	4.2	5.3	3.0
US (10y)	Datastream	1.56	-1.9	-3.4	-3.7	3.0	-1.9	-3.4	-3.7	3.0
Europe	Bofa-ML	0.17	-3.7	-8.7	-3.9	3.1	-1.8	-3.5	-3.2	2.0
Europe ex-UK (EMU, 10y)	Datastream	-0.10	-4.7	-9.2	-5.2	2.5	-2.8	-4.0	-4.6	1.4
UK (10y)	Datastream	1.03	-3.3	-6.1	-0.1	4.4	-2.9	-6.4	-5.8	2.0
Japan (10y)	Datastream	0.08	-4.2	-9.7	-8.4	-1.5	-0.5	-0.2	0.0	0.2
IG Corporate Bonds										
Global	BofA-ML	1.85	-1.5	-2.4	1.7	4.3	-1.1	-1.0	1.5	3.9
Emerging Markets (USD)	BBloom	5.01	-4.4	-3.4	2.4	7.4	-4.4	-3.4	2.4	7.4
China	BofA-ML	3.71	1.1	6.1	9.3	3.8	0.1	3.8	4.4	2.6
US	BofA-ML	2.27	-0.8	-0.9	2.3	4.9	-0.8	-0.9	2.3	4.9
Europe	BofA-ML	0.60	-3.3	-6.4	-0.6	2.8	-1.4	-1.1	0.1	1.7
UK	BofA-ML	2.07	-2.1	-2.7	6.7	6.4	-1.7	-3.0	0.7	3.9
Japan	BofA-ML	0.38	-3.8	-8.9	-7.5	-1.1	-0.2	0.6	0.9	0.5
HY Corporate Bonds										
Global	BofA-ML	5.06	-1.6	1.4	8.7	6.0	-1.2	2.5	8.7	5.7
US	BofA-ML	4.74	-0.2	4.5	10.7	6.2	-0.2	4.5	10.7	6.2
Europe	BofA-ML	3.14	-2.7	-2.5	7.7	5.3	-0.7	3.0	8.4	4.1
Cash (Overnight LIBOR)										
US		0.07	0.0	0.1	0.1	1.1	0.0	0.1	0.1	1.1
Euro Area		-0.59	-2.1	-5.8	-1.5	0.5	-0.1	-0.5	-0.6	-0.5
UK		0.04	-0.5	0.2	6.0	2.7	0.0	0.0	0.0	0.3
Japan		-0.09	-3.7	-9.5	-8.3	-1.8	0.0	-0.1	-0.1	-0.1
Real Estate (REITs)										
Global	FTSE	2051	-0.5	18.6	38.3	7.6	1.5	25.4	39.2	6.4
Emerging Markets	FTSE	1655	-6.1	-12.1	-3.0	3.2	-4.2	-7.0	-2.3	2.1
US	FTSE	3634	1.7	32.4	53.5	8.8	1.7	32.4	53.5	8.8
Europe ex-UK	FTSE	3861	-5.9	5.7	30.5	9.3	-4.0	11.7	31.4	8.1
UK	FTSE	1315	-3.8	20.6	46.4	9.0	-3.5	20.3	38.1	6.5
Japan	FTSE	2756	-3.8	7.8	21.8	3.9	-0.2	19.1	32.9	5.6
Commodities										
All	GSCI	2892	12.2	46.3	73.7	5.1	-	-	-	-
Energy	GSCI	469	20.5	75.7	125.7	4.0	-	-	-	-
Industrial Metals	GSCI	1762	1.5	25.9	39.5	10.4	-	-	-	-
Precious Metals	GSCI	2048	-1.7	-6.9	-5.4	5.6	-	-	-	-
Agricultural Goods	GSCI	488	4.3	22.0	40.1	1.4	-	-	-	-
Currencies (vs USD)**										
EUR		1.16	-2.1	-5.3	-0.7	1.0	-	-	-	-
JPY		114.01	-3.5	-9.4	-8.2	-1.7	-	-	-	-
GBP		1.37	-0.4	0.3	6.0	2.3	-	-	-	-
CHF		1.09	-0.1	-3.3	0.1	1.6	-	-	-	-
CNY		6.41	0.9	1.9	4.5	1.1	-	-	-	-

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	0.9	1.5	0.56
	US Treasury Intermediate	BBG BARC US Treasury Intermediate	1.4	1.5	4.5	0.32
	US Treasury Long	BBG BARC US Treasury Long	1.3	2.0	11.7	0.17
	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	0.35
	US Inv Grd Corps	BBG BARC US Investment Grade	1.7	2.0	7.6	0.26
	US MBS	BBG BARC US MBS	2.4	2.7	6.5	0.41
	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	3.1	3.6	10.1	0.35
	US Intermediate Municipals	BOA ML US Municipal (3Y-15Y)	1.7	2.0	7.2	0.27
	US High-Yield Municipals	BBG BARC Municipal Bond High Yield	1.8	2.1	7.8	0.27
	Global Aggregate	BBG BARC Global Aggregate	2.2	2.4	6.7	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	0.27
	Global Corporate	BBG BARC Global Corporate	2.1	2.4	7.6	0.31
	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	2.0	2.9	13.4	0.22
	Eurozone Treasury	BBG BARC Euro Aggregate Government - Treasury	2.1	2.8	12.4	0.23
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	2.5	2.8	8.3	0.34
	Asian Dollar High Yield	BOA Merrill Lynch ACHY	9.3	10.9	18.7	0.58
	EM Aggregate	BBG BARC EM Aggregate	3.4	4.2	13.1	0.32
	EM Aggregate Sovereign	BBG BARC EM Sovereign	2.0	2.3	8.2	0.29
	EM Aggregate Corporate	BBG BARC EM Corporate	2.0	2.1	5.3	0.40
	EM Corporate IG	BBG BARC EM USD Aggregate - Corporate -IG	2.4	2.6	4.5	0.56
Equities	World Equity	MSCI ACWI	7.2	8.5	17.0	0.50
	World Ex-US Equity	MSCI ACWI Ex-US	7.8	9.4	18.9	0.50
	US Broad	Russell 3000	7.0	8.3	17.5	0.48
	US Large Cap	S&P 500	6.7	8.0	16.7	0.48
	US Mid Cap	Russell Midcap	7.7	9.4	19.6	0.48
	US Small Cap	Russell 2000	9.3	11.6	23.1	0.50
	MSCI EAFE	MSCI EAFE	7.3	8.8	18.7	0.47
	MSCI Europe	MSCI Europe	7.9	9.4	18.8	0.50
	Eurozone	MSCI Euro X UK	7.6	9.3	19.7	0.47
	UK Large Cap	FTSE 100	8.9	10.6	20.1	0.53
	UK Small Cap	FTSE Small Cap UK	9.8	12.6	25.8	0.49
	Canada	S&P TSX	7.0	8.9	20.4	0.43
	Japan	MSCI JP	5.4	7.7	22.5	0.34
	Emerging Market	MSCI EM	9.2	11.9	25.2	0.47
	Asia Pacific Ex JP	MSCI APXJ	8.8	11.5	25.3	0.46
	Pacific Ex JP	MSCI Pacific X JP	9.5	14.5	35.1	0.41
Alternatives	US REITs	FTSE NAREIT Equity	8.6	10.2	18.7	0.55
	Global REITs	FTSE EPRA/NAREIT Developed Index	8.1	9.6	18.5	0.52
	Hedge Funds	HFRI HF Index	7.1	7.5	8.8	0.85
	Commodities	S&P GSCI	4.9	7.4	23.8	0.31
	Agriculture	S&P GSCI Agriculture	0.3	2.4	21.5	0.11
	Energy	S&P GSCI Energy	7.4	13.0	37.1	0.35
	Industrial Metals	S&P GSCI Industrial Metals	4.5	7.1	23.9	0.30
	Precious Metals	S&P GSCI Precious Metals	2.3	3.9	18.5	0.21

Notes: Estimates as of 30 September 2021, as published in Long-Term Capital Market Assumptions (November 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 (%)	0.75	-0.50	1.00	-0.10	-	4.35
Sovereign spreads vs rates (bps)	130	100	50	30	-	-
Corporate IG spreads vs sovereign (bps)	100	25	100	15	-	-
Corporate HY spreads vs sovereign (bps)	340	270	-	-	-	-
Corporate HY default rates (%)	2.5	3.0	-	-	-	-
Corporate HY recovery rates (%)	43	50	-	-	-	-
Equities dividend growth (%)*	5.0	8.0	10.0	8.0	10.0	5.0
Equities dividend yield (%)*	1.3	2.2	3.2	1.9	2.8	1.9
Real estate (REITS) dividend growth (%)*	5.0	20.0	20.0	5.0	10.0	-
Real estate (REITS) dividend yield (%)*	3.0	3.0	2.9	2.9	5.4	-

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 20) 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, 21, 22) 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, 21 & 22). Equity index valuations (figures 18, 23 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 index (Figure 19)

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.

Equity returns during Fed tightening cycles methodology (Figure 19)
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

Historical excess returns on US assets during the economic cycle (Figure 13)
This analysis is provided by Invesco Investment Solutions (IIS). The real-time, model-based regime identification by IIS may differ today, or in the future, from this analysis focused on the slowdown regime. The point of this analysis is to illustrate that if our forecast of a slowdown regime proves correct, this framework provides useful context for the historical performance of asset classes in this regime.

Appendix 7: IIS Capital Market Assumptions methodology (Figure 5 & 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.

Important information

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