The Big Picture

2021 Outlook: Light at the end of the tunnel

Quarterly update
From Invesco's Global Market Strategy Office

For professional/qualified/accredited investors only

19 November 2020
Data as of 30 October 2020 unless stated otherwise

The Big Picture
2021 outlook: Light at the end of the tunnel

2020 has seen defensive assets outperform cyclicals. We expect the opposite in 2021. Despite short term Covid-related risks, recent vaccine news provides valuable light at the end of the tunnel. Unfortunately, some cyclical assets have already priced-in a lot of economic recovery. So, should we focus on economic momentum or on valuations? We do a bit of both within our Model Asset Allocation and reduce credit exposures in favour more cyclical assets, especially real estate, equities and industrial commodities. Cash remains our diversifier of choice. On a regional basis we favour emerging markets (EM) and Europe (including the UK).

Model asset allocation

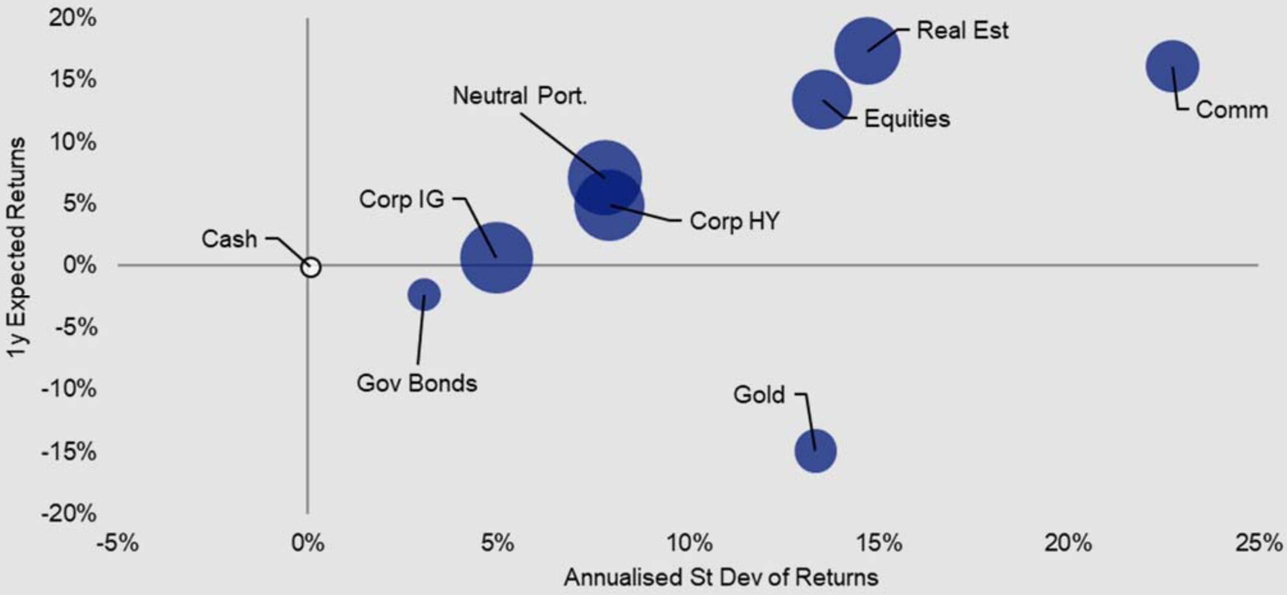
In our view:

- Equities offer good returns, especially with an early vaccine. We increase to slightly Overweight.
- Real estate has the potential to produce the best returns. We increase to Maximum.
- Corporate high-yield (HY) now looks less interesting. We reduce to Neutral.
- Corporate investment-grade (IG) now holds no advantage over cash. We reduce to zero.
- Government debt is unattractive. We remain Underweight.
- Emerging markets (EM) is still the sovereign space with the best potential. We stay at Maximum.
- Cash returns are low but stable and de-correlated. We stay at Maximum.
- Commodities are supported by the cycle. We increase to Maximum.
- Gold is expensive and threatened by rising yields. We remain at zero.

Our best-in-class assets (based on 2021 projected returns)

- UK equities
- EM real estate
- EM government bonds
- Energy

Figure 1 – Projected 1-year returns for global assets and neutral portfolio (base case)



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 30 October 2020. 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: Light at the end of the tunnel

Defensive assets outperformed in 2020…we expect the opposite in 2021

2020 has been a difficult year with defensive assets outperforming cyclicals. We expect the opposite in 2021. Despite short term Covid-related risks, recent vaccine news provides valuable light at the end of the tunnel. Unfortunately, some cyclical assets have already priced-in a lot of economic recovery. So, should we focus on economic momentum or on valuations? We do a bit of both within our Model Asset Allocation and reduce credit exposures in favour more cyclical assets, especially real estate, equities and industrial commodities. Cash remains our diversifier of choice. On a regional basis we favour emerging markets (EM) and Europe (including the UK).

History agrees

Defensive assets have outperformed so far during 2020, with gold being the star performer. Recent years with a similar pattern have been immediately followed by a reversal, with cyclical assets coming to the fore. Though this recession has been like no other, we suspect that pattern will be repeated in 2021.

There are some complications

We could stop there and simply favour cyclical assets within our Model Asset Allocation, which is certainly the preference of colleagues at Invesco's Global Market Strategy Office (GMS). However, our analysis is clouded by concern about near-term Covid-related economic deceleration, the hope a game-changing early rollout of effective vaccines and the fact that risk assets have already rebounded sharply.

Three economic scenarios

We draw upon a base case economic scenario constructed in partnership with the broader Invesco community (including Chief Economist John Greenwood). This allows for deceleration during the coming winter months but not global recession. We also consider upside ("V" for vaccine) and downside (double-dip) scenarios.

Recent news shifts our probabilities in favour of the upside scenario

Recent good news on vaccine trials has shifted our subjective probabilities in favour of the upside scenario (see **Figure 2**). This further underlines our bias towards assets such as equities, real estate, high yield credit (HY) and industrial commodities, which we expect to outperform in the early stages of an economic recovery. However, it also shifts our preferences away from regions and assets that have performed well during the pandemic (China and technology stocks, say) towards those that have performed less well (Europe, non-Asia EM, real estate and travel & leisure stocks, say).

Valuations also point to cyclical assets

Effectively, the greater the economic momentum, the better we expect "value" assets to perform. However, finding value is difficult, especially given the rally in risk assets since spring lows. Luckily, asset allocation is more about relative value (though there is always cash when all other assets are expensive). On a relative basis, given multi-century lows in policy rates and bond yields, we find more value (and hope) in risk assets, especially real estate (**Appendix 1** shows the historical context for yields across assets and regions). This further encourages our preference for cyclical assets.

Policy makers may help but tapering may bring volatility

A further layer of support comes from policy makers. We think fiscal policies will remain supportive over the coming quarters, which could lessen economic risks. On the monetary front, we do not foresee any change in policy rates at major central banks and expect asset purchase programmes to remain active. However, tapering of those purchases could happen during 2021, which may bring temporary market volatility.

We believe risk assets will ignore the expected rise in bond yields

Despite the stability of central bank rates, we expect long bond yields to rise. In our base case scenario this would be a modest change (US 10-year yield rising to 1.35% -- see **Figure 33**) but would be more aggressive in our upside alternative. We believe that cyclical assets would focus more on economic growth than on rising government bond yields and therefore anticipate upside in those categories. Our base case projections (including **Figure 33**) were based on 30 October 2020 prices and have been overtaken by subsequent events (vaccines). However, we believe the analysis is directionally valid given the shift in our subjective probabilities towards the upside scenario.

Optimisations favour real estate, commodities and… cash

Optimisations based on those base case projections suggest maximum allocations to real estate, commodities and cash; zero allocations to investment grade credit (IG), HY credit and gold but are less clear on government bonds and equities (see **Figure 32**).

We are Overweight real estate, industrial commodities, equities and cash

Real estate is our favourite asset category based on valuations (yields) and the potential for an operational rebound (especially in the "V" for vaccine scenario). We boost the allocation to the maximum allowed 16% (see **Figure 3** for the regional detail). Likewise, we take **commodities** back to the maximum 4% (from zero), with a focus on industrial commodities and agriculture. The optimisation results are not so clear for **equities**, given the recent rebound. However, led by cyclical considerations (and our GMS colleagues) we move to a slightly Overweight 50% versus a Neutral 45%, with a focus on non-US markets. To balance all those risk assets, we maintain a maximum 10% exposure to **Cash**, our diversifier of choice.

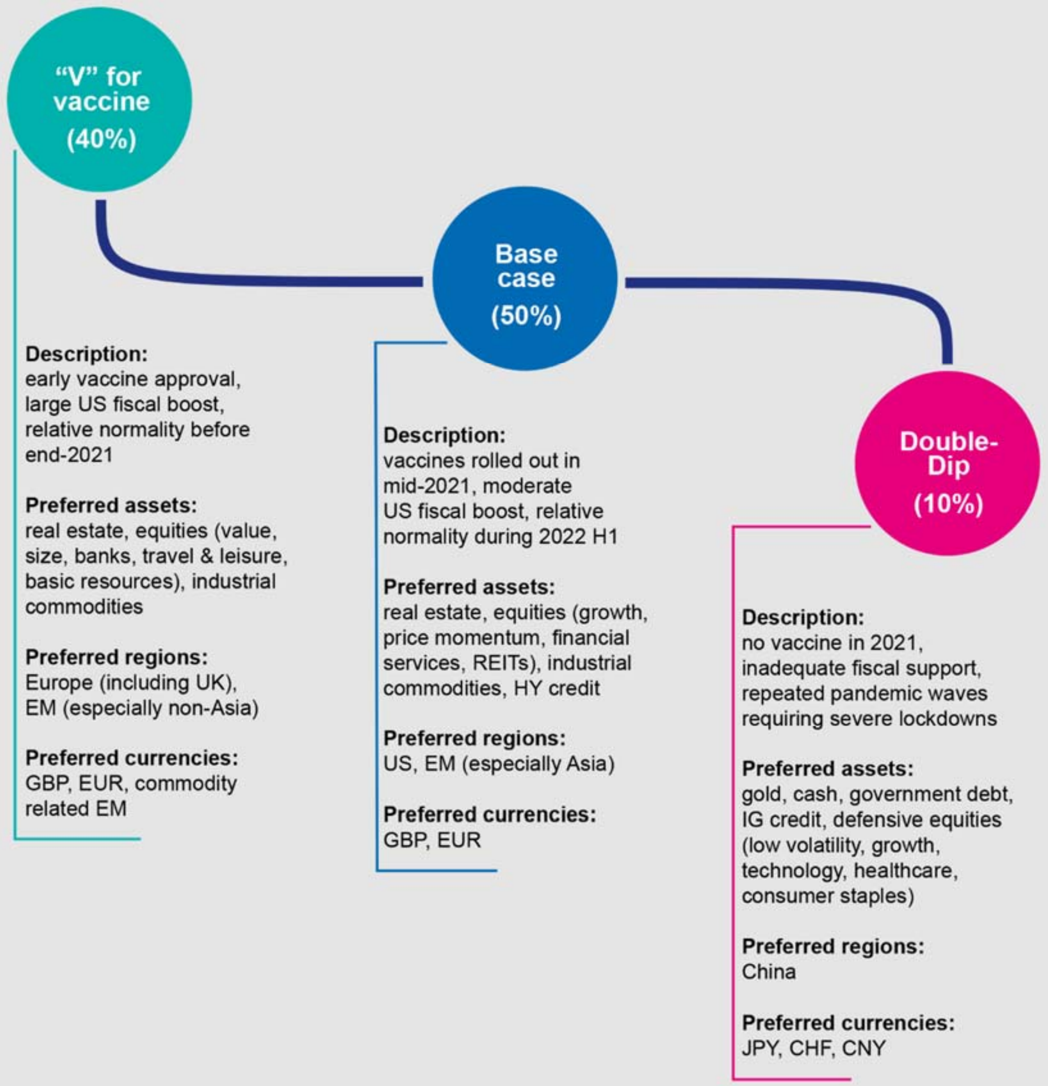
We reduce allocations to corporate credit, remain Underweight govt bonds and absent gold

IG has been our all-weather choice during 2020 but we now feel less need for its stability, especially given that spreads have normalised and that yields are at historical lows. We reduce it from the maximum 20% to zero. We also reduce the allocation to **HY** but leave it at a Neutral 5% out of respect for its cyclical qualities. We leave **government bonds** at an unchanged 15%, well below the Neutral 25%. We think **gold** is expensive, even before treasury yields rise, and leave it at a zero allocation.

We focus on EM and European assets

From a regional perspective, bearing in mind the recently increased likelihood of an early vaccine rollout, our emphasis is upon EM and Europe (including the UK). Europe faces several short-term hurdles (Brexit and lockdowns) but we think it has most to gain in our upside scenario. China is introduced to our Model Asset Allocation (see **Figure 3**).

Figure 2 – Asset preferences for 2021 by scenario

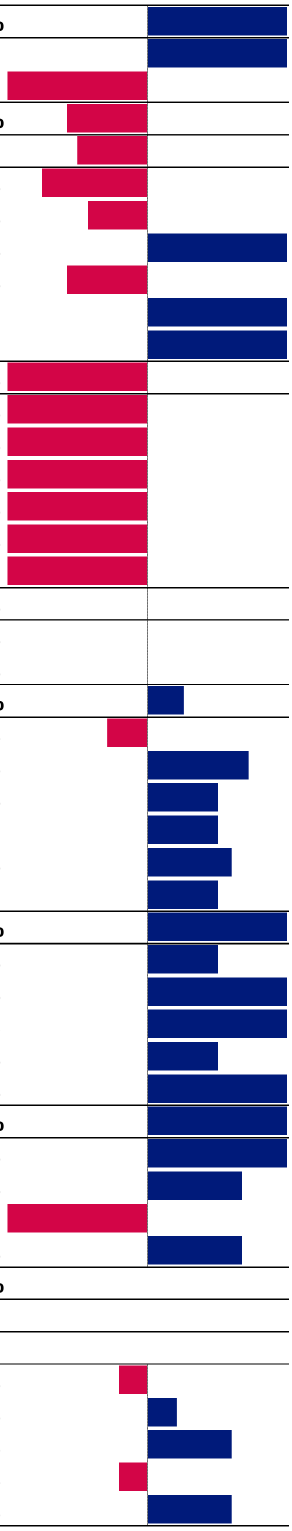


Percentages are our subjective probabilities. See appendices for definitions, methodology and disclaimers.
Source: Invesco

Model asset allocation*

Figure 3 – Model asset allocation (19/11/2020)

	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%**	↓	**20%**	
Government	25%	10-40%		15%	
US	8%		↓	2%	
Europe ex-UK (Eurozone)	7%		↑	4%	
UK	1%		↑	2%	
Japan	7%		↓	3%	
Emerging Markets	2%			4%	
China**	0.2%			1%	
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%	↑	5%	
US Dollar	4%		↓	4%	
Euro	1%		↓	1%	
Equities	**45%**	**20-60%**	↑	**50%**	
US	25%		↑	18%	
Europe ex-UK	7%		↑	12%	
UK	4%		↑	6%	
Japan	4%			6%	
Emerging Markets	5%		↑	8%	
China**	2%			3%	
Real Estate	**8%**	**0-16%**	↑	**16%**	
US	2%		↑	3%	
Europe ex-UK	2%		↑	4%	
UK	1%			3%	
Japan	2%		↓	3%	
Emerging Markets	1%		↑	3%	
Commodities	**2%**	**0-4%**	↑	**4%**	
Energy	1%		↑	2%	
Industrial Metals	0.3%		↑	1%	
Precious Metals	0.3%			0%	
Agriculture	0.3%		↑	1%	
Total	**100%**			**100%**	
Currency Exposure (including effect of hedging)					
USD	48%		↓	36%	
EUR	20%		↑	23%	
GBP	7%		↑	12%	
JPY	15%		↓	13%	
EM	9%		↑	15%	
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. The following structural changes have been implemented for this edition: China has been added to various categories; Government Neutral has been reduced from 30% to 25% and Equities Neutral has been increased from 40% to 45%. Those changes to Neutral allocations have resulted in changes to the respective policy ranges and country Neutral 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

A glance in the rear-view mirror

2020 was not as expected: defensives to the fore

Before embarking on the outlook for 2021, let's consider what happened during 2020. A global pandemic and consequent recession came as a shock to financial markets, as indicated by **Figure 4**. Defensive assets performed extremely well (up to end-October), while cyclical assets suffered.

Gold excelled

Gold has been the standout performer during 2020 helped by falling bond yields and a weakening dollar. On the other hand, broad commodity indices performed poorly (due almost entirely to the fall in the price of oil and other energy products – see **Appendix 2**). Real estate (REITS) has also suffered, due to both cyclical and structural aspects (Covid-19 is expected to reduce demand for office and retail space). That equities held up so well is largely due to the performance of tech-related stocks that proved well suited to lockdown conditions (providers of internet shopping, work from home technology and home entertainment, for example).

Historical precedents witnessed a quick reversal

The profile of returns during 2020 resembles most closely those of 2008, 2011 and perhaps 2018. Interestingly, in the year immediately following those three episodes there was an immediate reversal of fortunes, with cyclical assets broadly outperforming. Of interest, though, is the fact that commodities didn't quite follow that reversal: gold didn't fall to the bottom of the rankings and broad commodities didn't rise to the top. Though defensive assets underperformed they still produced positive returns.

Why not just favour cyclicals?

On that basis, we could simply stop here and focus the Model Asset Allocation on cyclical assets, especially given recent news from Pfizer and Moderna about vaccines. However, we need to consider how 2021 could differ from 2009, 2012 and 2019:

- If the pandemic endures (for example because no vaccine provides a silver bullet), then economic growth will continue to be hampered and cyclicals could struggle (to be fair we worried about double-dips for a long time after the GFC).
- The accumulation of government debt during 2020 could force fiscal consolidation, which again may act as a drag on economic growth (the same could be said of the post-GFC era but debt levels are now that much higher).
- Rapid monetary growth could provoke inflation which may impact relative returns.

Vaccines remain key

Based on the above, we believe the key to asset returns in 2021 will be the extent to which a vaccine enables a return to "normal" patterns of behaviour. The sooner the better for cyclical assets, though they may already have priced-in a lot of the good news.

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

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CTY 32.7%	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 29.1%
Gold 31.8%	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%	Govt 7.9%
Govt 10.7%	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 7.0%
Stocks 9.6%	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%	HY 0.9%
IG 7.3%	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%	Cash 0.6%
Cash 5.5%	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%	Stocks -1.2%
HY 3.1%	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 -23.3%
REITS -2.8%	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 -41.2%

Notes: Based on annual total return data from 2007 to 2020 in USD (2020 is created by annualising data up to 30 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

Focusing on the next decade using Invesco's CMAs

Invesco Investment Solutions have just published their 10-year capital market assumptions and we thought it might be interesting to put them into our asset allocation framework and run them through our optimisation process. **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).

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

	USD	EUR	GBP	CHF
Cash & Gold	1.1	-0.1	0.6	-0.1
Cash - US Treasury Short	0.4	-0.8	-0.1	-0.8
Gold	1.8	0.6	1.3	0.6
Government Bonds	1.5	0.3	1.0	0.3
Corporate IG	1.8	0.5	1.3	0.6
Corporate HY - US HY	4.2	2.9	3.7	3.0
Equities	6.3	5.1	5.9	5.2
Real Estate	8.9	7.7	8.4	7.7
Commodities	3.3	2.1	2.9	2.1

Note: Estimates as of 30 September 2020 and based on the 10-year capital market assumptions published by Invesco Investment Solutions in 2021 Long-Term Capital Market Assumptions (November 2020). 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

Cyclical assets 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 does not feature 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 and commodities are zero allocated; HY is largely Overweighted, equities are usually Neutral to Overweight, while government bonds are mainly Underweighted. The combination of cash and gold gives mixed results and where it is given a large allocation the preference for cash or gold varies (they are rarely present at the same time). It will be interesting to 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%	2%	10%	10%	0%	8%	0%	10%
Cash	2.5%	0-10%	10%	0%	10%	0%	0%	6%	0%	1%
Gold	2.5%	0-10%	0%	2%	0%	10%	0%	2%	0%	9%
Government Bonds	25%	10-40%	39%	13%	10%	10%	33%	20%	10%	20%
Corporate IG	10%	0-20%	0%	0%	0%	0%	0%	0%	0%	0%
Corporate HY	5%	0-10%	10%	10%	6%	5%	10%	10%	9%	10%
Equities	45%	25-65%	25%	59%	58%	59%	41%	46%	65%	44%
Real Estate	8%	0-16%	16%	16%	16%	16%	16%	16%	16%	16%
Commodities	2%	0-4%	0%	0%	0%	0%	0%	0%	0%	0%

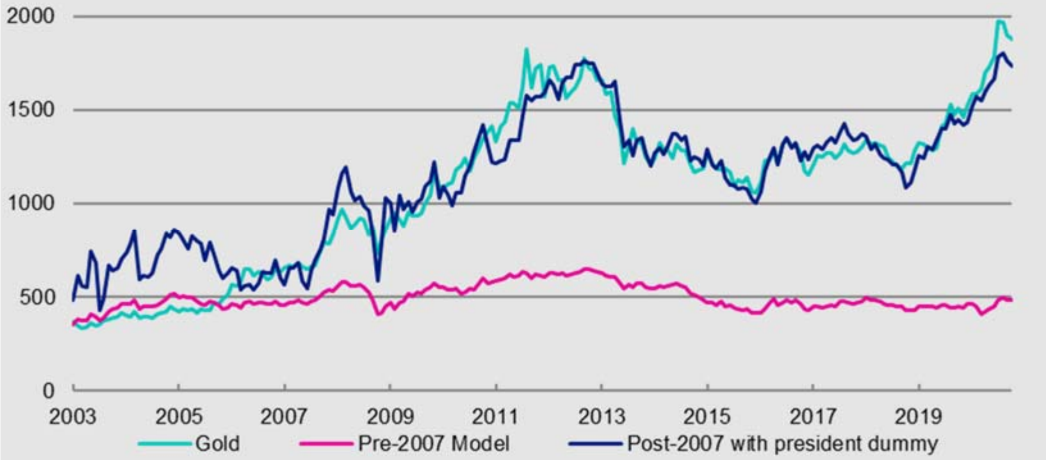
Note: optimisations are based on the 10-year projected returns published by Invesco Investment Solutions in 2021 Long-Term Capital Market Assumptions (November 2020), as shown in **Figure 5** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance 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

A return to more traditional ways?

Politics in 2021: elections, geopolitics and risk premia

Now we know who the next US president will be, we can get back to worrying about other matters. One potential positive from the change at the White House may be a return to more normal international relations and, we suspect, a lowering of global risk premia. The fact we had to introduce a "president dummy" into our gold model after the November 2016 election (worth around $230 per ounce), suggests to us that risk premia increased at that time (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 2020 (as of 30 October 2020). 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

US-China relations will remain key

Though we expect the US approach to relations with China to become less erratic, we suspect Sino-US tensions will remain (given their battle for strategic dominance) and that the US could now be in a better position to work with the support of traditional allies.

2021 could also be the first year since 2015 that Brexit does not dominate European politics…unless a full agreement requires negotiations into the new year. Hopefully, that will not be the case and attention can instead turn to implementation.

Brexit could still disrupt UK politics and Angela Merkel's successor will be revealed

However, Brexit may still have an influence on UK politics with Scottish parliamentary elections due on 6 May. If the ruling Scottish National Party wins a majority, it is likely to press for another independence referendum, which could result in the splintering of the United Kingdom. Otherwise, **Figure 8** suggests the highlight of the electoral year will be German federal elections in September, when Angela Merkel's successor will be chosen.

Figure 8: Selected elections and political events during 2021

17/03/2021	Netherlands	General
25/04/2021	Peru	General
06/05/2021	UK	Local (including devolved national parliaments)
06/07/2021	Mexico	Legislative
12/08/2021	Iran	Presidential
05/09/2021	Hong Kong	Legislative
19/09/2021	Russia	Legislative
22/10/2021	Japan	General
24/10/2021	Argentina	Legislative
24/10/2021	Germany	Federal
21/11/2021	Chile	General
19/12/2021	Chile	Presidential

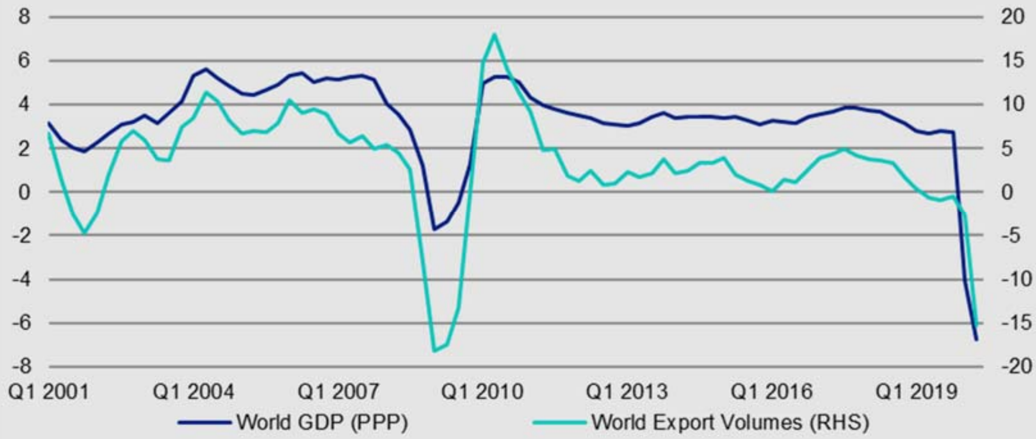
Source: International Foundation for Electoral Systems, Wikipedia, Invesco

A deeper recession than during the GFC

The global economic cycle: quick-slow-quick

A year ago, we worried that the global deceleration would continue into 2020 but concluded that policy easing would enable the avoidance of recession. Then Covid-19 struck and we have since witnessed one of the deepest recessions on record. **Figure 9** shows that ahead of this recession, global GDP growth was lower than prior to the global financial crisis (GFC) and that the subsequent loss of GDP has been greater (though the decline in exports has been similar).

Figure 9 – Global GDP and export volumes in USD (% yoy)

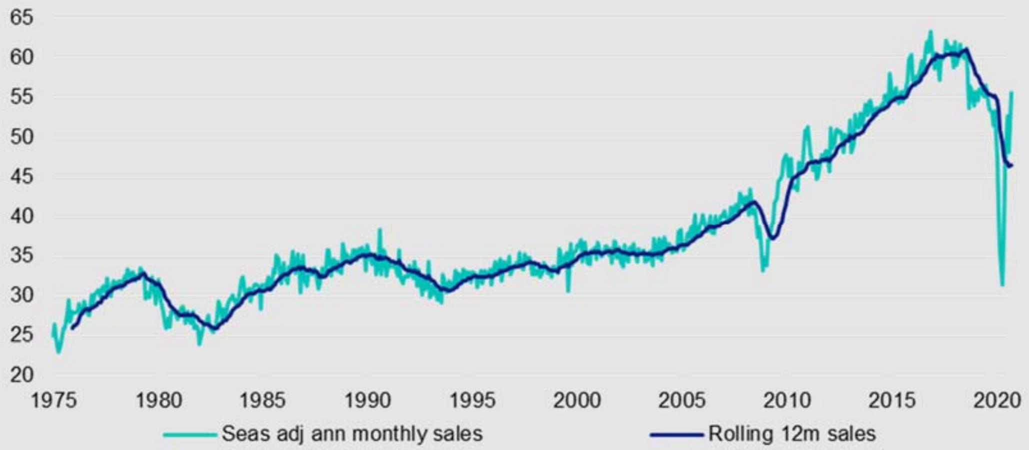


Note: quarterly data from 2001 Q1 to 2020 Q2.
Source: IMF, Netherlands Bureau for Economic Policy Analysis, Refinitiv Datastream and Invesco

But the rebound was quick, if not yet complete

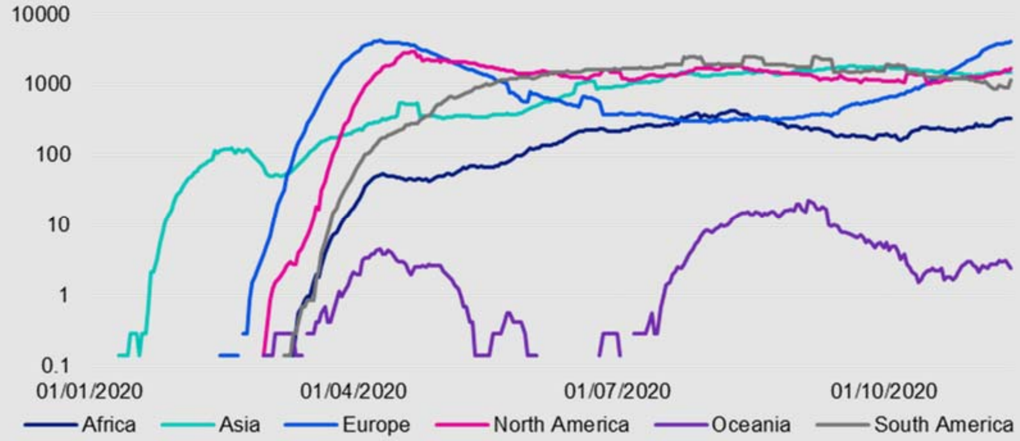
However, **Figure 9** only shows data up to 2020 Q2 and activity rebounded strongly during Q3. **Figure 10** shows how the unprecedented decline in world passenger car sales in early 2020 was rapidly reversed (at the low point in April, seasonally adjusted sales were 41% below the December 2019 level). Q3 GDP data from countries that have already reported confirms that the rebound stretches beyond the auto sector, though output remains lower than at the start of the year in most cases (China being the obvious exception).

Figure 10 – World passenger car sales (million)



Note: Monthly data from January 1975 to September 2020. Based on an aggregation of country sales data from Australia, Austria, Belgium, Brazil, Bulgaria, China, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, Norway, Panama, Philippines, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Turkey, UK, US, Vietnam. Data exists for all countries since January 2011, prior to which partial global totals are adjusted to compensate for countries that are missing (and to avoid discontinuities in the data). The last month for which data exists for all countries is June 2020. The global total for subsequent months is calculated by assuming that year-on-year growth in the global total is the same as that for those countries for which data exists "Seas adj" indicates the series is seasonally adjusted to smooth the data. Past performance is no guarantee of future results. Source: National data sources, OECD, European Automobile Manufacturers' Association, Refinitiv Datastream, Invesco

Figure 11 – Covid-19 daily deaths by region (7-day MA, log scale)



Based on daily data from 1 January 2020 to 14 November 2020. "7-day MA" is a seven-day moving average. Source: European Centre for Disease Prevention and Control, Invesco

Vaccines could boost long term growth but this winter may be difficult

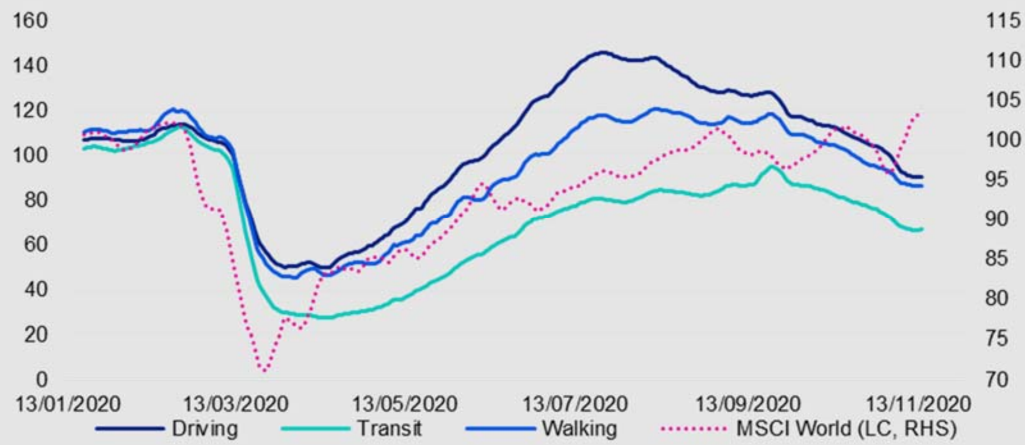
Unfortunately, it seems unlikely that the economic momentum continued into 2020 Q4 and the outlook over the coming quarters is uncertain, despite recent good news on vaccines. The problem is, of course, a resurgence of Covid infections across numerous regions, including Europe, North America, Africa and Oceania. That has already led to an increase in the daily death toll, particularly in Europe (see **Figure 11**).

Though foreseeable in many ways (especially as Northern Hemisphere countries enter autumn and winter), the speed with which the virus is spreading and that hospital capacity is being filled is truly amazing. Numerous European countries have resorted to national lockdowns, though not yet as severe as during the first wave, and we believe this is likely to dampen economic activity.

Mobility data points to a slowdown

Mobility data is one of the first places we would expect to see the consequences and **Figure 12** shows how Apple mobility trends are now downward (when averaged across a range of countries throughout the world). For the moment, the decline in mobility is most noticeable in some (but not all) European countries and we suspect it will spread to other regions, along with the implicit economic deceleration. On that basis, we expect lower global growth over the fourth and first quarters, with the possibility of a double-dip recession, especially in Europe.

Figure 12 – Global Apple mobility trends and MSCI World

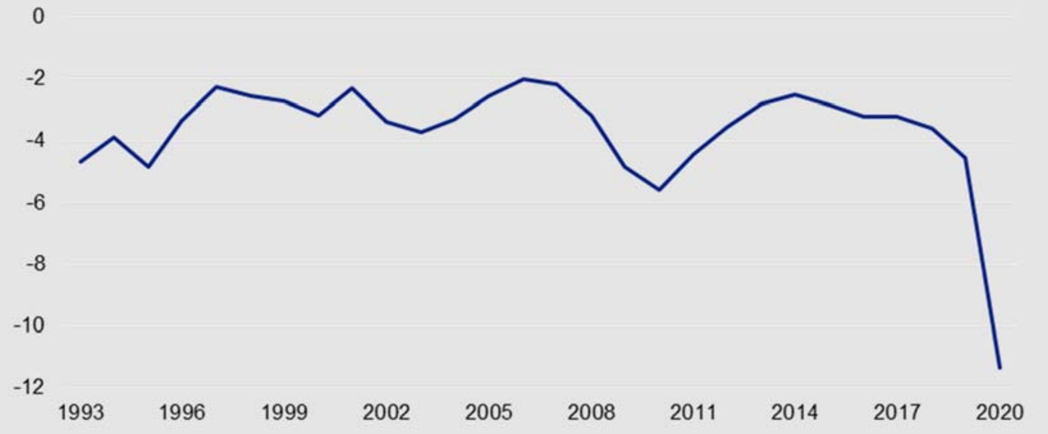


Daily data from 13 January 2020 to 14 November 2020, with all indices indexed to 100 on 13 January 2020 and shown as 7-day moving averages. Apple mobility trends indices are sourced from the Apple Mobility Trends report and measure the number of requests for directions in Apple Maps. The above indices are constructed as simple average of the indices for the following countries: Australia, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Philippines, Singapore, Spain, Sweden, Switzerland, Taiwan, United Kingdom and United States of America. Past performance is no guarantee of future results. Source: Apple, Refinitiv Datastream and Invesco

Governments prevented a deeper recession but at a cost

Policy makers to the rescue…again?
The protection of household and business cash flows in 2020 came at a big cost (see **Figure 13**). If economies do slow, such costs are likely to increase again. Governments therefore face two difficult choices: first, where to balance the risks to health and wealth and, second, how much to protect companies and households from the effects of lockdown measures. The latter dilemma implies bigger budget deficits today to prevent the collateral damage (bankruptcies and unemployment) that could inflate future deficits.

Figure 13 – G20 cyclically-adjusted government balance (% of potential GDP)



Note: annual data from 1993 to 2020. Data (including the 2020 forecast) is provided by the IMF.
Source: IMF, Refinitiv Datastream and Invesco.

And may not be able to do the same again…

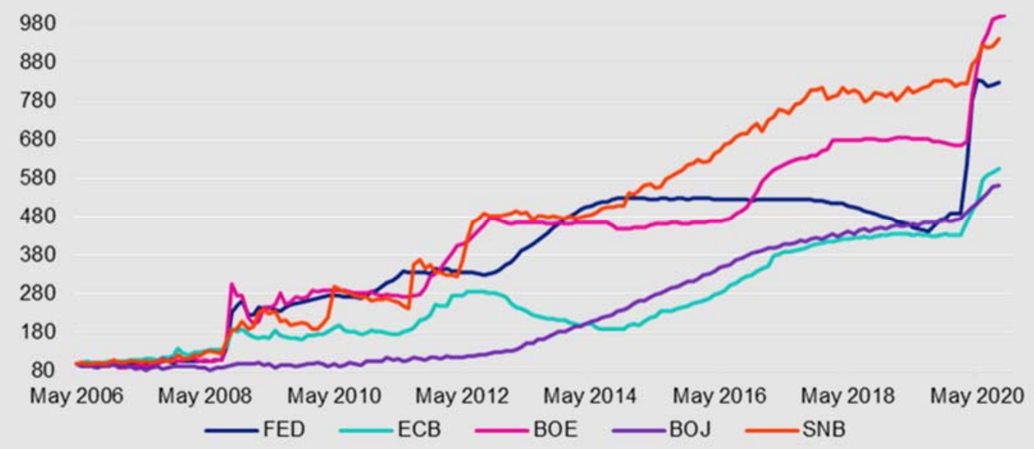
We suspect that governments will tread a middle path: providing some support while trying to limit budget deficits and defining the pathway to future budget equilibrium. An important ingredient in this balancing act is the suppression of government financing costs while ensuring there is adequate appetite for government debt.

…without the help of central banks

This is where central banks come in. **Figure 14** shows that major central banks accelerated the expansion of their balance sheets during 2020. This is particularly noticeable in the case of the Fed and the BOE. Big asset purchase programmes tend to be focused on government debt and we think this helps explain why governments have been able to comfortably finance their enlarged deficits at ever lower yields.

This implicit financing of governments by central banks may have faltered in recent months, judging by the flattening of the Fed and BOE balance sheets. This may explain why yields were rising at the end of October when equity markets were suggesting economies may weaken…and why the BOE is now buying even more assets.

Figure 14 – Central bank balance sheets in local currency (31/5/2006 = 100)



Note: monthly data from May 2006 to September 2020 (October data for BOE). As of 30 October 2020.
Source: BOE, Refinitiv Datastream and Invesco

Monetary aggregates have accelerated

One consequence of central bank largesse would appear to be an increase in money supply growth. **Figure 15** shows our global money supply aggregate. The recent uptick in growth looks very similar to what happened at the time of the GFC and during the Eurozone crisis. Neither of those episodes resulted in a durable increase in the rate of growth of monetary aggregates. In fact, growth continued trending lower.

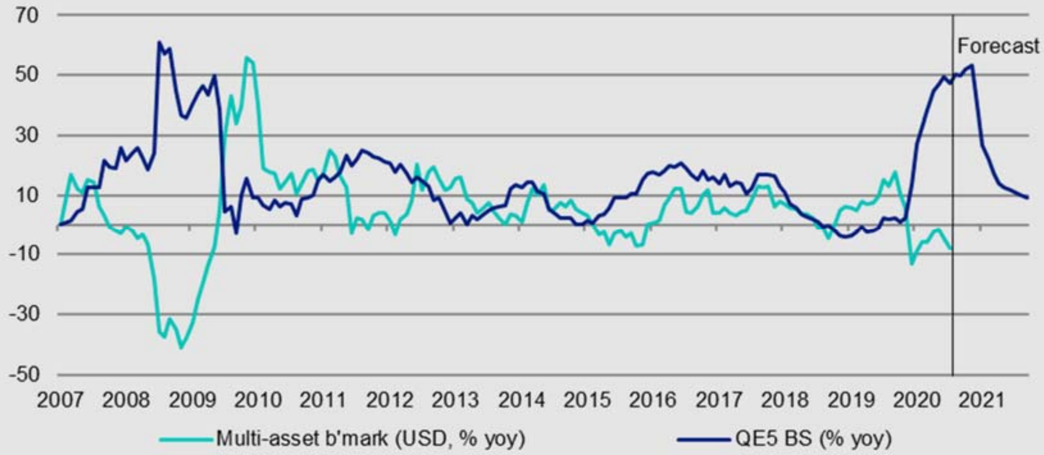
Figure 15 – Global money supply growth (% yoy)

Note: monthly data from January 1981 to August 2020. Based on an aggregation of broad money supply aggregates (usually M3) for the following countries: Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Eurozone, Hungary, Iceland, India, Indonesia, Israel, Japan, Mexico, New Zealand, Norway, Poland, Russia, South Africa, South Korea, Sweden, Switzerland, Turkey, United Kingdom and United States. The aggregation of national money supplies uses purchasing power parity (PPP) exchange rates to convert to US dollars (PPP exchange rates equalise spending power across countries and are usually more stable than market exchange rates). Source: OECD, Oxford Economics, Refinitiv Datastream, Invesco

But we don't expect any durable growth/inflation effect

For there to be a durable economic effect, the monetary acceleration will need to be more than a fleeting episode, we believe. Otherwise, perhaps the best we can hope for is that central banks can support financial markets when needed (see **Figure 16**). They may be able to prevent a stock market collapse that could aggravate a recession but we doubt they can produce durably higher growth/inflation.

Figure 16 – QE5 balance sheet growth and asset returns

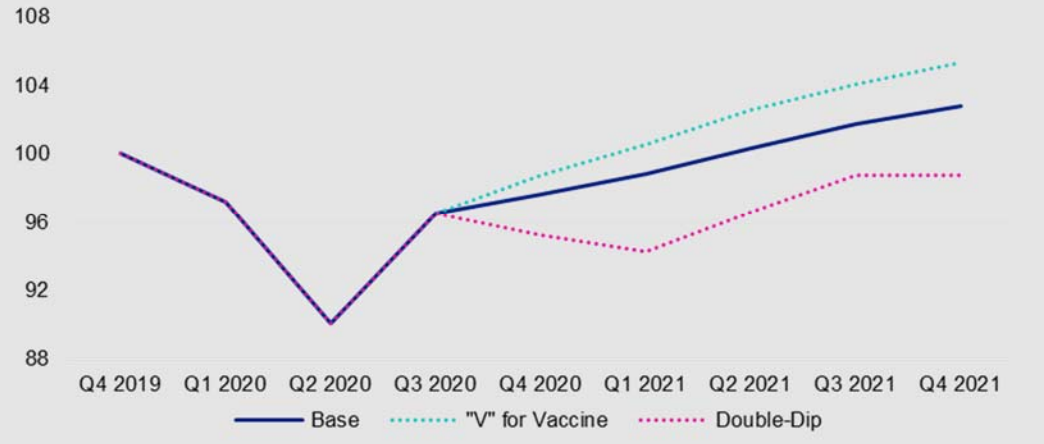


Note: QE5 BS is the aggregate balance sheet of Fed, ECB, BOE, BOJ and SNB in USD. Forecast considers asset purchase plans of the central banks but ignores other sources of growth. The Fed has announced unlimited purchases (we assume $120bn per month during the rest of 2020, $60bn per month during 2021 H1 and $30bn per month during 2021 H2). The ECB has announced plans to purchase €1.1 trillion of assets in 2020 and to continue into 2021: we assume $130bn per month until June 2021, with a halving of that rate thereafter. The BOJ has announced a doubling of the rate of ETF purchases: we assume $45bn asset purchases per month in 2020 and $30bn per month in 2021. The BOE has announced £300bn of purchases (we assume they occur smoothly during 2020, with a halving of the rate in 2021). The SNB has announced no plan but we assume $10bn per month in 2020, with a halving of those rates in 2021. 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 2021. As of 30 October 2020. Past performance is no guarantee of future results. Source: BOE, Refinitiv Datastream and Invesco

Base case suggests imminent global deceleration but not recession

The global economy and assets during 2021 – vaccines are key
In collaboration with colleagues at Invesco (including Chief Economist John Greenwood), we have defined an expected path for global GDP over the coming year. As described above, we believe a pandemic imposed global deceleration during the winter of 2020/21 will not be as drastic as during 2020 H1, even in a double-dip scenario (see **Figure 17**). This is because we expect that lockdowns to be neither as severe nor as uniform across countries as they were then, while we expect policy support to remain.

Figure 17 – Scenarios for the path of global GDP (2019 Q4 = 100)



Note: quarterly data from 2019 Q4 to 2021 Q4, based on an aggregation of country and regional projections for seasonally adjusted real GDP (using historical data when available). The aggregation uses 2019 real GDP levels in purchasing power parity terms to set country weights, which are then adjusted dynamically through time to reflect different national growth rates. See appendices for description of scenarios.
Source: IMF, national governments, Macrobond and Invesco.

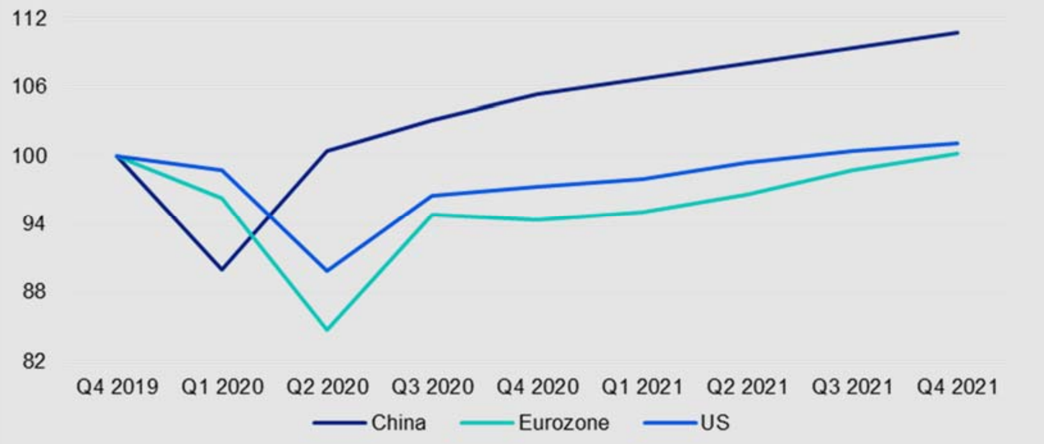
Upside and downside scenarios linked to speed of vaccine rollout

Our downside double-dip scenario assumes another recession provoked by rising Covid deaths and stringent lockdowns in many parts of the world, with no vaccine available during 2021 (the base case assumes a vaccine is available in mid-2021). The "V" for vaccine case assumes a vaccine is rolled out in early 2021 (along with a US fiscal boost), which raises confidence and permits a return to "normality" during 2021 H2.

Not all countries are equal

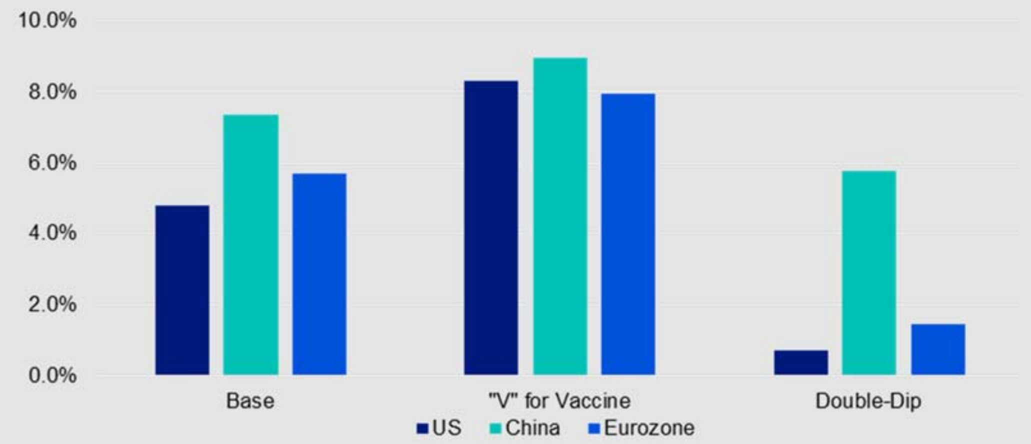
We expect different outcomes for different countries and regions, based on differences in pandemic management and policy support. For example, **Figure 18** shows our base case paths for the three major economies. From a broad regional perspective, we believe that East Asian economies will continue to outperform, while Europe is expected to suffer more in the short term but with a subsequent rebound (South America could suffer the same fate but with different timing due to geographical considerations).

Figure 18 – Base case GDP paths for major economies (2019 Q4 = 100)



Note: quarterly data from 2019 Q4 to 2021 Q4, based on seasonally adjusted real GDP. See appendices for description of base case scenario. Source: IMF, national governments, Macrobond and Invesco.

Figure 19 – Cumulative GDP growth by scenario from 2020 Q3 to 2021 Q4 (%)



Note: based on projections of seasonally adjusted real GDP. See appendices for description of scenarios. Source: Invesco

China may enjoy the strongest growth but Eurozone may have the best relative momentum in some scenarios

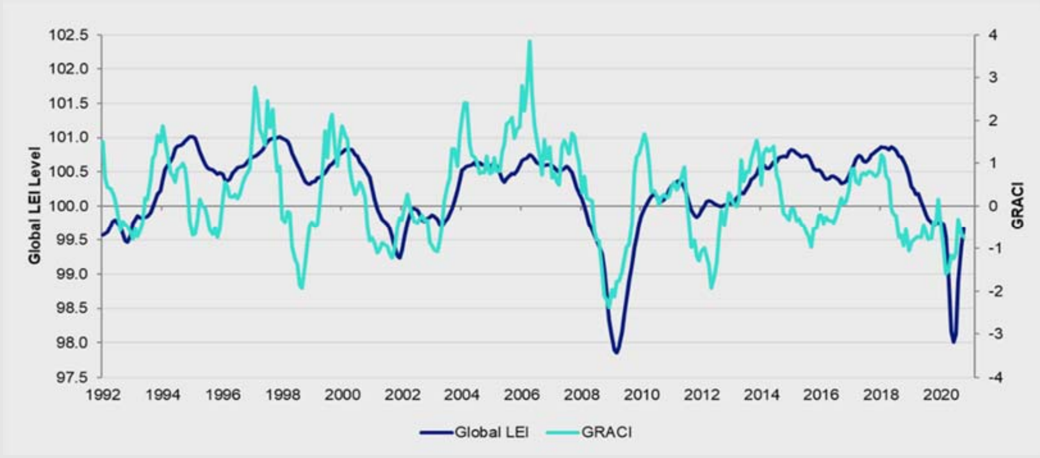
However, momentum is all and **Figure 19** gives an interesting insight into what our forecasts mean for GDP growth through to 2021 Q4. Growth is expected in all three economies and scenarios and is particularly strong in the base- and upside ("V" for vaccine)-cases. We expect continued (though perhaps not smooth) expansion during 2021. Not surprisingly, China is expected to show the strongest growth from 2020 Q3 to 2021 Q4, no matter the scenario but especially for the double-dip case. However, when compared to average growth over the last seven years, the Eurozone is expected to show the strongest outperformance: the region may struggle in the short term but it still has a lot of ground to make up from the first half of this year.

Our growth outlook pushes us towards cyclical assets

That pushes us to prefer cyclical assets over the course of the next year, though with an acceptance that volatility may be elevated in the immediate future due to the short-term economic deceleration. Indeed, the Global Risk Appetite Cycle Indicator calculated by Invesco's Solutions team shows how risk appetite has already improved from the lows seen earlier this year (see **Figure 20**). With global leading indicators below trend, the Solutions team concludes that markets are in a recovery regime.

Not surprisingly, this drives us to favour risky assets such as equities, real estate, HY, commodities and EM. **Figure 21** gives more detail about our cyclical preferences.

Figure 20 – Global risk appetite and the global business cycle



Note: monthly data from January 1992 to September 2020. 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, BEA, Moody's, Invesco Investment Solutions

Our research suggests such assets outperform in the early stages of the cycle

Indeed, our research suggests that during the early stages of the economic cycle, assets with cyclical characteristics tend to perform the best (equities, real estate, HY and industrial commodities). On that basis, and other things being equal, our base case economic scenario pushes us to project better returns on those cyclical assets.

Early/rapid vaccine rollout would support that choice

However, other things are not always equal. First, the current cycle is like no other we have seen. We believe that an early and rapid vaccine rollout gives the best chance of a smooth recovery path and that it would widen the performance gap between cyclical and defensive assets (and improve the performance of European assets relative to those of the US and Asia). See our “V” for vaccine scenario.

But there is a difficult winter ahead, which could bring volatility

However, we doubt any vaccine will come soon enough to prevent economic damage during the upcoming Northern Hemisphere winter. The longer it takes to roll out a vaccine, the more pandemic waves we are likely to endure and the more prolonged will be the stop-start phase of this cycle. We suspect that such an outcome would reduce the performance gap between cyclical and defensive assets and an extreme delay (such as in our double-dip scenario) could render defensive assets more remunerative than cyclical counterparts (effectively causing a repeat of the 2020 outcomes shown in **Figure 4**). We also think it would favour US and Asian assets over those of Europe. Scenario uncertainty justifies more diversification than might otherwise be warranted, we think.

Second, extreme central bank policies have depressed government bond yields to levels from which it is difficult to imagine acceptable investment returns (see **Figure 22** and **Appendix 1**). This reduces the value of government debt as a diversifier and forces us to focus on cash to provide portfolio stability. Gold has also benefitted from the depression of bond yields and consequently looks expensive, in our opinion.

Figure 21 – The economic and asset class roller coaster

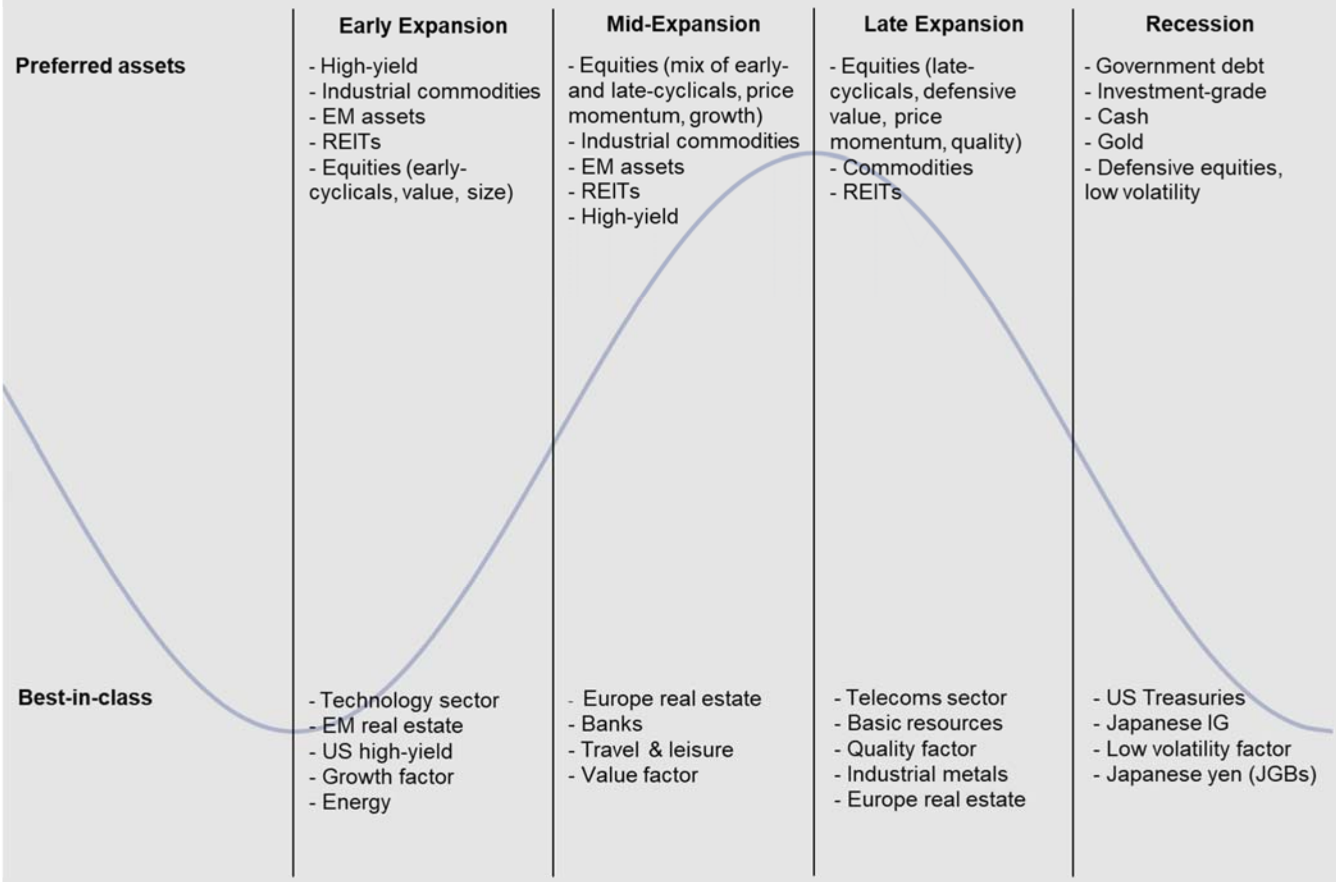
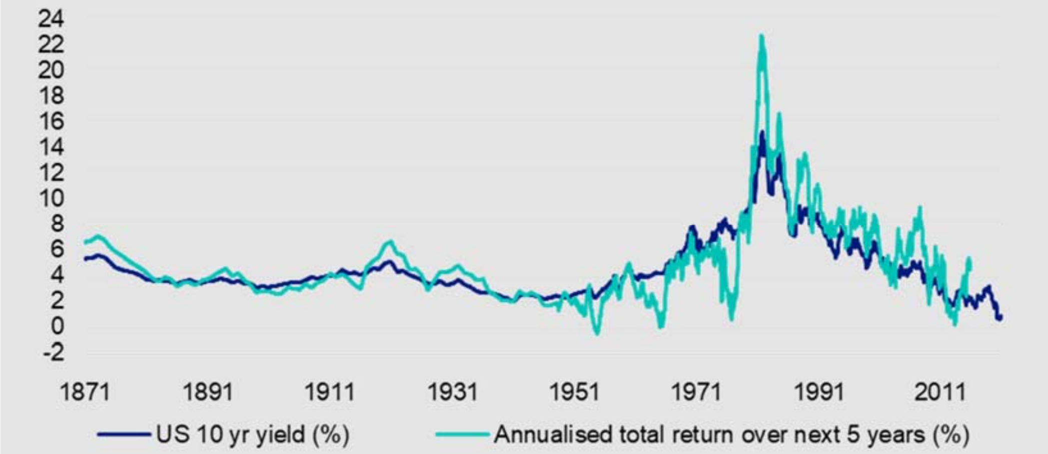


Chart shows our view of the cyclical positioning of the world’s largest economies. The selection of preferred assets is based on our research published in “Asset allocation in pictures” in November 2017. “Best-in-class” shows our view of which parts of those preferred assets we would favour at each stage of the cycle based on current valuations and projected returns. See appendices for definitions, methodology and disclaimers. Source: Invesco

Equity-like assets may have priced in some of the good news but bond yields remain low

Valuations also favour risky assets
The rebound in cyclical assets since March 2020 has been impressive. This may suggest a lot of good news is already in the price. However, asset allocation is a relative exercise and it is hard to escape the fact that defensive assets have been pushed to extreme valuations. For instance, **Figure 22** shows that US government yields have never been this low. Not surprisingly, future treasury returns are correlated to yield – history suggests that with yields so low, future returns will be limited.

Figure 22 – US 10-year treasury yield and future returns since 1871 (%)



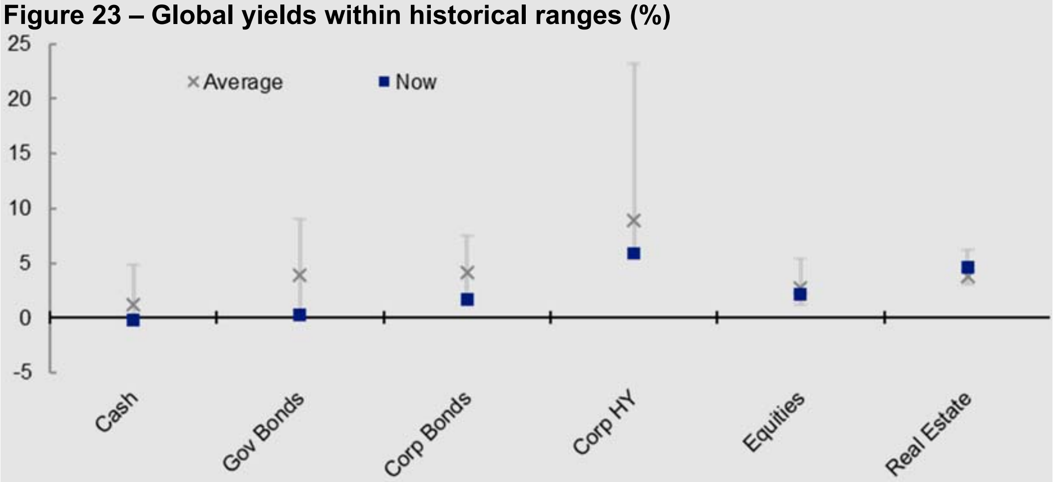
Monthly data from January 1871 to October 2020. Total return is calculated assuming bonds are switched each month into a new bond with a 10-year maturity (taking account of income and capital returns). Past performance is no guarantee of future results. Source: Global Financial Data, Refinitiv Datastream and Invesco

Figure 23 shows that yields across all fixed income groups remain close to historical lows, though EM debt is an exception (see **Appendix 1** for regional detail). Though we do not envisage central banks raising policy rates during 2021, we believe government yields will rise in many countries (see **Figure 33**), which will further depress fixed income returns.

We expect HY and EM to offer the best fixed income returns in 2021

However, we expect credit and EM spreads to further tighten as the economic recovery advances. We also expect HY default rates to fall to historical norms during 2021. On this basis we expect HY and EM to offer the best fixed income returns during the year ahead.

Figure 23 – Global yields within historical ranges (%)



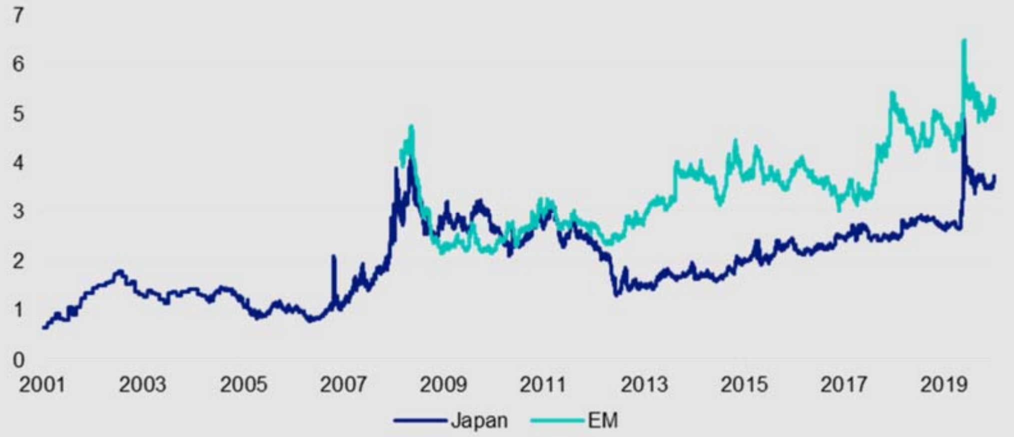
Start dates are cash 1/1/01; govt bonds 31/12/85; corp bonds 31/12/96; corp HY 31/12/97; equities 1/1/73; REITs 18/2/05. See appendices for definitions, methodology and disclaimers. As of 30 October 2020.
Source: Refinitiv Datastream and Invesco

Real estate offers the best yields

Real estate and equities appear more reasonably valued

As hinted by **Figure 23** and confirmed by the regional detail in **Appendix 1**, the asset class offering the highest yields (apart from US HY) is real estate. Compared to their own history, the yields offered by EM and Japanese REITS are the most impressive (**Figure 24** shows the full historical comparison).

Figure 24 – Yield on EM and Japanese REITS



Note: Based on daily data from 31 October 2010 (22 December 2008 for EM) to 30 October 2020. Based on FTSE EPRA/NAREIT indices. Past performance is no guide to future results.
Source: FTSE EPRA/NAREIT, Refinitiv Datastream and Invesco

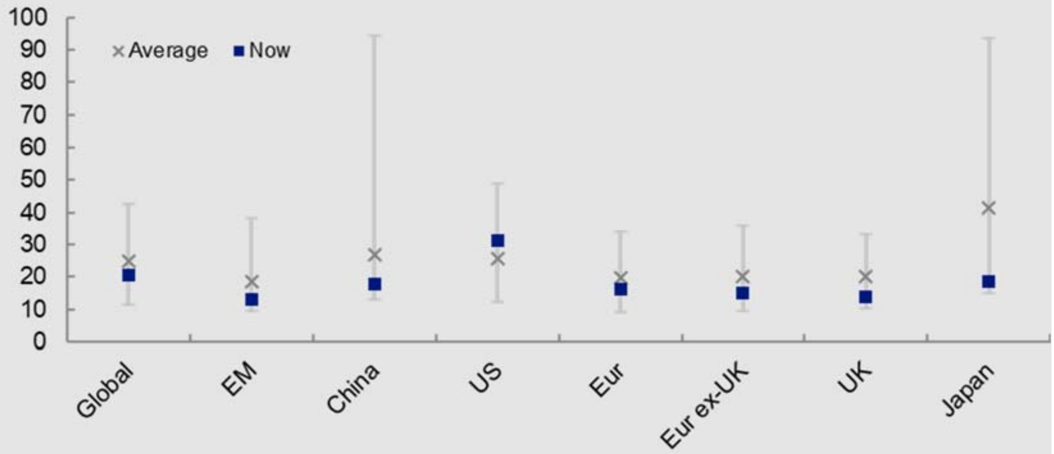
Real estate has the most to gain from an early vaccine

REIT yields are currently high, despite the decline in dividends because prices have fallen even more rapidly. As seen in **Figure 24** there has been a trend increase in yields since 2013, due we suppose to concerns about the future demand for retail space. The Covid-19 crisis has accentuated many of those concerns, while adding worries about the demand for office space due to work from home practices. However, we suspect real estate will benefit more than other assets from a return to "normality" (we expect dividends to rise and yields to fall). The faster a vaccine is available, the better it will be.

CAPEs suggest equities are reasonably valued, except in the US

Equities have also suffered a decline in dividends but, unlike REITS, this has dragged yields lower because prices have recovered relatively quickly (recovery is priced-in). **Appendix 1** shows the UK to be the only equity market that offers a higher yield than usual. However, earnings and dividends are cyclical and simple price/earnings ratios and yields can be deceptive when in recession. **Figure 25** suggests that cyclically-adjusted price/earnings ratios (CAPEs) are below historical norms except in the US.

Figure 25 – Historical ranges for CAPEs



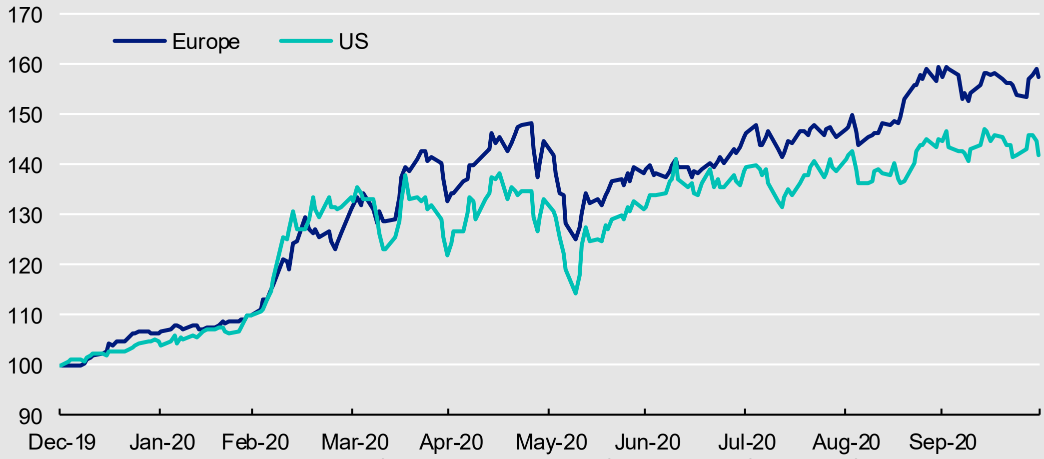
Note: CAPE = Cyclically Adjusted Price/Earnings and uses a 10-year moving average of earnings. Based on daily data from 3 January 1983 (except for China from 1 April 2004 and EM from 3 January 2005), using Datastream indices. As of 30 October 2020. Source: Refinitiv Datastream and Invesco

Value and size factors may benefit from an early vaccine

Equity factors and sectors

The three scenarios we outlined earlier in the report suggest we should maintain a balanced mix of defensive and cyclical sectors and factors in our model allocation. In our base case, we do not expect significant changes to the macroeconomic environment in 2021, which suggests that growth and price momentum may continue to dominate over value (see **Figure 26**). The downside scenario would favour low volatility and, due to the specific nature of this crisis, growth. In the "V" for vaccine scenario, we would tilt more towards value and size, but we think the market reaction would be subtle and gradual.

Figure 26 – US and European growth factor indices relative to value year-to-date

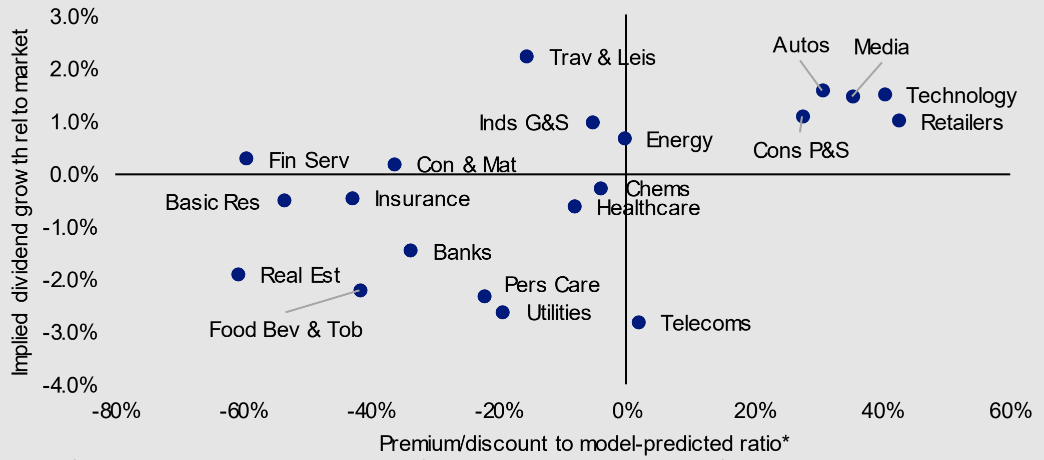


Notes: We divide the total return index of our proprietary growth factor by that of our value factor and rebased it to 31st December 2019. Data as of 30 October 2020. See appendices for methodology and disclaimers. Past performance is no guarantee of future returns. Source: Refinitiv Datastream and Invesco

As could banks, travel & leisure and basic resources

Our sector allocation follows a similar logic, trying to position ourselves cautiously for a recovery as outlined in our latest Strategic Sector Selector. In our base case we would tilt our allocations towards industrials, financial services and real estate as our favoured cyclical sectors. Food, beverage & tobacco is our favoured defensive hedge, balancing valuations with sectors we think could navigate the current environment (**Figure 27**). We would also maintain our Overweight allocation to technology even if its market leadership may diminish somewhat. In the more bearish scenario we would, of course, tilt our allocation more towards defensive growth (healthcare and consumer staples). If we get a sharper recovery than we currently expect, we believe banks, travel & leisure and basic resources would outperform.

Figure 27 – Global sectors valuation matrix



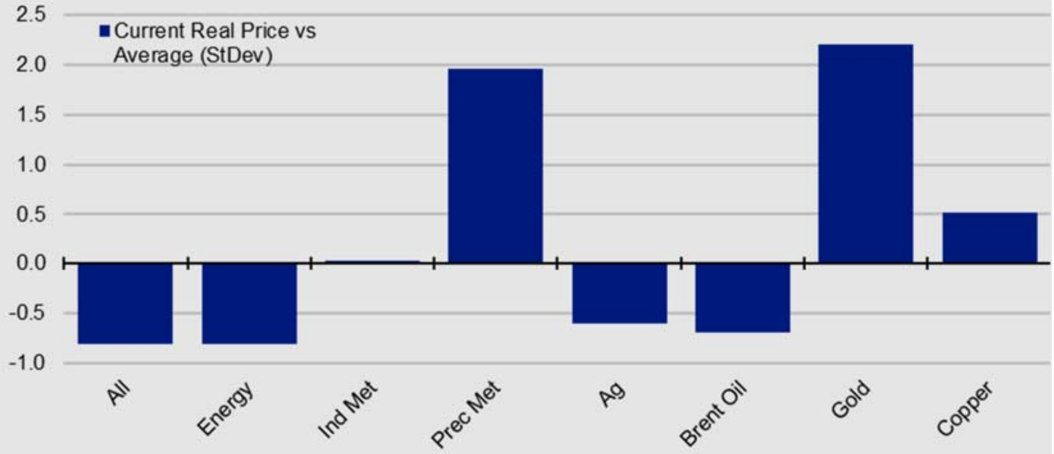
Notes: On the horizontal axis, we show how far a sector's valuation is above/below that implied by our multiple regression model (dividend yield relative to market). The vertical axis shows the perpetual real growth in dividends required to justify current prices relative to that implied for the market. 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 30 October 2020.
Source: Refinitiv Datastream and Invesco

Many commodities are below historical norms but not gold

Commodities and currencies

Given the lack of yield, we analyse the valuation of commodities by using real prices (deflated by US CPI). **Figure 28** suggests that commodities are cheaper than they have been on average over recent decades, except for precious metals (we believe gold has been boosted by low bond yields). We believe the better the global economic performance during 2021, the better will be the performance of industrial commodities (such as energy and industrial metals) and the worse the performance of gold.

Figure 28 – 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 October 2020. See appendices for definitions, methodology and disclaimers. Source: GSCI, Refinitiv Datastream, Invesco

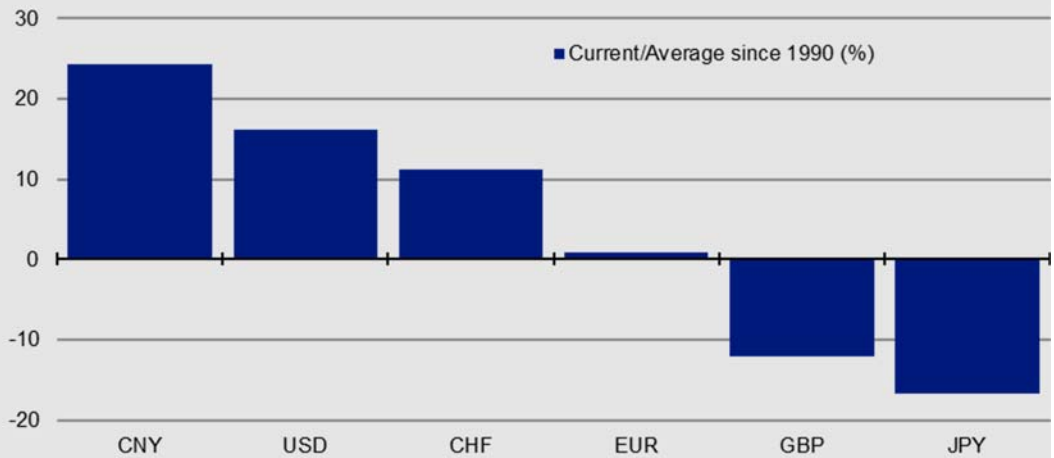
The yen is cheap but may weaken in 2021, along with other so-called "safe haven" assets

Taking a similar approach to major currencies, **Figure 29** suggests the Japanese yen remains the currency furthest below its long-term norm in real trade-weighted terms. Therefore, we expect the yen to appreciate over the medium term. However, if the global economy performs as we expect over the next year, we suspect the yen may weaken, along with other so-called "safe-haven" assets (though we believe it is the cheapest among such assets). Sterling is also weaker than usual but its direction depends upon the outcome of ongoing trade negotiations with the EU.

Yuan to weaken and dollar to be mixed

At the other end of the spectrum, the Chinese yuan remains more expensive than usual and we expect it to weaken over the medium term (helped by economic deceleration). The US dollar looks almost as expensive and we expect a slight weakening against the euro during 2021 (to 1.24) but note that government bond yield gaps have recently moved in favour of the dollar, which should limit the downside.

Figure 29 – Real effective exchange rates*



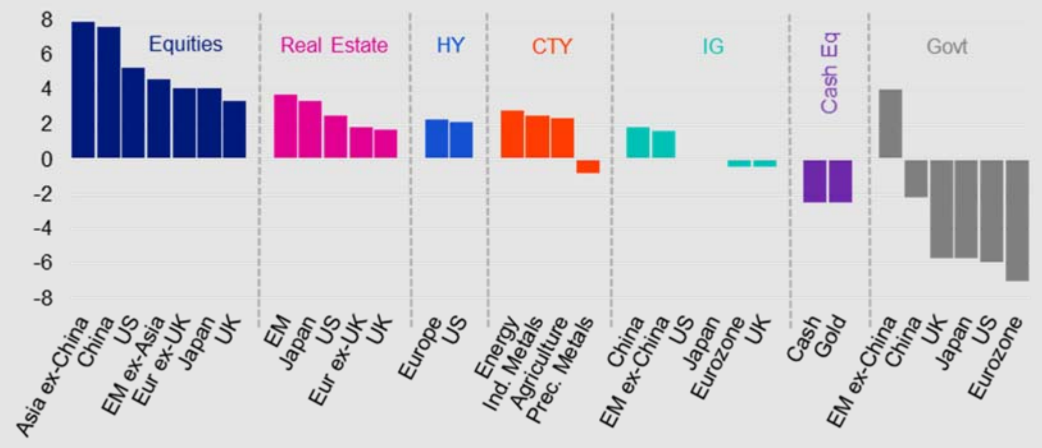
*Currency indices measured against a trade-weighted basket of currencies and adjusted for inflation differentials. As of 31 October 2020. Source: OECD, Datastream and Invesco

The wisdom of crowds

Projections for 2021

On the assumption that crowds bring wisdom, we have canvassed fellow strategists in Invesco's Global Market Strategy Office (GMS) about prospective asset returns to the end of 2021 based on our Base Case economic scenario (see the team details on the back-cover of this document). **Figure 30** shows the resultant ranking across assets and then across regions within each asset category (note these are not return projections but rather a ranking of expected returns).

Figure 30 – The wisdom of the GMS crowd (asset preferences for 2021)



The chart shows the opinions of the Global Market Strategy Office (GMS -- see back cover page for membership) about asset returns to the end of 2021 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

Invesco's GMS team prefers cyclical assets

Not surprisingly, given our view that we are in a hesitant global upswing, the GMS team prefers cyclical assets. Equities lead the way, followed by real estate, HY and commodities. At the bottom of the rankings is government debt, again not surprising given the low yields on offer. Cash equivalents (cash and gold) are also a long way down the rankings: cash rates are low and gold is correlated with US treasury yields (see **Figure 7**).

The GMS team favours EM assets, especially China

Just as interesting are the regional preferences. No matter which asset class we consider, there is a preference among the team for EM assets, with China featuring prominently. Among developed markets, the preferences vary according the asset class but the collective preference for US equities is interesting, especially given their outperformance during 2020.

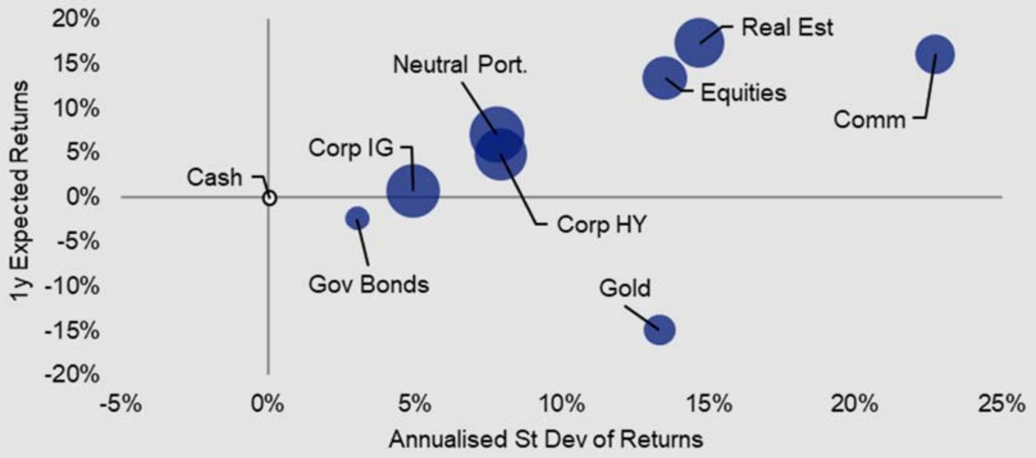
An early vaccine would cause the regional preference to shift to Europe

As mentioned above, **Figure 30** is based on our base case economic scenario (hesitant recovery). The further we move towards our upside scenario ("V" for vaccine), the more accentuated would be the preference for cyclical assets versus defensives. Further, we believe that among cyclical assets, those of Europe would have most to gain under such a scenario, and those of Asia the least.

Conversely, under a global Double-Dip scenario our asset class preferences would be reversed (government debt, gold and cash would be preferred over cyclical assets). However, the regional preferences would still favour Asia and the US over Europe. We would expect non-Asia EM assets to suffer, especially cyclical groups (particularly Latin America and the Indian sub-continent).

However, for the purposes of constructing the Model Asset Allocation, we need to formulate projected returns and then construct a diversified allocation. That is the subject matter of the next few pages.

Figure 31 – Base case return versus risk for global assets



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 30 October 2020. 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

Our own return projections are roughly in line with the GMS rankings shown above, except we are more optimistic about real estate due to attractive yields and our expectation of a rebound in REIT dividends. Given that real estate has suffered during 2020, we suspect the rebound would be accentuated were a vaccine to be rolled out in the coming months ("V" for vaccine scenario). Overall, our projected base case asset returns rise with volatility, gold being the obvious exception (see **Figure 31**).

Optimisation helps to balance risk and reward

Trying to construct a diversified multi-asset portfolio on the back of those returns requires more than simply choosing the assets we think will produce the best returns: after all we may be wrong. We use an optimisation process to help us do that and **Figure 32** shows the results. In general, there is a preference for cyclical assets such as real estate, commodities and equities, though cash remains the diversifier of choice.

Again, cyclical assets are preferred

For the most part we follow the suggestions of the optimiser when they are clear: we accord maximum allocations to real estate, commodities and cash, an overweight allocation to equities and an underweight allocation to government bonds. We have, however, accorded a neutral allocation to HY, despite the optimiser suggesting it should be zero (we think HY is a useful early cycle asset). We go to zero in IG credit, from the previous maximum allocation, given that we are now more optimistic about the cycle.

Figure 32 – 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%	-7.5%	10%	10%	10%
Cash	2.5%	0-10%	-0.1%	10%	10%	10%
Gold	2.5%	0-10%	-14.9%	0%	0%	0%
Govt Bonds	25%	10-40%	-2.4%	10%	29%	15%
Corporate IG	10%	0-20%	0.7%	0%	0%	↓ 0%
Corporate HY	5%	0-10%	4.9%	0%	0%	↓ 5%
Equities	45%	25-65%	13.4%	60%	41%	↑ 50%
Real Estate	8%	0-16%	17.3%	16%	16%	↑ 16%
Commodities	2%	0-4%	16.1%	4%	4%	↑ 4%

Notes: Neutral allocations have changed as follows: Govt Bonds from 30% to 25%; Equities from 40% to 45%. Based on local currency returns (for both the one-year projected returns and five-year historical covariance matrix) using our base case economic scenario. 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

Central bank rates expected to be stable

Another way of looking at the 2021 projections is to consider our market forecasts, as shown in **Figure 33**. Our 2021 projections are predicated upon the assumption that major central banks do not change policy rates between now and the end of 2021. We assume that they continue with asset purchase programmes, though at a reduced rate (see **Figure 16**).

Long yields are expected to rise but not much

Given our belief that the global economy will continue to recover, albeit in a hesitant fashion, we expect yield curves to steepen during 2021. However, it is hard to imagine a big rise in long bond yields if central bank rates remain where they are. For example, our 1.35% projection for the 10-year US treasury yield leaves it well below what might be considered "normal" when we expect nominal GDP growth to be comfortably above 4% (see **Figure 22**).

USD expected to be mixed: up against CNY, JPY and CHF but down against GBP and EUR

We expect the US dollar to be mixed during 2021. With a global economy in recovery, we suspect the dollar will strengthen slightly versus so-called "safe haven" currencies such as the Japanese yen and Swiss franc. We also expect the greenback to strengthen versus the Chinese yuan, which we find to be the most expensive major currency (see **Figure 29**). However, we expect USD to weaken versus the euro, sterling and non-China EM currencies (on the back of commodity strength). Versus the euro, we suspect that recent momentum (in favour of the euro) will continue, though it appears that euro-USD yield gaps have peaked. We assume that sterling will strengthen slightly on the basis that we expect a trade deal to be agreed between the UK and the EU but that could go either way.

Cyclical assets have rallied since these projections were made but we think that is justified by the vaccine news flow

We project that equity indices and industrial commodity prices will be higher at end-2021 than on 30 October 2020. The recent rally in prices on the back of US election results and vaccine announcements, has pushed some equity indices and commodity prices near to our end-2021 base case targets (we believe the rise in prices is justified by a shift in probability towards an early vaccine). We expect short-term volatility, especially as lockdowns dampen economic activity over the winter. We will attempt to take advantage of such dips to further boost cyclical allocations in anticipation of better times ahead.

Figure 33 – Base case market forecasts

		Current (30/10/20)	Forecast End-2021
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	0.86	1.35
	Eurozone	-0.63	0.00
	China	3.19	3.50
	Japan	0.03	0.10
	UK	0.30	0.75
Exchange Rates/US$	EUR/USD	1.16	1.24
	USD/CNY	6.69	7.00
	USD/JPY	104.66	106.00
	GBP/USD	1.29	1.35
	USD/CHF	0.92	0.94
Equity Indices	S&P 500	3270	3600
	Euro Stoxx 50	2958	3300
	FTSE A50	15724	16500
	Nikkei 225	22977	25250
	FTSE 100	5577	6800
Commodities (US$)	Brent/barrel	36	45
	Gold/ounce	1881	1600
	Copper/tonne	6708	7250

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

Combining value and momentum

Hope versus reality
A process that uses valuations to calculate return potential often runs into the reality of what markets think right now (value investors often suffer quietly until markets move in their favour). **Figure 34** applies a value-momentum approach to asset class selection.

Equities and industrial commodities seem to be in the sweet-spot

The sweet-spot is the top-right quadrant – assets that we think will produce above average returns over the next year and that have already been outperforming our Neutral benchmark index over the last six months (essentially since risk assets bottomed). Assets in this quadrant are a mix of equities and industrial commodities, which is not surprising at the start of a new economic cycle. The size of the bubbles is in inverse proportion to historical volatility and most of those assets are among the most volatile.

We believe assets should move around the chart in a clockwise fashion. Those in the bottom-right quadrant (assets that have performed well but that we think will now produce below average returns) include gold, HY and EM government debt.

The bottom-left quadrant contains those assets we think will give below-par returns and which have been underperforming since April. It is populated by the low yielding "defensive" assets (cash, government debt and IG) that outperformed earlier in the year and that we would favour in our double-dip scenario (big bubbles indicate low volatility).

Real estate and European equities are on the launch pad

The top-left quadrant is worthy of interest, as it shows assets with strong potential (we think) that have not yet started outperforming. It is a mix of real estate assets and European equities, all of which we would favour in our "V" for vaccine scenario.

Figure 34 – Hope versus reality (returns relative to Neutral benchmark)

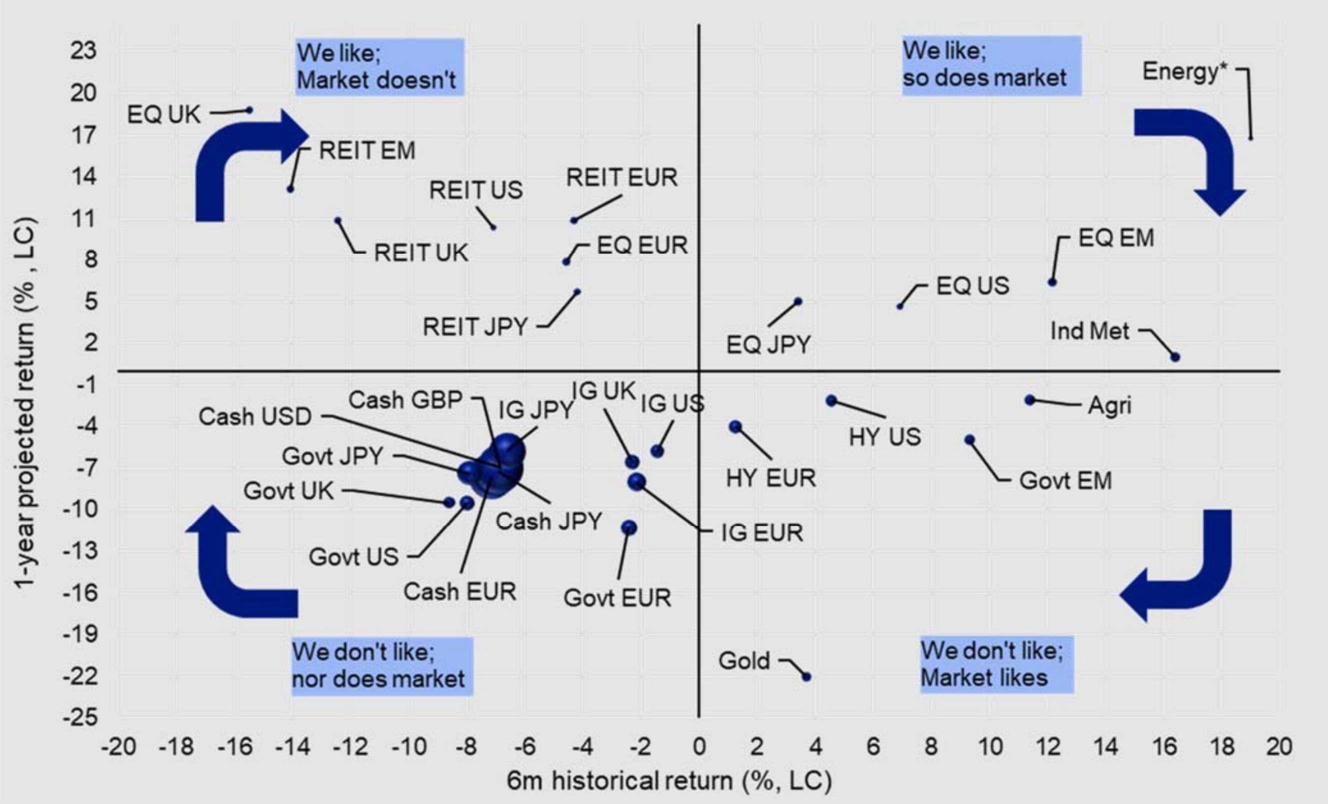


Chart shows a comparison of our projections for 1-year returns versus actual returns over the last 6 months, as of 30 October 2020 (*the historical return on Energy is 40% but has been reduced in the chart for the sake of scaling). All are total returns, expressed in local currency (LC) and relative to the returns on our Neutral benchmark (see **Figure 3** for details of the benchmark). Size of bubbles is in inverse proportion to annualised standard deviation of daily returns over the last 12 months (the size of the cash bubbles has been capped). "EQ" = Equity, "Govt" = government bonds, "REIT" = real estate investment trust, "Ind Met" = industrial metals, "Prec Met" = precious metals, "Agri" = agricultural products. Arrows show the way in which we think assets should move around the quadrants. Past performance is no guarantee of future results. See appendices for definitions, methodology and disclaimers.
Source: Bloomberg Barclays, BofAML, FTSE, GSCI, MSCI, Datastream and Invesco

What if we are wrong? Three scenarios for 2021

Base case favours cyclical assets

Our base case scenario (subjective probability 50%) assumes a successful vaccine will be rolled out in mid-2021, with some economic disruption but no further global recession (see **Figure 17**). This suggests continued global recovery, which pushes us to prefer cyclical assets such as real estate, equities and industrial commodities (see **Figure 35**).

Early vaccine scenario favours cyclical assets even more, with emphasis on Europe

In a scenario where vaccines are rolled out quickly (early 2021, say), we can look forward to relative normality by the end of 2021 (probability 40%). We believe such a scenario would accentuate the performance gap between cyclical and defensive assets and that it would favour assets and regions that have suffered most during the pandemic (European risk assets, real estate, travel & leisure and value, say).

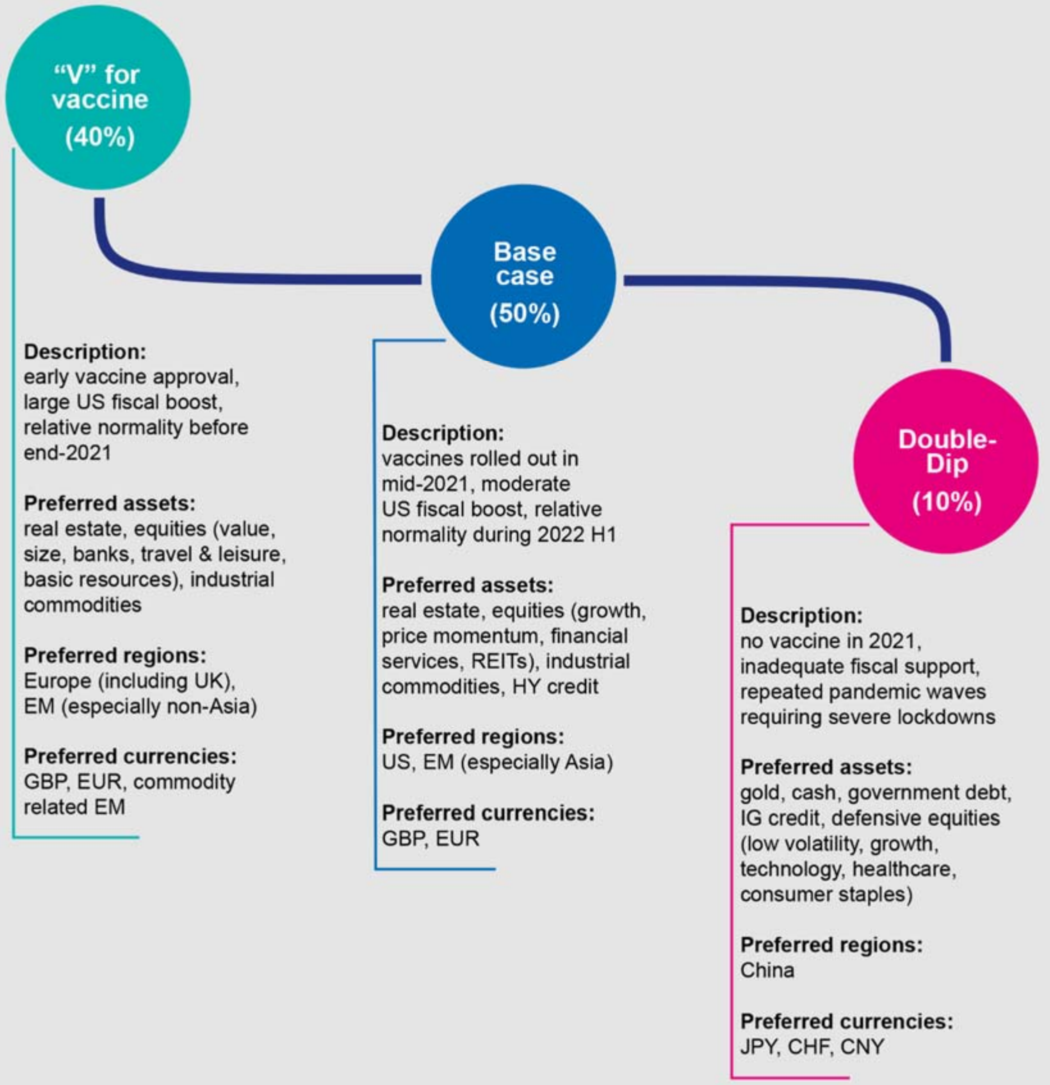
A no-vaccine scenario favours defensive assets and China/East Asia

On the other hand, we believe our downside double-dip scenario (no effective vaccines for the foreseeable future, repeated waves of the virus and disruptive lockdowns) would be low probability (10%) but would favour defensive assets and those regions that have succeeded in controlling the virus (gold, cash, government debt, China/East Asia, technology, low volatility and growth, say).

Probabilities have shifted toward an early vaccine

The greater the probability assigned to a given scenario, the more the attached asset preferences should be reflected in our Model Asset Allocation (good news about vaccines has recently swung the probabilities in favour of the "V" for vaccine outcome).

Figure 35 – Asset preferences for 2021 by scenario



Percentages are our subjective probabilities. See appendices for definitions, methodology and disclaimers.
Source: Invesco

Model Asset Allocation: reducing credit; adding to cyclical assets

We have boosted the Neutral equity position, while reducing that of government bonds. China is added to the framework

Before considering how the outlook for 2021 will impact our Model Asset Allocation, we have made several structural changes to the asset allocation framework. First, we have boosted the Neutral allocation to equities from 40% to 45% and reduced that to government debt from 30% to 25%. Those adjustments reflect changes in the market capitalisation of the respective asset classes. Second, we have added an explicit line for China within government bonds, IG credit and equities, to reflect its growing importance in asset markets.

Credit reduced in favour of cyclical assets

As already suggested in **Figure 32**, we have reduced the allocation to corporate credit (both IG and HY), while boosting the presence of cyclical assets (real estate, equities and commodities). Those changes reflect greater confidence that we are in an expansionary phase of the economic cycle and the belief that 2020 performance rankings will be reversed in 2021 (see **Figure 4**). This is despite concerns about the short-term outlook (especially in Europe) and is supported by recent vaccine test result announcements from Pfizer/BioNTech and Moderna. Those announcements provide vital light at the end of the tunnel. Cash remains our diversifier of choice. **Figure 3** shows the full regional detail.

Real estate taken to maximum; EM and Europe favoured

The apparent good news on vaccines causes us to increase the subjective probability assigned to our upside "V" for Vaccine scenario, which naturally pushes us further toward assets that have suffered the most during the pandemic. Among broad asset categories, that leads us to lift **real estate** to the maximum that we allow ourselves (16% from the previous 15%). The asset class may still have some problems linked to changed working and shopping habits but yields are attractive and an early rollout of vaccines would boost operational performance (rentals) and dividends paid on REITS. We particularly favour EM and European markets (including the UK), based on yield considerations and the scope for rebound after the pandemic.

Equities boosted to Overweight; non-US markets preferred

Equities also have much to gain from the early rollout of vaccines. However, the asset class has already recovered much of the ground lost earlier in the year and some indices are at record highs. Hence, we move to a limited Overweight allocation of 50% (versus Neutral 45%). Allocations are increased for all countries and regions except Japan, which was already at the maximum allowed. Nevertheless, based on valuations and the scope for post-pandemic recovery, we have a clear preference for non-US markets (where we are Overweighted while being Underweight in the US).

Commodities return to maximum allowed allocation; focus on industrial commodities and agriculture

We are returning to the maximum 4% allocation to **Commodities** (versus the Neutral 2%), with allocations to energy, industrial metals and agriculture. The reasons are varied: the attraction of energy and industrial metals is cyclical, while that of agriculture is value related (**Figure 28** shows that agricultural commodities are cheaper than usual in real terms). On the other hand, precious metals appear expensive (**Figure 28**) and we believe there will be less demand for defensive assets. We remain zero-weighted.

Cash is the diversifier of choice

Cash remains our diversifier of choice and is our favourite among cash equivalents. Though policy rates are extremely 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 32**). We remain at the maximum 10% allocation.

Gold not needed under our favoured scenarios

Gold has performed extremely well during 2020 (see **Figure 4**) but we doubt it will do as well during an economic recovery phase. The yellow metal has been helped by the decline in US treasury yields but we expect that source of support to disappear during 2021. We believe that a further support over recent years has been rising geo-political risk premia as a result of the international policies of President Trump. With a change at the White House, we expect that support to fade. We remain zero-weighted.

IG credit reduced to zero

On the negative side, we are reducing our corporate credit exposure from the previous maximum allocation to zero. **IG credit** was our favoured all-weather asset during much of 2020, offering stability but with an attractive yield supplement versus government debt. However, spreads have normalised versus extremely low government yields at a time when cyclical assets appear to offer better potential (we think there is less need for the stability offered by IG), despite the expectation that credit spreads will narrow further during 2021. In accordance with the results of our optimisation process, we reduce IG credit from the previous 20% allocation to zero.

HY credit reduced to Neutral

Though we expect better returns on **HY credit** (see **Figure 31**), we believe that its best performance comes early in the recovery phase. Now that spreads have normalised, we prefer other cyclical assets. Indeed, based on our projections (and the high volatility of HY compared to other fixed income assets and strong correlation to other assets), our optimisation process suggests a zero allocation. However, we prefer to keep some exposure to the most cyclical part of our fixed income universe and therefore reduce from the maximum 10% to a Neutral 5%. We maintain exposure to both US and European markets.

Government bonds remain Underweight, with focus on EM

We expect sovereign yields to rise over the next year. Hence, we believe **government bonds** will be the least remunerative traditional asset during 2021 (see **Figures 30 and 31**). It should therefore be no surprise that we remain at an Underweight 15% allocation. That represents a slight increase in relative terms because the Neutral allocation has been reduced from 30% to 25%. That increase relative to the Neutral is simply because, government bonds are now more attractive relative to IG credit than they were, given the narrowing of credit spreads. Within government bonds, we maintain a strong preference for EM debt, including China. Among developed world government debt markets, we have increased the UK to Neutral (as much for the expected currency gain as for anything else) but remain Underweight elsewhere (while shifting towards the Eurozone and away from the US and Japan).

EM and Europe are the favoured regions across assets

When it comes to regional exposures, **Figure 3** shows that our Model Asset Allocation favours regions and currencies that we think have most to gain during an expansionary phase of the global economy: EM and Europe (including the UK). The further movement of allocations in that direction can be explained by the higher probability that we now assign to the upside "V" for vaccine scenario, though our emphasis within EM would switch away from China/East Asia under such an outcome. The flipside of those regional changes is that allocations to US and Japanese assets have been reduced (partly on the back of rich valuations and partly because we feel less need for so-called "safe havens").

No currency hedges

We continue with the policy of not hedging currency exposures. Though the Chinese yuan and US dollar now look expensive, and the Japanese yen and sterling look cheap (see **Figure 29**), we do not feel there is enough deviation from historical norms to justify currency hedging.

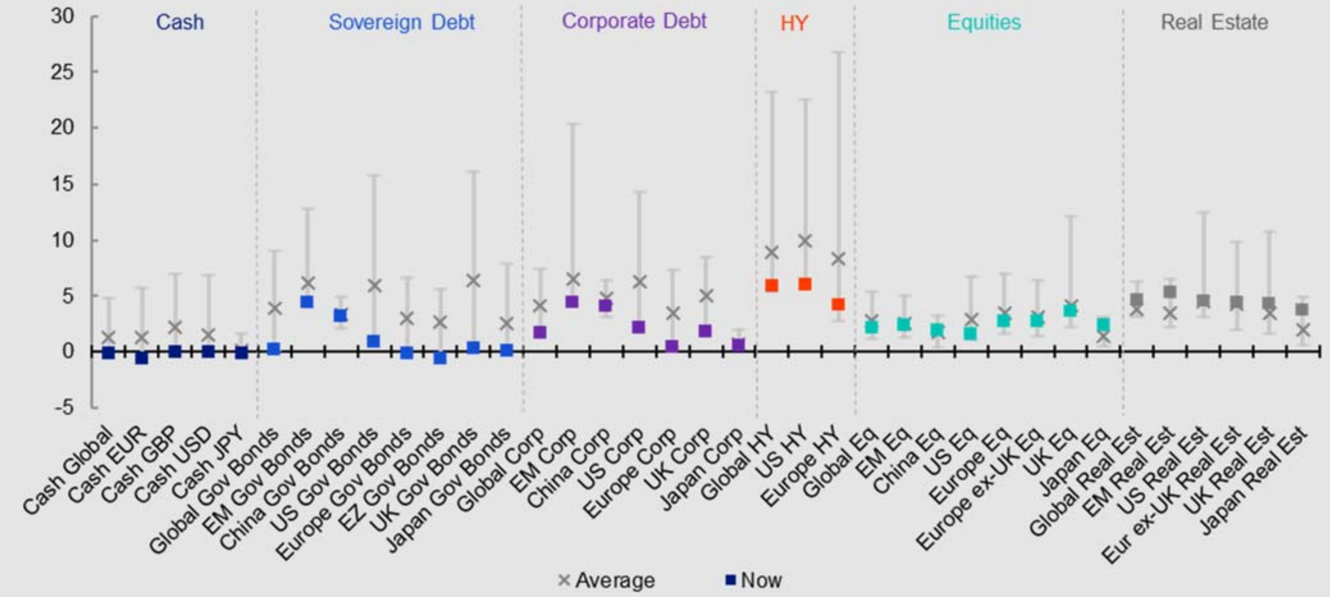
Let's hope the global economy continues to expand

Much of the above relies on the critical assumption that the global economy is now in an expansion phase that will become less hesitant as vaccines are rolled out. If this proves to be wrong, we will regret not having more defensive assets in our Model Asset Portfolio. In that case, we would want to boost allocations to what we consider to be defensive assets such as gold, cash, government debt, IG credit, defensive equities (low volatility, growth, technology, healthcare) and JPY (see the double-dip scenario in **Figure 35**). We would also regret having so much exposure to EM assets, though if vaccines are delayed we would expect Chinese and other East Asian assets to outperform (along with those of the US).

Appendices

Appendix 1: Global valuations vs history

Regional yields within historical ranges



Notes: As of 30 October 2020. Past performance is no guarantee of future results. See appendices for definitions, methodology and disclaimers. Source: Bloomberg Barclays, BofAML, FTSE, Refinitiv Datastream, Invesco

Appendix 2: Asset class total returns

Data as at 31/10/2020	Index	Current Level/RY	Total Return (USD, %) 3m	YTD	12m	5y*	Total Return (Local Currency, %) 3m	YTD	12m	5y*
Equities										
World	MSCI	551	0.3	-0.7	5.4	8.7	0.4	-0.9	4.8	8.7
Emerging Markets	MSCI	1103	2.7	1.2	8.6	8.3	2.1	4.5	11.2	9.2
China	MSCI	102	8.2	22.8	35.4	12.9	7.8	21.9	33.8	12.9
US	MSCI	3167	0.8	4.5	11.6	12.0	0.8	4.5	11.6	12.0
Europe	MSCI	1505	-5.0	-13.6	-8.8	2.2	-3.6	-15.6	-12.2	2.6
Europe ex-UK	MSCI	1898	-4.5	-8.8	-4.2	4.0	-3.2	-12.4	-8.9	3.0
UK	MSCI	841	-6.6	-27.3	-22.2	-2.8	-5.2	-25.5	-22.2	0.8
Japan	MSCI	3295	7.1	-1.9	0.7	5.5	5.9	-5.7	-2.6	2.5
Government Bonds										
World	BofA-ML	0.24	-0.9	6.6	5.5	3.8	-0.6	4.6	3.4	3.0
Emerging Markets (USD)	BBloom	4.47	-2.8	-0.6	2.2	7.0	-2.8	-0.6	2.2	7.0
China	BofA-ML	3.15	3.4	5.7	8.5	2.1	-0.7	1.6	3.3	3.3
US (10y)	Datastream	0.86	-2.7	12.9	10.8	4.8	-2.7	12.9	10.8	4.8
Europe	Bofa-ML	-0.20	0.1	8.7	7.7	3.8	1.6	4.8	3.1	2.7
Europe ex-UK (EMU, 10y)	Datastream	-0.63	-0.7	8.6	6.9	4.4	0.8	4.6	2.4	3.3
UK (10y)	Datastream	0.30	-2.8	3.4	4.1	1.3	-1.4	6.0	4.1	5.0
Japan (10y)	Datastream	0.03	1.0	3.7	1.9	3.9	-0.1	-0.3	-1.5	1.0
IG Corporate Bonds										
Global	BofA-ML	1.67	-1.1	5.8	6.4	5.0	-0.7	5.0	5.3	4.9
Emerging Markets (USD)	BBloom	4.44	1.0	5.9	8.2	10.0	1.0	5.9	8.2	10.0
China	BofA-ML	4.08	4.5	6.5	9.1	1.8	0.3	2.5	3.9	3.0
US	BofA-ML	2.12	-1.6	6.4	7.0	5.8	-1.6	6.4	7.0	5.8
Europe	BofA-ML	0.47	-0.3	5.3	5.6	3.8	1.3	1.5	1.2	2.7
UK	BofA-ML	1.80	-1.8	2.3	4.6	2.4	-0.3	4.8	4.7	6.1
Japan	BofA-ML	0.49	1.2	3.9	3.1	3.5	0.1	-0.1	-0.3	0.5
HY Corporate Bonds										
Global	BofA-ML	5.93	0.4	0.8	3.2	6.1	0.7	0.2	2.5	6.0
US	BofA-ML	5.99	0.4	0.2	2.5	6.1	0.4	0.2	2.5	6.1
Europe	BofA-ML	4.21	-0.5	1.4	4.0	4.8	1.1	-2.3	-0.4	3.7
Cash (Overnight LIBOR)										
US		0.08	0.0	0.4	0.6	1.2	0.0	0.4	0.6	1.2
Euro Area		-0.58	-1.8	3.4	3.9	0.7	-0.1	-0.5	-0.6	-0.5
UK		0.05	-1.1	-2.2	0.6	-3.0	0.0	0.2	0.3	0.4
Japan		-0.12	0.1	3.7	3.9	2.8	0.0	-0.1	-0.1	-0.1
Real Estate (REITs)										
Global	FTSE	1534	-4.1	-22.1	-21.5	1.6	-2.6	-24.9	-24.8	0.5
Emerging Markets	FTSE	1792	-6.2	-24.7	-15.6	5.7	-4.8	-27.4	-19.2	4.6
US	FTSE	2444	-5.0	-22.0	-24.0	1.1	-5.0	-22.0	-24.0	1.1
Europe ex-UK	FTSE	3044	-4.5	-16.9	-12.7	3.8	-3.1	-19.9	-16.4	2.7
UK	FTSE	1012	-7.0	-28.5	-21.6	-7.5	-5.6	-26.8	-21.6	-4.2
Japan	FTSE	2332	2.4	-20.2	-22.8	0.7	1.3	-23.2	-25.4	-2.2
Commodities										
All	GSCI	1665	-2.8	-35.8	-31.3	-8.6	-	-	-	-
Energy	GSCI	208	-11.8	-58.2	-53.8	-15.7	-	-	-	-
Industrial Metals	GSCI	1263	5.7	3.7	3.8	4.9	-	-	-	-
Precious Metals	GSCI	2166	-5.1	21.1	21.3	9.0	-	-	-	-
Agricultural Goods	GSCI	348	13.9	0.1	4.5	-6.0	-	-	-	-
Currencies (vs USD)**										
EUR		1.16	-1.1	3.9	4.5	1.1	-	-	-	-
JPY		104.66	1.2	3.8	3.2	2.9	-	-	-	-
GBP		1.29	-1.5	-2.4	-0.1	-3.5	-	-	-	-
CHF		1.09	-0.4	5.6	7.6	1.5	-	-	-	-
CNY		6.69	4.2	4.0	5.2	-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: 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	0.4	0.4	1.5	0.27
	US Treasury Intermediate	BBG BARC US Treasury Intermediate	0.6	0.7	4.5	0.15
	US Treasury Long	BBG BARC US Treasury Long	0.6	1.2	11.6	0.11
	US TIPS	BBG BARC US TIPS	1.1	1.3	5.6	0.23
	US Bank Loans	CSFB Leverage Loan Index	4.7	5.0	8.6	0.59
	US Aggregate	BBG BARC US Aggregate	1.3	1.5	5.9	0.25
	US Inv Grd Corps	BBG BARC US Investment Grade	1.7	2.0	7.6	0.27
	US MBS	BBG BARC US MBS	1.5	1.8	6.6	0.27
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	2.9	3.7	12.5	0.29
	US High-Yield Corps	BBG BARC US High Yield	4.2	4.6	10.2	0.46
	US Intermediate Municipals	BOA ML US Municipal (3Y-15Y)	2.3	2.5	6.0	0.42
	US High-Yield Municipals	BBG BARC Municipal Bond High Yield	3.0	3.3	8.7	0.39
	Global Aggregate	BBG BARC Global Aggregate	1.5	1.8	6.7	0.26
	Global Aggregate-Ex US	BBG BARC Global Aggregate- Ex US	1.7	2.2	10.2	0.22
	Global Treasury	BBG BARC Global Treasuries	1.5	1.8	8.4	0.22
	Global Sovereign	BBG BARC Global Sovereign	1.7	1.9	6.8	0.28
	Global Corporate	BBG BARC Global Corporate	1.8	2.0	7.6	0.27
	Global Inv Grd	BBG BARC Global Corporate Inv Grd	1.7	2.0	7.8	0.26
	Eurozone Corporate	BBG BARC Euro Aggregate Credit - Corporate	1.4	2.3	13.5	0.17
	Eurozone Treasury	BBG BARC Euro Aggregate Government - Treasury	1.3	2.0	12.4	0.16
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	2.0	2.3	8.4	0.27
	Asian Dollar High Yield	BOA Merrill Lynch ACHY	6.9	8.5	18.8	0.45
	EM Aggregate	BBG BARC EM Aggregate	3.1	3.9	13.3	0.29
	EM Aggregate Sovereign	BBG BARC EM Sovereign	3.4	4.1	12.4	0.33
	EM Aggregate Corporate	BBG BARC EM Corporate	3.2	4.2	14.5	0.29
	EM Corporate IG	BBG BARC EM USD Aggregate - Corporate -IG	1.9	2.3	8.2	0.28
Equities	World Equity	MSCI ACWI	6.3	7.7	17.1	0.45
	World Ex-US Equity	MSCI ACWI Ex-US	7.3	8.9	19.0	0.47
	US Broad	Russell 3000	5.9	7.3	17.6	0.41
	US Large Cap	S&P 500	5.7	7.0	16.8	0.41
	US Mid Cap	Russell Midcap	6.6	8.3	19.7	0.42
	US Small Cap	Russell 2000	8.0	10.3	22.9	0.45
	MSCI EAFE	MSCI EAFE	6.7	8.3	18.7	0.44
	MSCI Europe	MSCI Europe	6.9	8.5	18.8	0.45
	Eurozone	MSCI Euro X UK	6.3	8.1	19.8	0.41
	UK Large Cap	FTSE 100	8.8	10.6	20.2	0.52
	UK Small Cap	FTSE Small Cap UK	10.5	13.3	25.6	0.52
	Canada	S&P TSX	7.5	9.4	20.5	0.46
	Japan	MSCI JP	6.0	8.3	22.7	0.37
	Emerging Market	MSCI EM	8.5	11.2	25.3	0.44
	Asia Pacific Ex JP	MSCI APXJ	7.9	10.8	25.4	0.42
	Pacific Ex JP	MSCI Pacific X JP	7.9	10.7	25.2	0.42
Alternatives	US REITs	FTSE NAREIT Equity	9.5	11.1	18.8	0.59
	Global REITs	FTSE EPRA/NAREIT Developed Index	8.9	10.4	18.6	0.56
	Hedge Funds	HFRI HF Index	6.7	7.0	8.8	0.80
	Commodities	S&P GSCI	3.3	5.9	23.8	0.25
	Agriculture	S&P GSCI Agriculture	-1.1	1.1	21.5	0.05
	Energy	S&P GSCI Energy	5.5	11.3	37.2	0.30
	Industrial Metals	S&P GSCI Industrial Metals	3.2	5.8	24.1	0.24
	Precious Metals	S&P GSCI Precious Metals	1.8	3.4	18.7	0.18

Notes: Estimates as of 30 September 2020, as published in 2021 Long-Term Capital Market Assumptions (November 2020). 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)	100	100	80	25	-	-
Corporate IG spreads vs sovereign (bps)	120	30	120	20	-	-
Corporate HY spreads vs sovereign (bps)	450	360	-	-	-	-
Corporate HY default rates (%)	5.0	4.0	-	-	-	-
Corporate HY recovery rates (%)	43	50	-	-	-	-
Equities dividend growth (%)*	10.0	12.0	15.0	5.0	20.0	10.0
Equities dividend yield (%)*	1.6	2.7	3.4	2.3	2.6	2.0
Real estate dividend growth (%)*	10.0	8.0	8.0	3.0	10.0	-
Real estate dividend yield (%)*	4.4	4.2	4.1	3.5	5.1	-

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

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: Sector classifications and sector name abbreviations

We use a sector classification created by merging the two main systems used by Standard & Poors (S&P) for the US and Stoxx for Europe. We have decided to classify our 10 top level industries using categories that most closely resemble the Global Industry Classification Standard (GICS) and at the level below that (super sectors) we are using the Industry Classification Benchmark (ICB). The former is used for the S&P 500 index and the latter for the Stoxx 600, our benchmark indices for this document. The two systems overlap in most cases and the only material difference seems to be in the consumer sectors. Therefore, we define consumer staples as the aggregate of personal & household goods and food & beverage, while consumer discretionary includes automobiles & parts, media, retail and travel & leisure. For the rest, we assume 100% overlap for the corresponding top-level sectors.

Autos = Automobiles & parts
Basic Res = Basic Resources
Chem = Chemicals
Con & Mat = Construction & Materials
Fin Serv = Financial Services
Food & Bev = Food & Beverage
Ind G&S = Industrial Goods & Services
Pers & Hh Gds = Personal & Household Goods
Real Est = Real Estate
Tech = Technology
Telecoms = Telecommunications
Trav & Leis = Travel & Leisure

Appendix 7: Equity factor index definitions

All indices are subsets of the S&P 500 index, they are rebalanced monthly, use data in US dollars and are equal-weighted.

Growth includes stocks in the top third based on both their 5-year sales per share trend and their internal growth rate (the product of the 5-year average return on equity and the retention ratio).

Low volatility includes stocks in the bottom quintile based on the standard deviation of their daily returns in the previous three months.

Price momentum includes stocks in the top quintile based on their performance in the previous 12 months.

Quality includes stocks in the top third based on both their return on invested capital and their EBIT to EV ratio (earnings before interest and taxes to enterprise value).

Size includes stocks in the bottom quintile based on their market value in US dollars.

Value includes stocks in the bottom quintile based on their price to book value ratios.

Appendix 8: Definitions of economic scenarios

Base Case
The global economy continues to recover albeit unevenly and at a slower pace than recently. We expect China to outperform given its better control of the virus, while the US and Eurozone are likely to experience pauses in their respective re-openings given our expectation of lockdowns – although fiscal stimulus will continue to support activity. We assume an effective vaccine will be developed and rolled out during mid-2021. In this environment, we expect the goods economy to continue outpacing services until the rollout of a vaccine.

Upside Case: "V" for Vaccine
In this scenario we assume a vaccine is rolled out during early 2021. Though not soon enough to control the Covid virus during the Northern Hemisphere winter, an early vaccine should immediately improve economic confidence and allow a return to "normal" patterns of behaviour as 2021 progresses. We also assume greater fiscal stimulus, which affords a faster recovery. This scenario allows the regions most impacted by the various (Europe, say) to make up some of the lost ground.

Downside Case: Double-Dip
In this scenario, we assume a vaccine is not available during 2021 and that multiple waves of the virus require renewed national lockdowns, which depresses the global economy. We assume fiscal and monetary stimulus is too slow and inadequate to prevent a double-dip recession.

Appendix 9: 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 1st 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 33) 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 23, 31 and 32) are based on Bank of America Merrill Lynch government bond indices with historical ranges starting on 31st December 1985 for the Global, Europe ex-UK, UK and Japanese indices and 30th January 1978 for the US. 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 28th 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 31st December 1996 for the Global, 31st January 1973 for the US dollar, 1st January 1996 for the euro, 31st December 1996 for the British pound, and 6th September 2001 for the Japanese yen 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 28th February 2003.

Corporate high yield (HY) bonds: Bank of America Merrill Lynch high yield indices with historical ranges starting on 29th August 1986 for the US dollar, and 31st 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 31st December 1969 for the Global, US, Europe ex-UK, UK and Japanese indices, and 31st December 1987 for the emerging markets index. Equity index valuations (figures 25 and Appendix 1) are based on dividend yields and price-earnings ratios using Datastream benchmark indices with historical ranges starting on 1st January 1973 for the Global, US, Europe ex-UK and Japanese indices, on 31st December 1969 for the UK index and 2nd January 1995 for the Emerging Markets index.

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

Commodities: Goldman Sachs Commodity Index with historical ranges starting on 31st December 1969 for the All Commodities and Agriculture indices, 31st December 1982 for the Energy index, 3rd January 1977 for the Industrial Metals index, and 2nd January 1973 for the Precious Metals index. We refer to oil & gas and industrial metals as industrial commodities.

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 1st January 2001 with a value of 100.

Gold: London bullion market spot price in USD/troy ounce.

Government bonds: Current levels, yields and total returns use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK, and the Bank of America Merrill Lynch government bond total return index for the World and Europe. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index.

Corporate investment grade (IG) bonds: 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

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