



The Big Picture

2020 outlook: on a wing and a prayer

Quarterly update
From Invesco's Global Market Strategy Office

For professional/qualified/accredited investors only

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Data as of 31/10/19 unless stated otherwise



The Big Picture

2020 outlook: on a wing and a prayer

2019 has been a good year with strong returns on a broad range of assets. The global economy has decelerated but we hope policy easing will stabilise things during 2020 (the wing and a prayer). Our favoured asset class is real estate (where we remain maximum allocated) and we boost credit positions to the maximum allowed. We are also adding a commodity position (focused on industrial commodities). These are balanced by reducing cash (still Overweight) and equities (to slightly Underweight). On a regional basis we like emerging markets (EM) but have reduced UK positions out of fear of a no-deal Brexit by end-2020.

Model asset allocation

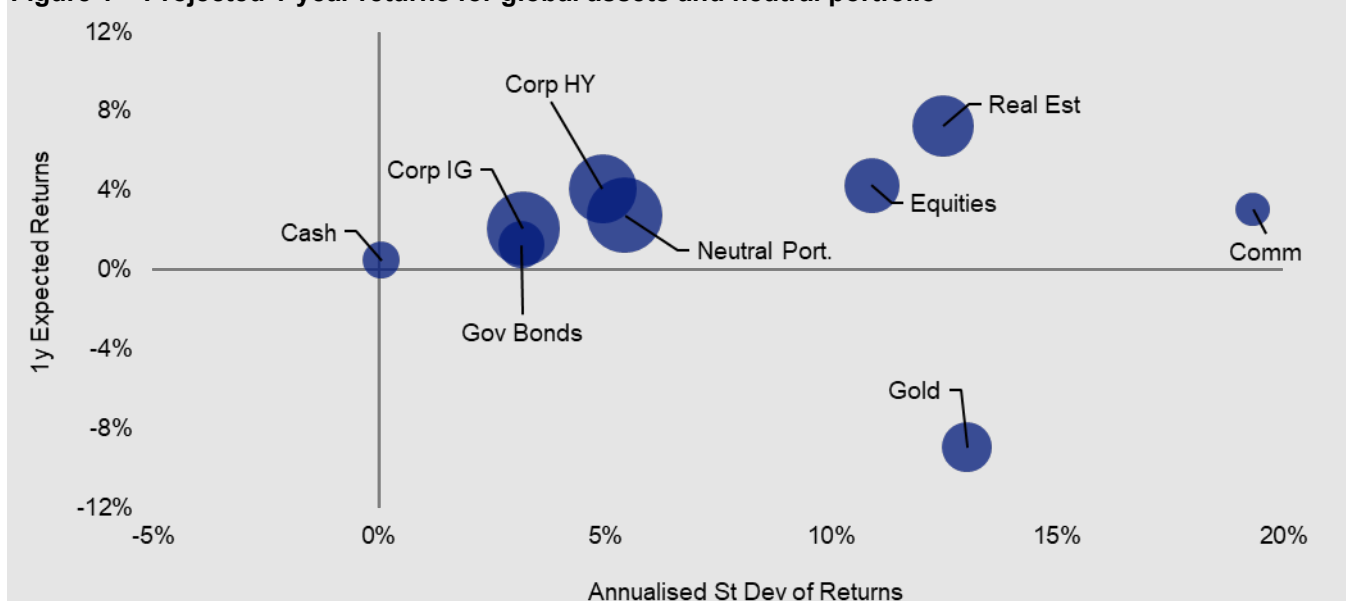
In our view:

- Equities offer good returns but are volatile and correlated to other assets. We reduce to slightly Underweight.
- Real estate has the potential to produce the best returns. We stay at Maximum.
- Corporate high-yield (HY) now looks more interesting. We increase to Maximum.
- Corporate investment-grade (IG) preferred to government debt. We increase to Maximum.
- Government debt better than it was but still unattractive. We add but 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 reduce but stay Overweight.
- Commodities have fallen to historical norms. We increase to Neutral.
- No currency hedges.

Our best-in-class assets (based on 2020 projected returns)

- Japanese equities
- EM real estate
- EM government debt
- US HY

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



Based on annualised local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in **Figure 3**. As of 31 October 2019. 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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Positive returns ahead but less than in 2019 (we believe)

Real estate and credit preferred; commodities boosted; equities and cash reduced

Long-term analyses point us towards equity-like assets

Will 2020 be like 2010 or 2018?

A big political year that could calm nerves

Can policymakers save the day?

Central scenario remains the same but less probable

What if we are wrong? Our best-in-class recession assets

Equally, we may be underestimating growth

Summary and conclusions: on a wing and a prayer

2019 has been a good year with strong returns on a broad range of assets. We expect more of the same in 2020 but less so. The global economy has decelerated but we hope monetary and fiscal easing will stabilise things during 2020 (the wing and a prayer). Our favoured asset class remains real estate (where we remain maximum allocated) and we are now boosting credit positions to the maximum allowed. We are also boosting the commodity position from zero to Neutral (focused on industrial commodities). These changes are financed by reducing the cash position (still Overweight) and equities (to slightly Underweight). On a regional basis we continue to like emerging markets (EM) but have reduced UK positions out of fear of a no-deal Brexit by end-2020.

Over the very long-term our analysis suggests that equities have outperformed other assets by quite a large margin (we suspect the same applies to real estate). Our analysis of the themes that will dominate the 21st Century suggests this will continue to be the case and Invesco's Investment Solutions 10-year capital market assumptions point to a similar conclusion (for equities, at least).

However, the task at hand is to consider what will happen during 2020. The return profile of global assets during 2019 looks like those of 2009 and 2017. The question is then whether 2020 will look like 2010 (continuation of good returns) or 2018 (a reversal). Our analysis leads us to believe it will be somewhere between, with equity-like assets (equities, real estate and high-yield) leading the way but with lower returns than in 2019.

The big political event of 2020 will be US presidential elections in November. For the moment it looks as though President Trump would lose to any of the Democrat frontrunners, especially if Joe Biden were nominated. We believe that would be taken well by markets (even more so if Michael Bloomberg entered the race and won). However, the initial reaction may not be so kind if either Elizabeth Warren or Bernie Sanders were to become President. In any case, we would expect a calming of geopolitical tensions and less probability of conflict.

The bigger question, we believe, is whether the global economy will continue to decelerate or stabilise/reaccelerate. Global data flows do not look promising, with GDP growth slowing to around 3% (as we had expected), but central banks have reacted in great numbers (more than 45 have cut rates this year). Major central banks have also started to grow their balance sheets again. This gives hope of a turnaround in the data and we note that global monetary aggregates have accelerated. Also, fiscal policy is more supportive than it was and the UK looks set to reverse nearly 10 years of austerity.

Our central scenario for the global economy in 2020 is 3% GDP growth and 3% inflation. This may be the same numbers as for 2019 but will require some improvement from recent trends to get there. We assign a probability of 50% to this scenario (60% a year ago). Our favoured assets for this scenario are: real estate, credit and industrial commodities, with cash used as the preferred defensive asset (see the Model Asset Allocation in **Figure 3**). Within equities (reduced to slightly Underweight), we favour EM and Japan, along with growth and quality factors.

We also consider four other scenarios. A year ago, we assigned a 25% probability to recession but have now reduced that to 20% due to policy easing (see **Figure 2** for assets that we prefer under each scenario). Such an outcome would cause a switch in our preferences toward defensive assets: government bonds, IG credit, Japanese yen cash and defensive equities such as the European low-volatility factor (based on our assessment of "best-in-class" assets). We also worry that if the recent policy easing does not have the positive effect that we imagine, the outcome for markets could be quite dramatic, on the realisation that central banks have no power.

On the other hand, we may be underestimating the impact of policymakers, in which case the global economy may accelerate (see the "boom" scenario in **Figure 2**). Then, of course our preferences would swing wholeheartedly to early-cyclicals: high-yield (HY), EM assets, industrial commodities, basic resources sector, value factor etc.

UK allocations reduced due to fear of a no-deal Brexit at the end of 2020

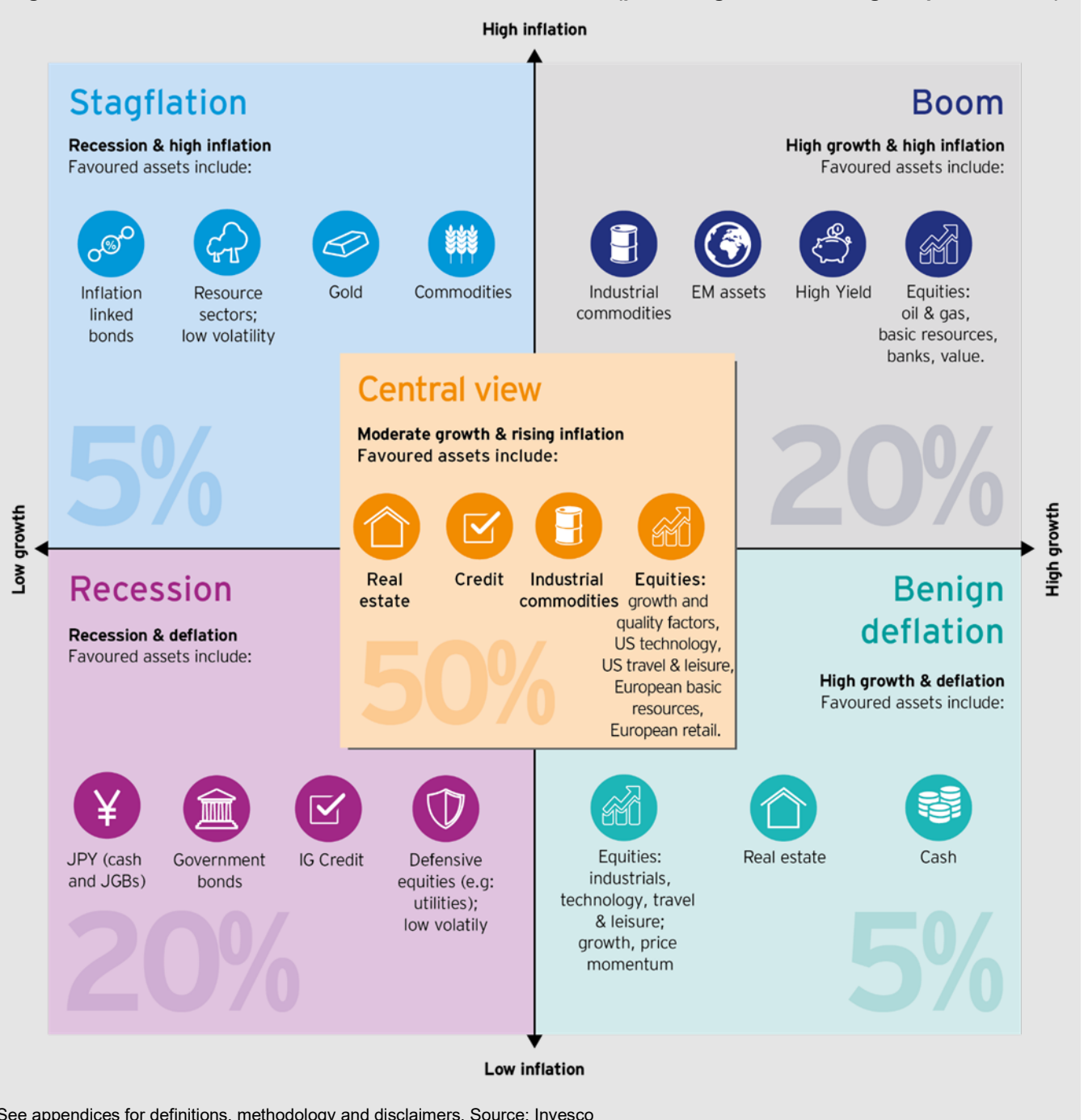
We are watching profits

We also consider “stagflation” and “benign deflation” scenarios but assign limited probabilities due to the lack of obvious catalysts.

We reduce the allocation to UK assets to a broadly Neutral stance. Sterling has recovered from its summer lows on hopes that a Brexit deal will get done. Our analysis of opinion polls suggests Boris Johnson will win a comfortable parliamentary majority, which should allow his EU Withdrawal Bill to be approved, taking the UK out of the EU by 31 January 2020. However, we are less optimistic that a free-trade deal can be negotiated by 31 December 2020 and fear an eventual no-deal Brexit.

Given the large degree of faith inherent in these conclusions, we will be watching for signs of global acceleration/deceleration, with a close eye on profit trends.

Figure 2 – Five scenarios for 2019 and our favoured assets (percentages reflect assigned probabilities)



Model asset allocation*

Figure 3 – Model asset allocation (22/11/2019)

	Neutral	Policy Range	Allocation	Position vs Neutral	Hedged	Currency
Cash	5%	0-10%	5%			
Cash	2.5%		5%			
Gold	2.5%		0%			
Bonds	45%	10-80%	47%			
Government	30%	10-50%	17%			
US	10%		7%			
Europe ex-UK (Eurozone)	8%		0%			
UK	2%		2%			
Japan	8%		4%			
Emerging Markets	2%		4%			
Corporate IG	10%	0-20%	20%			
US Dollar	5%		10%			
Euro	3%		6%			
Sterling	1%		2%			
Japanese Yen	1%		2%			
Corporate HY	5%	0-10%	10%			
US Dollar	4%		8%			
Euro	1%		2%			
Equities	45%	20-70%	40%			
US	25%		12%			
Europe ex-UK	7%		8%			
UK	4%		4%			
Japan	4%		8%			
Emerging Markets	5%		8%			
Real Estate	3%	0-6%	6%			
US	1%		0%			
Europe ex-UK	1%		2%			
UK	0.5%		0%			
Japan	0.5%		2%			
Emerging Markets	0%		2%			
Commodities	2%	0-4%	2%			
Energy	1%		1%			
Industrial Metals	0.3%		1%			
Precious Metals	0.3%		0%			
Agriculture	0.3%		0%			
Total	100%		100%			
Currency Exposure (including effect of hedging)						
USD	49%		41%			
EUR	21%		19%			
GBP	8%		8%			
JPY	14%		17%			
EM	7%		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. 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

Despite a shaky start, 2019 has been rewarding for investors

With similarities to 2009 and 2017

2010 vs 2018

The answer will depend upon trade, monetary and fiscal policy

A glance in the rear-view mirror

Before embarking on the outlook for 2020, let's consider what happened during 2019. It seems a long time ago but the year started with a lot of volatility and weakness in risky assets. However, as shown in **Figure 4**, 2019 has turned out to be good for all assets (when measured in US dollars and annualised). In particular, it has been one of the better post-financial crisis (GFC) years for stocks (equities) and REITS (real estate).

This suggests it has been very much a risk-on environment but, curiously, gold has also had a good year. Even more interesting is the fact that asset class returns during 2019 look very much like those of 2009 and 2017: all assets have generated positive returns, with REITS, stocks, gold and HY the top performers (2003 was another year with the same profile but is not shown in the chart).

The question is then whether 2020 will resemble 2010 (continued strong returns) or 2018 (losses on all assets except cash). Comparing those two years, we find:

- 2010 was the first full year of recovery after a deep recession, while 2018 was a year of deceleration (eight years into a global expansion).
- The G20 vowed to keep trade channels open in the aftermath of the GFC, while US actions against China, the EU, Iran and Turkey (and renegotiation of NAFTA) contributed to trade friction during 2018. According to data from the Netherlands Bureau for Economic Policy Analysis, world export volumes were up 11% in the year to 2010 Q4, versus only 2% in the year to 2018 Q4 (and -0.6% to 2019 Q2).
- Judging by the IMF measure of G20 cyclically-adjusted government deficits, fiscal policy was mildly expansionary in both 2010 (by 0.7% of potential GDP) and 2018 (0.3%). However, a broader analysis suggests economies and markets were more supported in 2010 than in 2018 (those G20 deficits increased by 3.4% of potential GDP in the three years to 2010 versus only 0.6% in the three years to 2018).
- Interest rates increased during both 2010 and 2018 (our money supply-weighted global policy rate increased by 41 bps during 2010 and 52 bps during 2018); global M3 growth was 6.9% during both years (according to our measure using PPP exchange rates) but the aggregate balance sheet of the QE5 (Fed, ECB, BOE, SNB and BOJ) grew by 8.5% in 2010, while shrinking by 0.3% during 2018 (having expanded vigorously in previous years in both cases).

Based on the above, we believe the key to asset returns in 2020 will be whether the global economy reaccelerates, which in turn we think will depend upon resolution of the US-China trade dispute and the degree of policy support (fiscal and monetary).

Figure 4 – Total returns on global assets by calendar year

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REITS	CTY	Govt	HY	Gold	Gold	REITS	Stocks	REITS	Cash	HY	Stocks	Cash	REITS
39.6%	32.7%	10.9%	62.0%	29.3%	11.1%	27.3%	27.4%	12.1%	0.2%	14.8%	23.1%	2.0%	26.3%
Gold	Gold	Gold	REITS	REITS	Govt	HY	HY	Stocks	REITS	CTY	REITS	Govt	Stocks
23.8%	31.8%	3.1%	33.0%	18.6%	6.8%	19.3%	8.0%	5.5%	0.1%	11.4%	13.9%	-0.3%	25.9%
Stocks	Govt	Cash	Stocks	HY	IG	Stocks	REITS	IG	Stocks	Gold	Gold	Gold	Gold
20.7%	10.7%	3.1%	30.8%	13.9%	4.5%	16.5%	3.3%	3.1%	-0.3%	9.0%	12.6%	-1.7%	21.8%
HY	Stocks	IG	Gold	Stocks	HY	IG	Cash	Govt	Govt	Stocks	HY	HY	HY
13.5%	9.6%	-8.3%	27.1%	12.3%	2.6%	11.1%	0.2%	0.2%	-2.6%	8.2%	10.2%	-3.3%	13.4%
IG	IG	HY	IG	CTY	Cash	Gold	IG	Cash	IG	REITS	IG	IG	IG
7.2%	7.3%	-27.9%	19.2%	9.0%	0.2%	5.6%	0.1%	0.2%	-3.8%	4.4%	9.2%	-3.5%	13.1%
Govt	Cash	Stocks	CTY	IG	CTY	Govt	CTY	HY	HY	IG	Govt	REITS	CTY
6.2%	5.5%	-40.3%	13.5%	6.0%	-1.2%	1.7%	-1.2%	-0.1%	-4.2%	4.3%	6.5%	-5.4%	12.1%
Cash	HY	REITS	Govt	Govt	Stocks	Cash	Govt	Gold	Gold	Govt	CTY	Stocks	Govt
5.2%	3.1%	-41.8%	2.3%	5.6%	-5.0%	0.2%	-4.3%	-1.8%	-10.4%	1.7%	5.8%	-8.2%	7.9%
CTY	REITS	CTY	Cash	Cash	REITS	CTY	Gold	CTY	CTY	Cash	Cash	CTY	Cash
-15.1%	-2.8%	-46.5%	0.4%	0.3%	-5.6%	0.1%	-27.3%	-33.1%	-32.9%	0.5%	1.1%	-13.8%	2.5%

Notes: Based on annual total return data from 2006 to 2019 in USD (2019 is created by annualising data up to 31 October). Calculated using: spot price of gold, JP Morgan 1-month USD cash 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.

History suggests we should prefer equities and real estate

Background considerations

Over the very long-term equities and real estate have outperformed fixed income assets, while commodities gave the same return as bonds but with the same volatility as stocks (see **Figure 5**). The efficient frontier based on those returns runs from cash to stocks, with investment-grade grade credit (IG) the closest of the other assets shown. Not surprisingly, our research suggests that optimal portfolios based on this data set would be dominated by stocks, IG and cash (the exact balance depending on one's appetite for risk).

Figure 5 – US annual total returns 1915-2018 and efficient frontier (CPI adjusted)



Note: Based on calendar year data from 1915 to 2018. Area of bubbles is in proportion to average correlation with other assets. Calculated using: spot price of gold, Global Financial Data (GFD) US Treasury Bill total return index for cash, our own calculation of government bond total returns (Govt) using 10-year treasury yield, GFD US AAA Corporate Bond total return index (IG), Reuters CRB total return index until November 1969 and then the S&P GSCI total return index for commodities (CTY) and Robert Shiller's US equity index and dividend data for stocks. Indices are deflated by US consumer prices. "Max return/risk" is the point on the efficient frontier that gives the highest ratio of return to standard deviation of returns. Past performance is no guarantee of future results. Source: Refinitiv Datastream, Global Financial Data, Reuters CRB, S&P GSCI, Robert Shiller, Invesco

The future ain't what it used to be (Yogi Berra)

History may be instructive but we need to think about how the future may be different. We believe that four themes could alter the pattern of returns over the very long term:

- Extremely low interest rates and bond yields
- Demographic deceleration
- Climate change
- Innovation

We need innovation more than ever

They are interrelated but we believe that low bond yields will skew the return comparison even further against fixed income assets. In the other direction, demographic deceleration and climate change could dampen economic growth, thereby reducing the return potential for assets such as equities and real estate (essentially, post WW2 growth was boosted by rapid population growth, rising debt and a disregard for the environmental consequences). In such a world, we would expect inflation and interest rates to remain subdued. Innovation could be the key to generating growth as working age populations decelerate/shrink, while mitigating the extent of climate change.

We expect lower returns over the rest of the century but still prefer equity-like assets

Taking all the above into account, our analysis leads us to still prefer equities and real estate over the very long term, though we would expect lower returns on all assets versus those long-term historical averages. Optimisations based on our end-of-century projections for US assets generate portfolios dominated by stocks, IG, cash and commodities (CTY). When the analysis is for global assets and includes real estate and HY, the optimal portfolios are dominated by real estate, equities and cash.

We will become more tactical

This long-term approach leads us to temper our return expectations and to err on the side of caution when portfolio returns have been strong.

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 6** shows their projected returns for global asset classes in a range of currency bases (their framework differs from ours, so we have had to adapt some of their categories – for instance, we use their US Treasury Short category to represent cash and precious metals for gold).

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

	USD	EUR	GBP	CHF
Cash & Gold	2.7	0.5	1.5	0.3
Cash - US Treasury Short	2.1	-0.1	0.9	-0.3
Gold	3.2	1.0	2.0	0.8
Government Bonds	1.9	-0.4	0.6	-0.6
Corporate IG	2.3	0.0	1.0	-0.2
Corporate HY - US HY	4.5	2.2	3.3	2.1
Equities	6.4	4.1	5.2	4.0
Real Estate	4.9	2.6	3.7	2.5
Commodities	5.4	3.2	4.2	3.0

Note: Estimates as of 30 September 2019 and based on the 10-year capital market assumptions published by Invesco Investment Solutions in 2020 Long-Term Capital Market Assumptions (November 2019). The USD version of the CMAs is reproduced in Appendix 4. 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

Cash & gold, HY and equities dominate CMA based optimal portfolios

Not surprisingly, the further we move along the risk spectrum, the higher the project returns. With one exception: real estate. That is interesting because it remains one of our favoured asset classes. Combining those projections with measures of volatility and diversification (our 10-year historical covariance matrices) gives the results shown in **Figure 7**. Though results vary by currency base and depending on what is maximised (Sharpe Ratio or returns), there are some broad themes: cash & gold and HY are given maximum allocations and equities are above Neutral. On the other hand, real estate is largely zero-weighted, as is IG, while government bonds are below Neutral. Commodities are either zero or maximum allocated. It will be interesting to see how shortening the time horizon and allowing for the cycle impacts our conclusions.

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

	Neutral Portfolio	Policy Range	Maximise Sharpe Ratio				Maximise Return			
			USD	EUR	GBP	CHF	USD	EUR	GBP	CHF
Cash & Gold	5%	0-10%	10%	6%	10%	10%	10%	10%	10%	10%
Cash	2.5%	0-10%	10%	0%	10%	0%	10%	10%	10%	7%
Gold	2.5%	0-10%	0%	6%	0%	10%	0%	0%	0%	3%
Government Bonds	30%	10-50%	50%	10%	10%	10%	29%	26%	12%	25%
Corporate IG	10%	0-20%	2%	0%	0%	0%	0%	0%	0%	0%
Corporate HY	5%	0-10%	10%	10%	10%	10%	10%	10%	10%	10%
Equities	45%	20-70%	28%	70%	66%	70%	51%	50%	64%	45%
Real Estate	3%	0-6%	0%	0%	0%	0%	0%	0%	0%	6%
Commodities	2%	0-4%	0%	4%	4%	0%	0%	4%	4%	4%

Note: optimisations are based on the 10-year projected returns published by Invesco Investment Solutions in 2020 Long-Term Capital Market Assumptions (November 2019), as shown in **Figure 6** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance matrices (for each currency). "Gold" is based on the projections for precious metals and the "Cash & Gold" category shows the sum of allocations for those two assets). "Maximise Sharpe Ratio" optimisations are performed by maximising the Sharpe Ratio subject not violating the constraints implied by the policy ranges shown in the table. "Maximise Return" optimisations are performed by maximising return subject to the policy range constraints but also subject to the standard deviation of returns not exceeding that of the Neutral Portfolio (as shown in **Figure 3**). Though based on the projected returns provided by Invesco Investment Solutions, these optimal allocations do not represent their views, nor those of any other investment team at Invesco. See appendices for definitions, methodology and disclaimers.

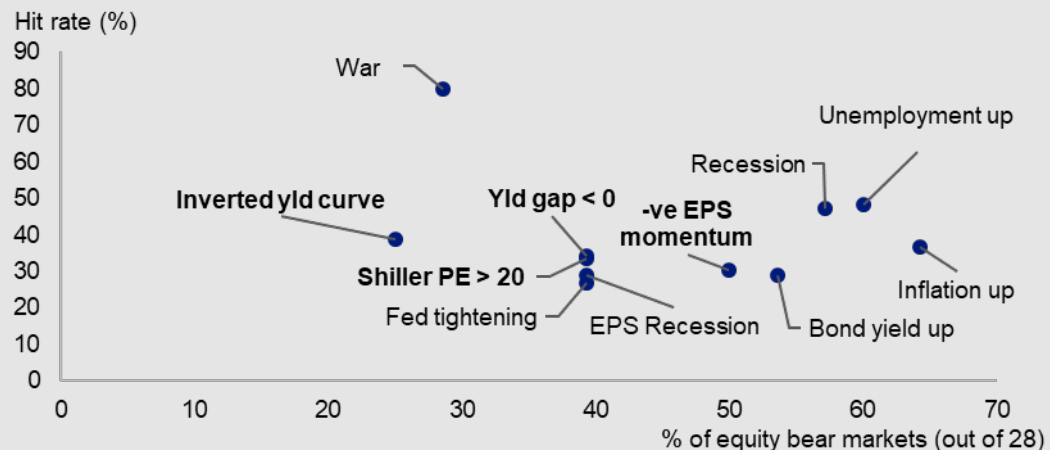
Source: Invesco Investment Solutions, Invesco

What could upset the apple cart in 2020?

The outlook for 2020: geopolitics and economic cycles

Shortening the horizon to 2020, the big question is whether equity-like assets will continue to perform strongly or whether it will be one of those one-in-four years when they underperform. Our previous work suggests the three conditions that tend to be associated with equity bear markets are: war, inflation and/or recession (see **Figure 8**).

Figure 8 – What causes equity bear markets (1915-2018)?*



*Items in bold are conditions that were true at the start of the calendar year. Others are conditions met during the year. “-ve EPS momentum” refers to negative earnings per share momentum. “Yld” is yield and “Yld gap” is inverse of Shiller PE minus 10-year yield. Horizontal axis measures proportion of equity bear markets for which stated condition was present. Hit rate is the proportion of times the stated condition occurred and was associated with negative equity returns (or equities being in lowest third of assets). Based on the 28 years from 1915 to 2018 when US equity total returns were negative or when equities ranked among the bottom third of assets. See appendices for definitions.
Source: Robert Shiller, Global Financial Data, St. Louis Fed, Refinitiv Datastream and Invesco

US presidential elections will preoccupy political commentators during 2020

A year in politics – plenty of domestic strife but war?

The calendar of elections for 2020 is dominated by the US elections in November (see **Figure 9** for our selection of the most important). Though we are not expecting another UK election during 2020, the politics around Brexit may still dominate news flows and continue to impact financial markets.

Figure 9: Selected elections and political events during 2020

11/01/2020	Taiwan	General
31/01/2020	UK	Brexit extension ends
29/02/2020	Greece	Presidential (by end-February)
29/02/2020	Iran	Legislative (due February)
15/04/2020	South Korea	Legislative
07/05/2020	UK	Local
31/05/2020	Poland	Presidential (by May)
31/05/2020	Egypt	Parliamentary and Senate (April or May)
30/09/2020	Hong Kong	Legislative Council (due September)
30/09/2020	France	Senate (due September)
30/10/2020	Spain	Basque Country and Galicia elections (due October)
30/10/2020	Georgia	Parliamentary (by October)
03/11/2020	US	President, House of Representatives, Senate
21/11/2020	New Zealand	General (on or before 21/11)
31/12/2020	Venezuela	Parliamentary (scheduled for December)
31/12/2020	UK	Brexit transition period ends?
31/12/2020	Romania	Parliamentary (late 2020 or early 2021)
31/12/2020	Singapore	Parliamentary (by 15/4/21 but maybe in 2020)

Source: International Foundation for Electoral Systems, Wikipedia, Invesco

US presidential election years are unremarkable from a stock market perspective (11.1% average total return on US equities during election years versus an annual average of 12.4% in all years, both since 1950). Nevertheless, they generate a lot of interest and, given President Trump's approach to trade and geo-political relations, we believe the 2020 edition will be closely followed by markets and commentators.

So far so good for US stocks during the Trump presidency but 2020 may be different

So far during the Trump presidency, the annualised gain in the S&P 500 has been 11%, which is good but recently bettered by Democrats Obama (13.9%) and Clinton (15.2%). **Figure 10** shows that Democrat presidents have traditionally done better than Republicans (in terms of stock market gains). The stock market has historically struggled when a Republican faces a mixed Congress. This is now the case and could be a reason for caution during 2020 (we would put President Trump's first term in the "Weak Friendly Congress" category, though the first two years were "Friendly").

President Trump is on the backfoot...

If stock markets have on average preferred Democrat presidents, how are they likely to react as the outcome of the 2020 election starts to reveal itself? A quick glance at recent opinion polls suggest that any of the Democrat frontrunners would defeat President Trump by a decent margin (see, for example, RealClearPolitics). FiveThirtyEight's survey of approval ratings suggests that among post-WW2 presidents, only Jimmy Carter was less popular at this stage of the presidency.

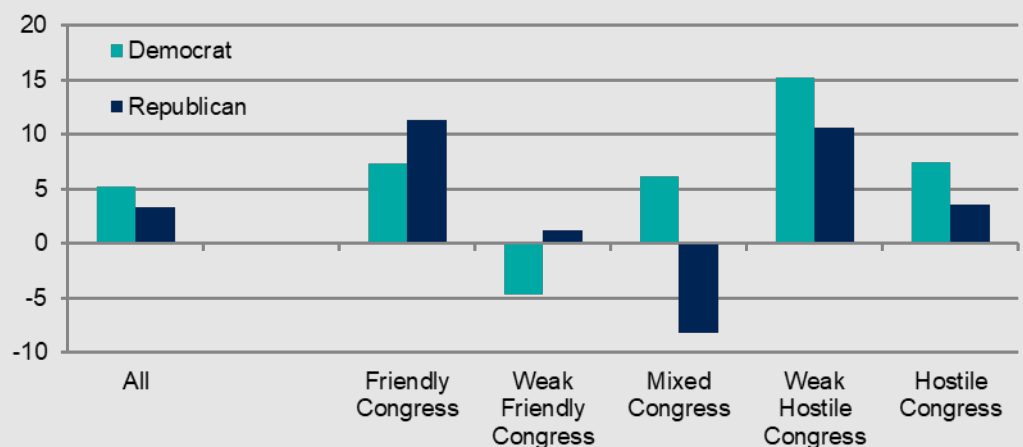
....which may be good news for markets

Our guess is that financial markets would welcome a return to a less antagonistic and erratic presidency.....unless President Trump were replaced by a left-leaning Democrat such as Elizabeth Warren or Bernie Sanders. Hence, we suspect that Joe Biden (or Michael Bloomberg, were he to stand) would be the market's choice. Opinion polls suggest Biden is the frontrunner among Democrat nominee hopefuls (see Nate Silver's 6 November article on the FiveThirtyEight website). They also suggest that among nominee hopefuls, he would fare the best against President Trump.

But there is a long way to go

If these trends continue, we believe the global economy and financial markets could be in for good news during 2020. However, President Trump defied opinion polls in 2016 and a lot of water will flow under the bridge over the course of what could be a brutal election campaign. Then again, we cannot ignore the possibility that President Trump may not be the Republican candidate in 2020, either because the impeachment proceedings force him to leave the White House or because Republicans decide they want another candidate. We believe markets would view this positively.

Figure 10 – Annualised US equity gains during US presidencies since 1853 by type of Congress (%)*

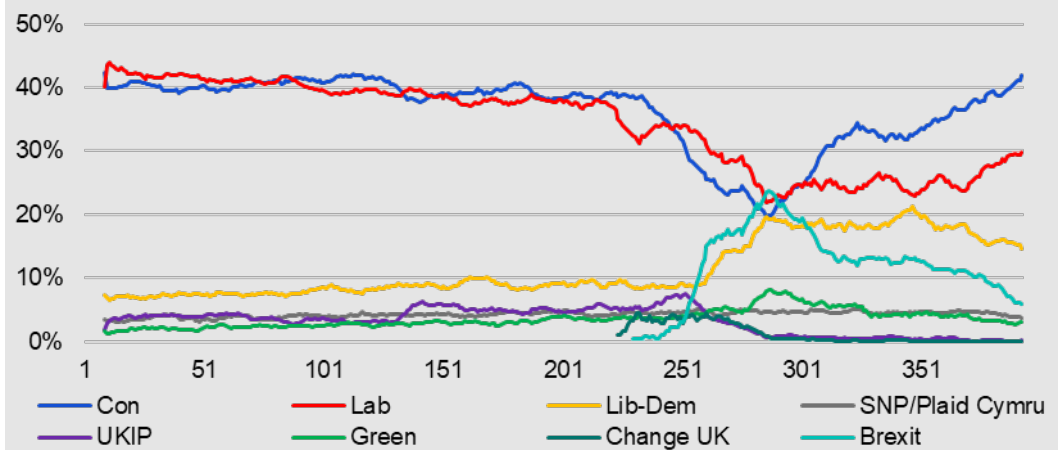


* Based on the S&P 500 index since 1957 and comparable indices as derived by Robert Shiller prior to that (see details in Appendix 8). The analysis starts at the beginning of the presidency of Franklin Pierce on 04 March 1853 and ends on 31 October 2019. "Friendly Congress" is when both houses are of the same party as the president; "Weak Friendly Congress" is when both houses support the President for most of his full term; "Mixed Congress" is when both parties have an equal stake in Congress; "Weak Hostile Congress" is when both houses are predominantly against the president and "Hostile Congress" is when both houses are against the president throughout his term. Past performance is no guarantee of future results. Source: 270twin, Robert Shiller, Global Financial Data, Bloomberg, Refinitiv Datastream, Wikipedia and Invesco

UK elections could deliver Brexit

Across the Atlantic, the UK is holding a general election on 12 December 2019 and the outcome appears difficult to gauge. Much as the Conservatives and Labour try to broaden the debate, the dominant theme remains Brexit. Prime-Minister Boris Johnson is trying to win a mandate that will enable him to gain parliamentary approval for his EU withdrawal agreement. If he is successful, the UK would in theory leave the EU by 31 January 2020, thus launching a process to negotiate the future trade arrangement. We believe that such an outcome is largely priced into UK financial markets.

Figure 11 – UK opinion polls since the June 2017 election (10-poll moving average)



Horizontal axis shows the number of opinion polls since the last general election on 8 June 2017. The first data point shows the results of that election (which is included in the moving average series). As of 17 November 2019. Source: BMG, SavantaComRes, Deltapoll, Hanbury, ICM, IPSOS MORI, Kantar, Number Cruncher Politics, One Poll, Opinium, Panelbase, Populus, Sky Data, Survation, YouGov, Wikipedia and Invesco

Opinion polls suggest the Conservatives are well ahead

A quick glance at **Figure 11** would suggest he has a good chance of realising that plan, with the Conservative Party well ahead of Labour in the opinion polls (42% vs 30% based on the average of the 10 most recent opinion polls). However, matters are never that simple with the UK's first-past-the-post electoral system and it should be remembered that Theresa May started the 2017 election campaign with an even bigger lead (44% vs 25%), only to see the gap closed (she ran a disastrous campaign but the Tories have this time also got off to a shaky start).

The withdrawal deal could still be derailed...

There are two main ways in which Johnson's "orderly" Brexit could be derailed: first, a no-deal outcome may win the day if the sum of Conservative Party and Brexit Party parliamentary seats is so large that it tilts Westminster into "hard-Brexit" territory (or the Brexit Party becomes the swing party, much as the DUP has been since 2017) and, second, if Labour wins or (more likely) there is a hung-parliament, the only solution may be to have a second referendum. We suspect the first outcome would damage sterling, while depressing gilt yields and, probably, UK equities (especially those with a domestic UK orientation). On the other hand, we believe the prospect of a second referendum (and the prospect of no-Brexit) would be good for sterling and UK equities (pending the outcome of the vote).

.....but that seems unlikely, with a decent Conservative majority possible

Everybody agrees this is a difficult election to call, with many moving parts: MPs standing down or switching parties; alliances (the Remain Alliance between Lib Dems, Plaid Cymru and Greens and the "alliance" between Conservatives and the Brexit Party, where the latter will not contest seats won by the former in 2017) and the fact that voters are ignoring traditional party allegiances in order to express their Brexit preference. Hence, anybody who claims to know the outcome is deluding themselves. However, we are not letting that stop us trying! **Figure 12** shows the results of our constituency-by-constituency analysis, using regional swing factors since the 2017 election. Based on recent opinion polls, this methodology suggests the Conservative Party will gain roughly 50 seats versus the current 298 and that Labour will lose more than 40 seats (the Brexit Party wins no seats on our analysis). This is enough to give a Tory majority of 54, which we guess will be enough to get Boris Johnson's EU Withdrawal Agreement through the UK parliament and for the UK to leave the EU on or before 31 January 2020.

Election won, Brexit done.....

However, the two alliances that have been announced could change the outcome, given the UK's voting system. The Remain Alliance between Lib Dems, Greens and Plaid Cymru covers 60 seats in England and Wales but our analysis suggests it will have a limited effect, perhaps adding one seat to the Lib Dems total. However, the decision by the Brexit Party to not stand in constituencies won by the Conservatives in 2017 will add to the seats won by Conservative Party (we believe), largely at the expense of the Lib Dems. We are assuming the Brexit Party has no MPs after the election. The upshot would be a 64-seat majority for the Conservatives, which we believe would be enough to get Brexit done....or at least the first part of it.

Figure 12: UK Parliamentary seat projections

	2017 election	Now	Opinion polls	Opinion polls plus alliances
Conservative	317	298	352	357
Labour	262	243	200	199
SNP	35	35	48	48
Lib-Dems	12	20	26	23
DUP	10	10	8	8
Sinn Fein	7	7	5	5
Plaid Cymru	4	4	4	4
Green	1	1	1	1
Independent	1	24	1	0
Other	1	8	5	5
Total	650	650	650	650
Majority	-16	-54	54	64

Notes: Using the 2017 general election result as the starting point, the "Opinion polls" projection is made by applying regional voting swing factors. The House Speaker is included in the "Other" category and not within their party's count. "Opinion polls plus alliances" assumes the following: for the "Remain Alliance", the votes for the Lib Dems, Greens and Plaid Cymru are aggregated in favour of the party that has been nominated to fight the given constituency (the agreement covers 60 constituencies); for those constituencies won by the Conservative Party in 2017 (where the Brexit Party has said it will not present a candidate), the Brexit Party vote is now split between Conservatives and Labour in proportion to the votes received in 2017. As of 17 November 2019.

Source: BMG, SavantaComRes, Deltapoll, Hanbury, ICM, IPSOS MORI, Kantar, Number Cruncher Politics, One Poll, Opinium, Panelbase, Populus, , Sky Data, Survation, YouGov, Wikipedia and Invesco

.....but Brexit uncertainty will return and a no-deal outcome is still possible

We suspect that UK financial markets will get relief from the fact that Brexit is done with an agreement. However, that is only the withdrawal agreement and the real work starts when negotiating the future relationship. Hence, the market relief may be short-lived, as Boris Johnson has said the transition period would not extend beyond 2020 (and may have promised this to Nigel Farage to persuade the Brexit Party to stand down candidates), which we believe is totally unrealistic. The negotiation of a future trade deal with the EU is likely to take far longer than that and something will have to give: either the deadline gets extended or the UK will leave the EU with no deal at the end of the transition period. Yes, a no-deal Brexit is still possible!

And the UK could be under threat

Hence, what appears to be relatively good news as 2019 draws to a close (an orderly Brexit) could turn to angst during 2020 as the real negotiations begin against the backdrop of an unrealistic timetable. We believe the good news is now largely priced into UK financial markets (sterling has recovered over recent months, for example) and suspect that 2020 will see the return of volatility, especially if Scotland pushes for an independence referendum and pressure grows in Northern Ireland for reunification with Eire (both Scotland and Northern Ireland voted to stay in the EU).

Caution: opinion polls may be wrong

Caution is, of course, required as the mood among UK voters can change during the election campaign (as it did in 2017) and opinion polls may be a less than perfect guide (as we have seen in many countries). However, it would take quite some change for the Conservatives not to win a majority – the UK's first-past-the-post system can deliver them a majority with even less than 38% of the vote.

Global GDP slows

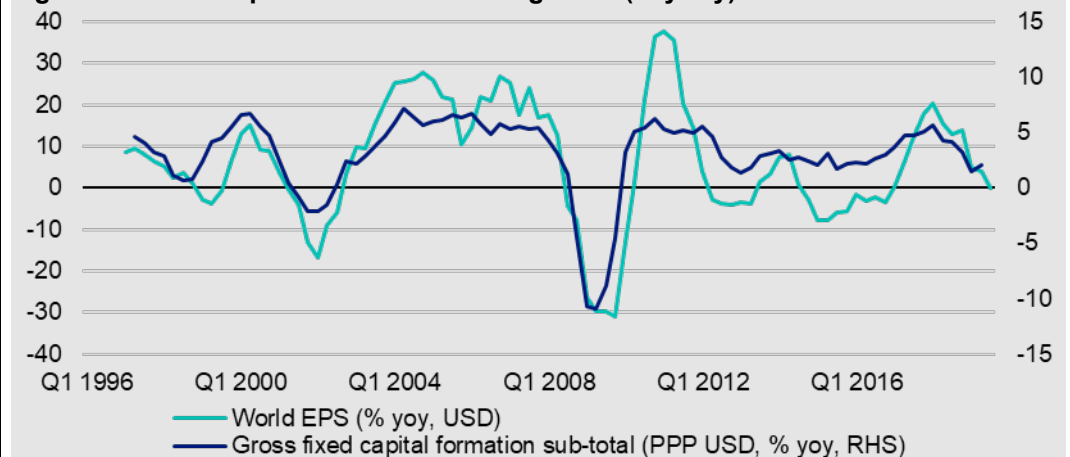
Led by profits and investment spending

The global economic cycle: can policymakers save the day?

The global economy has decelerated much as we predicted a year ago. At that time, we were suggesting that global GDP growth would slip to 3.0% during 2019 from 3.6% in 2018. Consensus estimates suggest the outcome will be 3.1% (see **Appendix 1**).

As is often the case, the slowdown in GDP has been associated with a deceleration in profits and investment spending (see **Figure 13**). Our earlier work suggests that investment often leads GDP both into and out of recession and investment is understandably dependent upon profits. This canary in the coalmine is a worry.

Figure 13 – Global profit and investment growth (% y-o-y)

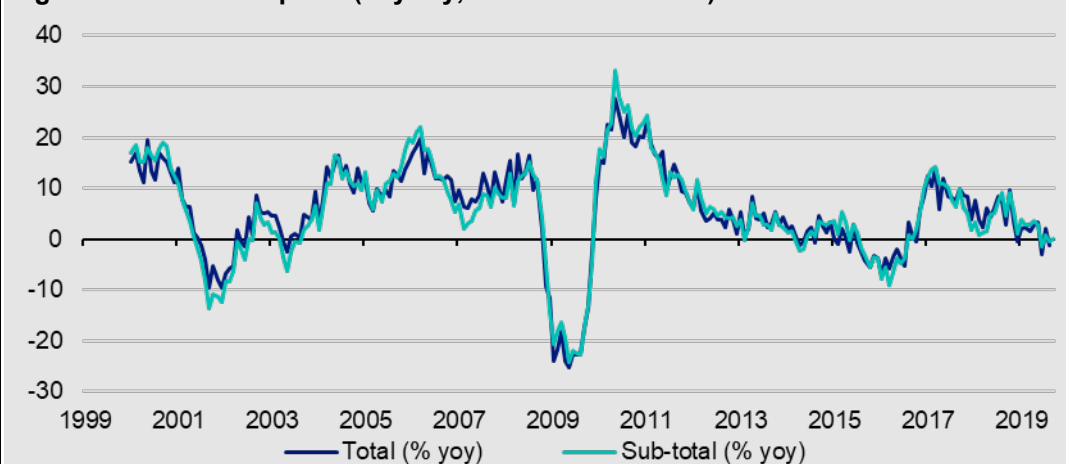


Note: Quarterly data from 1996 Q2 to 2019 Q3 (up to 30 September 2019 for EPS). World EPS growth is based on the MSCI World Index (price index and price/earnings ratios used). Gross fixed capital formation is up to 2019 Q2 and taken from OECD national accounts data for the following countries (Australia, Brazil, Canada, Eurozone, India, Indonesia, Japan, Mexico, Poland, Russia, South Korea, Sweden, Switzerland, Turkey, UK and US). Source: MSCI, OECD, Refinitiv Datastream and Invesco

Trade friction has not helped

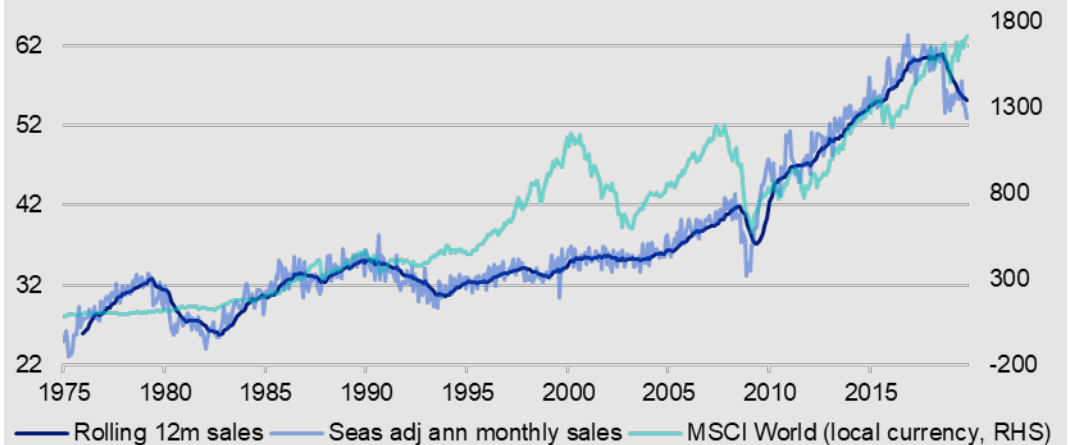
Trade restraints are one of the factors behind the deceleration in global growth, in our opinion. **Figure 14** shows that global exports have ground to a halt, with year-on-year growth now around zero (having peaked at 14% in March 2017). To the extent that US-China tensions have played a role (and we think they have), there are signs of a thaw in the relationship but no more than that for now. A definitive agreement that rolled back tariffs and opened the Chinese market would be a positive for the global economy and financial markets, in our opinion. That would be propitious for 2020.

Figure 14 – Global exports (% y-o-y, measured in SDRs)



Note: the chart shows year-on-year growth in the aggregate of exports measured in SDRs (IMF Special Drawing Rights) across a range of major economies (Australia, Brazil, Canada, China, Eurozone, India, Japan, Mexico, Russia, South Korea, Sweden, Switzerland, Taiwan, UK and US). "Total" is the aggregate across all countries. "Sub-total" is measured over the subset of countries for which the latest month of data (September 2019) is available, with the historical data based only on those countries. Monthly data from January 2000 to September 2019. Source: Refinitiv Datastream and Invesco.

Figure 15 – World passenger car sales (million) and global equities



Note: Monthly data from January 1975 to October 2019 (MSCI World as of 31 October 2019). 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 May 2019. 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, MSCI, Invesco.

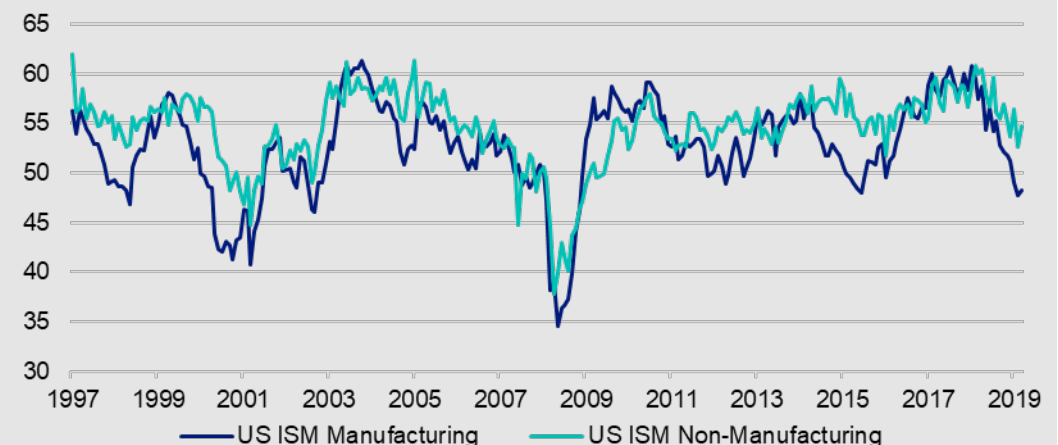
The auto cycle pointed to trouble

The global auto cycle peaked in August 2018 and its demise was a clear sign of trouble in the industrial sector. **Figure 15** shows that sales remain in the doldrums, with our seasonally-adjusted measure of global sales reaching a new low for this cycle in October 2019, though we are mindful that could be revised. Interestingly, global equity indices have continued higher, suggesting there is confidence about a recovery.

Signs of hope?

Figure 16 suggests that the weakness in the US industrial sector has translated into some (but less) weakness in the service sector. This appears to be a global pattern which is why recession in the industrial sector of many countries has translated into GDP deceleration but not recession. **Figure 16** also suggests there may be some signs of recovery in the US economy, though we need to see a continuation of that rebound to be sure the global economy is not decelerating further. The consensus forecasts shown in **Appendix 1** suggest that global GDP growth will stabilise at 3.1% in 2020, with acceleration to 3.3% in 2021. We expect growth of around 3% in 2020.

Figure 16 – US ISM business surveys



Note: the chart shows index levels as provided by the US Institute of Supply Management (ISM). Monthly data from August 1997 to October 2019. Source: Refinitiv Datastream and Invesco.

45-50 central banks
have cut rates

We may have anticipated the extent of the global GDP deceleration but certainly did not expect the policy reaction that has seen more than 45 central banks cut rates during 2019 (according to Central Bank Rates). **Figure 17** shows the downturn in global rates but the extent of the decline is exaggerated by the scale. Though the decline in our global average is only around 40 bps from the 2019 Q1 peak, the direction is clear.

Figure 17 – Global central bank policy rates

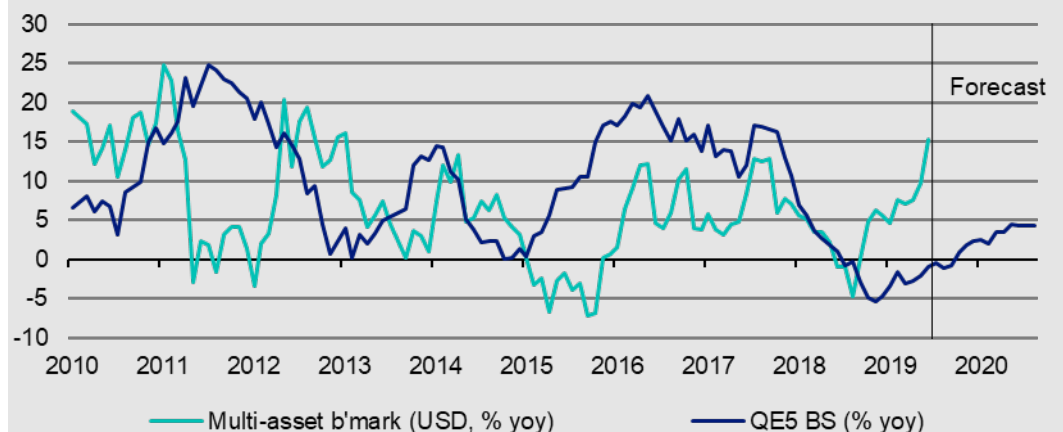


Notes: Monthly data from January 2010 to October 2019. We calculate a nominal GDP and money supply weighted average of central bank target rates in the 20 largest economies in the world. All indicators are in US dollars. We use IMF annual nominal GDP figures and reweight countries at the start of each year for the GDP-weighted rate. The money supply-weighted rate uses the same countries as the GDP-weighted rates but the weights change monthly based on broad money supply data. Data as at 31/10/2019.
Source: IMF, Refinitiv Datastream and Invesco

And balance sheet
expansion is back on the
table

Of course, the decline in that global policy rate is limited by the fact that the central banks of many large economies have rates close to or below zero and cannot reduce them much further. Consequently, some of those same central banks turned to quantitative easing (QE) during and after the GFC. **Figure 18** shows that their collective balance sheet had started to shrink since peaking in 2018 Q1 (largely because of Fed quantitative tightening (QT)) but that we anticipate a return to growth after bottoming in September 2019. That growth comes largely from the BOJ and now the ECB, which recently announced a new asset purchase programme. Also, the Fed has stopped QT. Hence, central banks have reversed the tightening and are firing on both cylinders.

Figure 18 – QE5 balance sheet* growth and asset returns

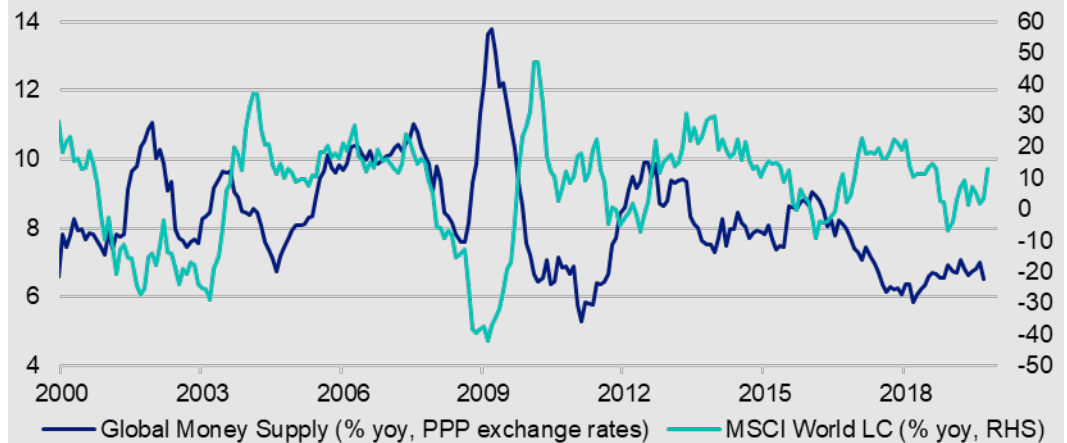


* Aggregate balance sheet of Fed, ECB, BOE, BOJ and SNB, in USD, rebased to 100 in May 2006. Forecast considers plans of the central banks. It assumes Fed makes no further adjustments to total asset holdings, that the BOJ expands its balance sheet at the same rate as in the last 12 months; that the BOE and SNB make no further net asset purchases and that the ECB makes net asset purchases of Eur20bn per month. The multi-asset benchmark is a fixed weighted index based on the Neutral asset allocation of Invesco's Asset Allocation Research team. From January 2010 to December 2020. Past performance is no guarantee of future results.
Source: BOE, Refinitiv Datastream and Invesco

Money supply growth
may be accelerating

Has central bank easing had an effect? **Figure 19** suggests that, after decelerating since early 2016, there was something of an acceleration in broad monetary aggregates during 2018 (even before the rate cuts started). There has been something of a levelling-off in growth during 2019 but year-on-year growth of 6.5% in September 2019 is consistent with nominal global GDP growth of 6.0%-6.5% (note that global M3 growth was as high as 9% in 2016 Q1). To the extent that money supply is a leading economic indicator, the worst may be over. Indeed, **Figures 18 and 19** suggest that global assets have already reacted to that good news.

Figure 19 – Global money supply growth and equity market performance

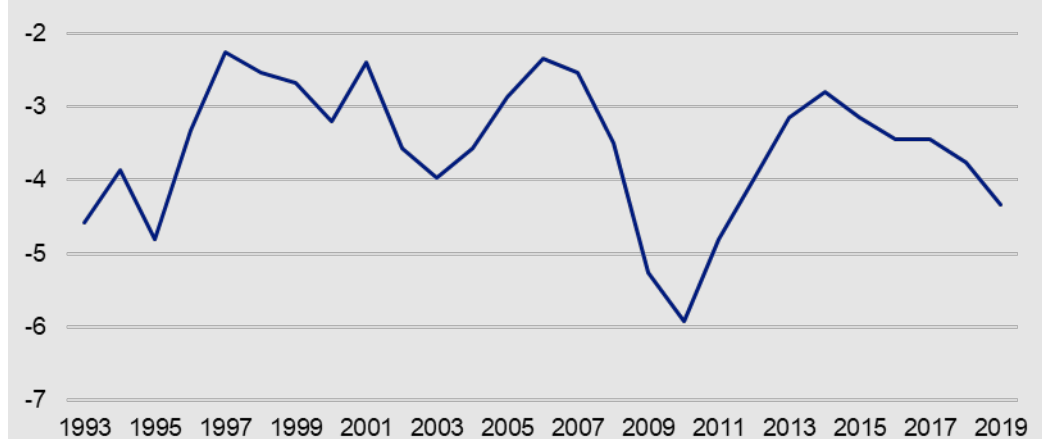


Note: monthly data from January 1983 to September 2019 (as of 31 October 2019). Based on an aggregation of broad money supply aggregates (usually M3) for the following countries: Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Eurozone, Hungary, Iceland, India, Indonesia, Israel, Japan, Mexico, New Zealand, Norway, Poland, Russia, South Africa, South Korea, Sweden, Switzerland, Turkey, United Kingdom and United States. "Global Money Supply" is based on an aggregation of national money supplies using purchasing power parity (PPP) exchange rates to convert to US dollars (PPP exchange rates are those which equalise spending power across countries and are usually more stable than market exchange rates). "MSCI World LC" is the local currency version of MSCI's World equity total return index. Past performance is not a guide to future returns.
Source: MSCI, OECD, Oxford Economics, Refinitiv Datastream and Invesco.

And governments are
lending a hand

And it isn't just central banks. According to **Figure 20**, G20 governments have been relaxing their fiscal constraints, which may be good for the global economy (the chart shows cyclically-adjusted fiscal balances). The US and China have led the way but this relaxation has not been universal, with Europe and Japan tightening over recent years. Note that IMF forecasts do not envisage further loosening beyond 2019, though UK election promises suggest there will be fiscal expansion there and the new head of the ECB (Christine Lagarde) is pressing for Eurozone governments to be more supportive.

Figure 20 – G20 cyclically-adjusted government balance (% of potential GDP)



Note: annual data from 1993 to 2019. Data (including the 2019 forecast) is provided by the IMF.
Source: IMF, Refinitiv Datastream and Invesco.

Putting our faith in policy makers...on a wing and a prayer

No recession in 2020

Having stated our concern about global deceleration, it is our belief that the ongoing worldwide fiscal and monetary loosening will be enough to prolong what has already been a long economic cycle. While we believe that central banks in large developed economies have limited ability to impact economic outcomes, we think they can still have some effect. Further, we feel that interest rate cuts in the emerging world are more likely to succeed, given our belief that their demand-for-credit functions were left relatively unscathed by the GFC. We have more faith in the power of fiscal policy to boost developed world growth and welcome recent signs from the UK and hope that Christine Lagarde succeeds in loosening the fiscal purse-strings in the Eurozone. We are also assuming an easing of trade tensions between the US and China.

Recession may be delayed but let's not overstate the case

Hence, we believe the next recession has been pushed further into the distance. Rather than occurring in 2020/21, as we previously thought, we now expect it to occur in 2021/22 or later. However, we do not wish to overstate the case and our asset allocation is predicated upon 3% global GDP growth and 3% global CPI inflation in 2020, roughly the same as in 2019. Put another way, we suspect the policy actions will be enough to stabilise but not boost annual growth rates. **Figure 21** shows that we believe major economies will remain in the late-expansion phase of the economic cycle, a phase during which equities, industrial commodities and real estate have typically performed well (according to our research).

Still in late expansion but that beats recession

This puts us roughly in line with the consensus estimates shown in **Appendix 1**, though we differ on some of the detail: for example, we expect 2% growth in the US (consensus 1.8%) and 5.5%-6.0% in India (consensus 6.1%). More importantly, when it comes to momentum, we suspect growth will be lower in 2021, not higher as suggested by the consensus. We do agree with the consensus that inflation is not a problem.

Figure 21 – The economic and asset class roller coaster

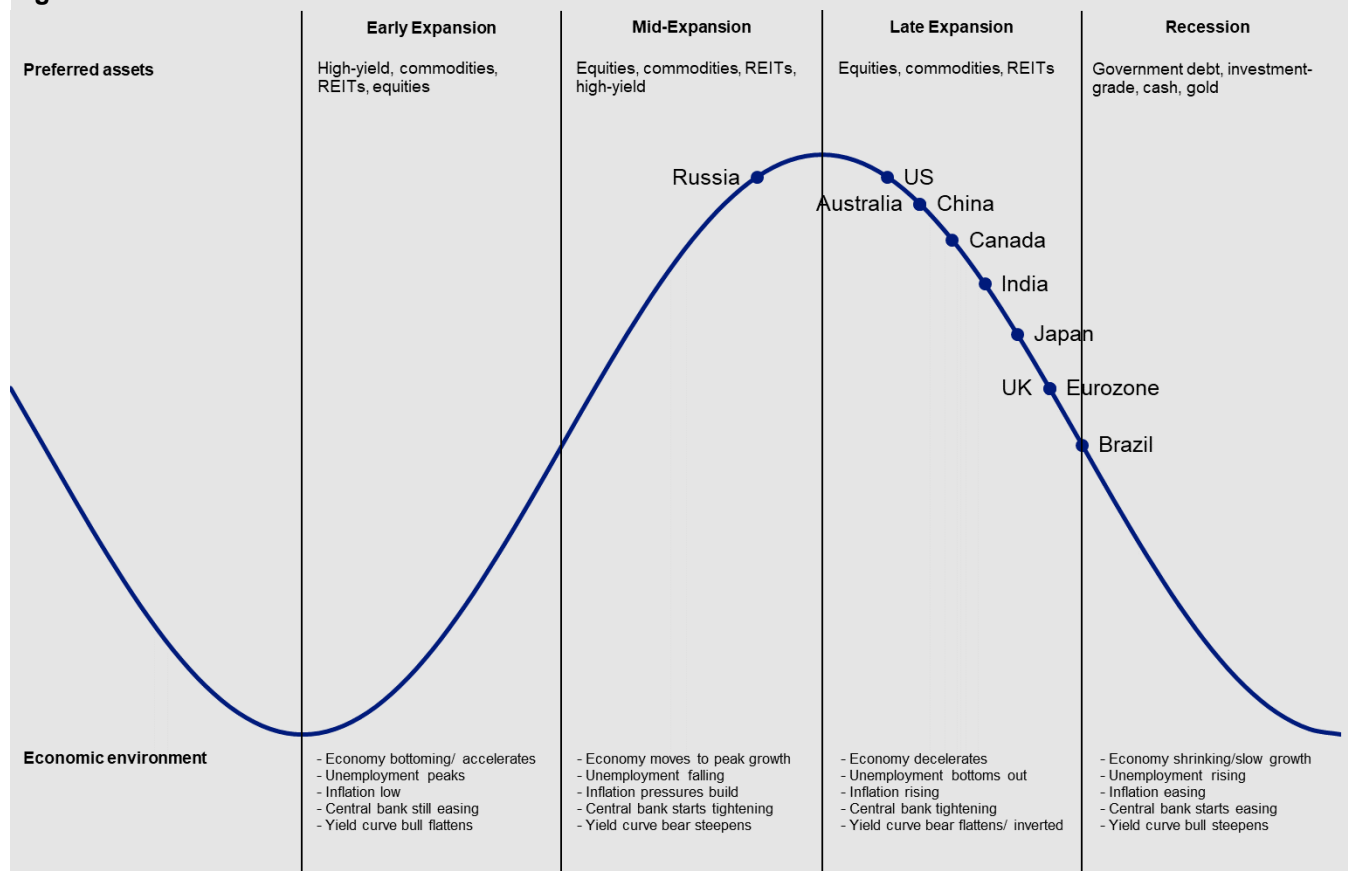


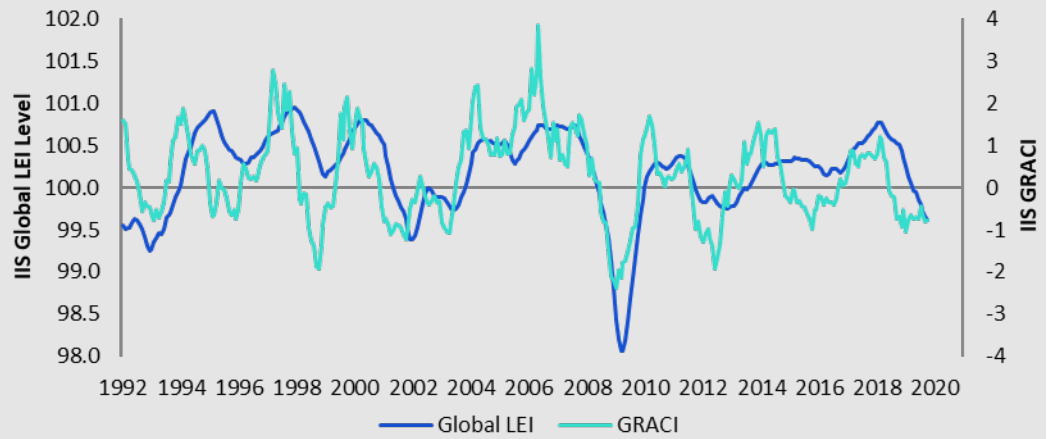
Chart shows our view of the cyclical positioning of the world's largest economies. The selection of preferred assets is based on our research published in "Asset allocation in pictures" in November 2017. See appendices for definitions, methodology and disclaimers. Source: Invesco

Somewhere between 2010 and 2018

From economies to financial markets: risky assets favoured

We started by asking whether 2020 would resemble 2010 or 2018. Our conclusion is that it will be somewhere between: we think the global deceleration will come to an end but also that we are closer to the end than the start of the global economic cycle.

Figure 22 – Global risk appetite and the global business cycle



Note: monthly data from January 1992 to September 2019. 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

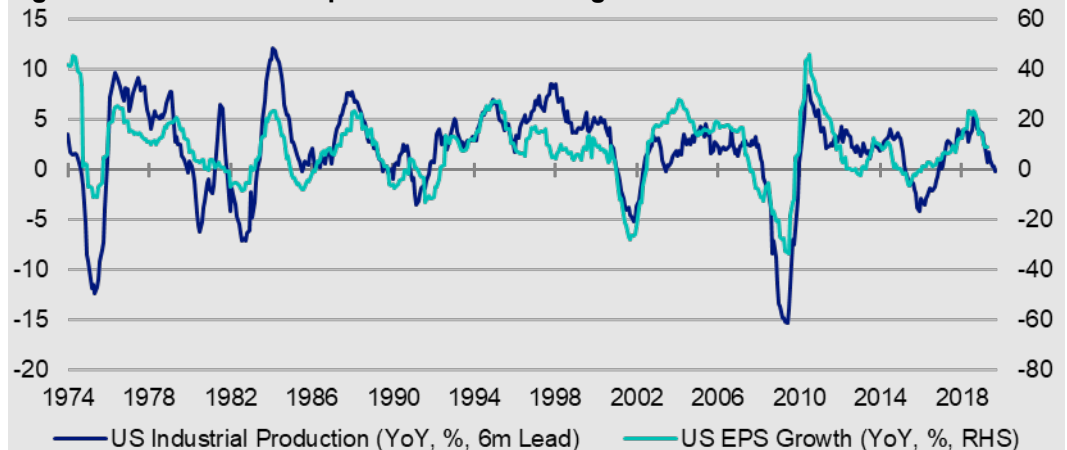
Global risk appetite stabilising which may portend a rise in global economic data

The Global Risk Appetite Cycle Indicator (GRACI) provided by the Invesco Investment Solutions team (IIS) suggests that financial markets have fully reflected the downturn in economic data over the last few years (see **Figure 22**). Further, risk appetite tends to lead turning points in the business cycle and GRACI has stabilised over recent months, suggesting, in our opinion, there may soon be an upturn in global economic data.

An upturn in industrial production would be welcome

That is encouraging for “risky-assets”, especially since profit growth tends to follow industrial production growth with a lag of around six months. **Figure 23** shows the relationship in the US and, based on that, we would welcome an upturn in industrial performance. If we are wrong and there is no such upturn, we would expect US profits to shrink over the next 12 months (as they already have done in Japan and Europe).

Figure 23 – US industrial production and EPS growth



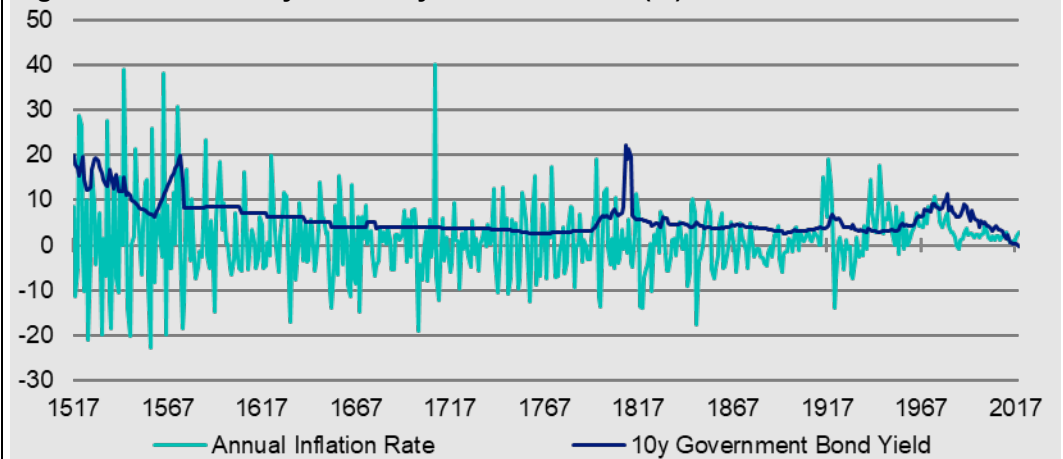
Monthly data from January 1974 to October 2019.
Source: OECD, Refinitiv Datastream and Invesco

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

Valuations also favour risky assets

We would expect an extension of the economic cycle to favour equity-like assets (equities, real estate and HY), unless markets have already priced in the good news. **Figures 4** and **18** suggest that may have happened to some extent but we believe that fixed income yields remain abnormally low (with around 20% of the Bloomberg Barclays Global Aggregate market capitalisation offering negative yields). For instance, **Figure 24** shows that Dutch government yields have never been this low in the last 500 years, a period during which deflation and economic disaster were common.

Figure 24 – Dutch 10-year bond yields since 1517 (%)



Annual data from 1517 to 2019. 2019 data as of 31 October 2019.
Source: Global Financial Data, Refinitiv Datastream and Invesco

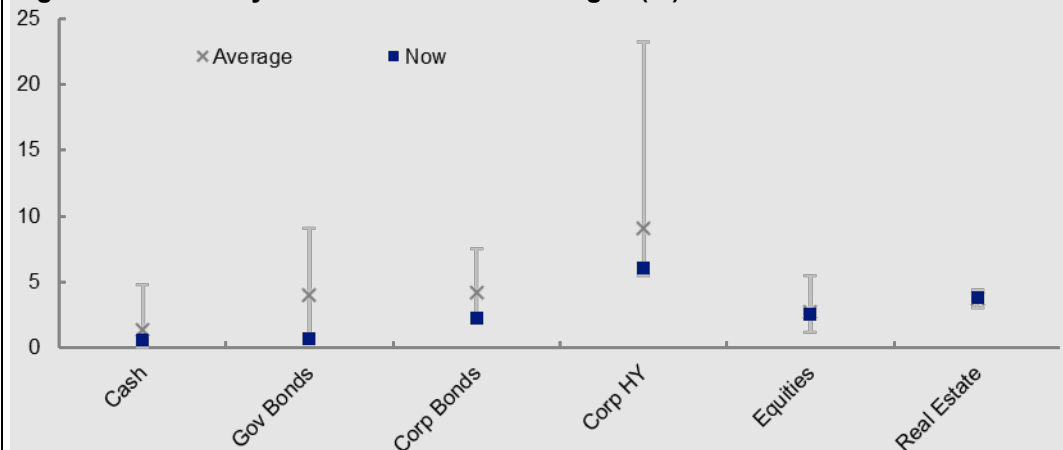
We expect HY and EM to offer the best fixed income returns in 2020

Figure 25 shows that yields across fixed income groups remain close to historical lows, with EM debt an obvious exception (see **Appendix 2** for regional detail). This naturally limits the scope for fixed income returns, though we do imagine yields falling in some regions (see **Figure 34**). Credit spreads are close to cyclical tight but an extension of the economic cycle may enable them to stay there. High-yield default rates are also very low, despite economic deceleration, and we doubt they will rise significantly in the next year. Hence, we expect HY and EM to offer the best fixed income returns during 2020.

Equity and real estate yields are more normal

The yields on equity and real estate assets are better than those on fixed income alternatives in many places and are close to historical norms. This yield configuration is another reason, in our opinion, to prefer equities and real estate, assuming we are not about to enter recession.

Figure 25 – Global yields within historical ranges (%)



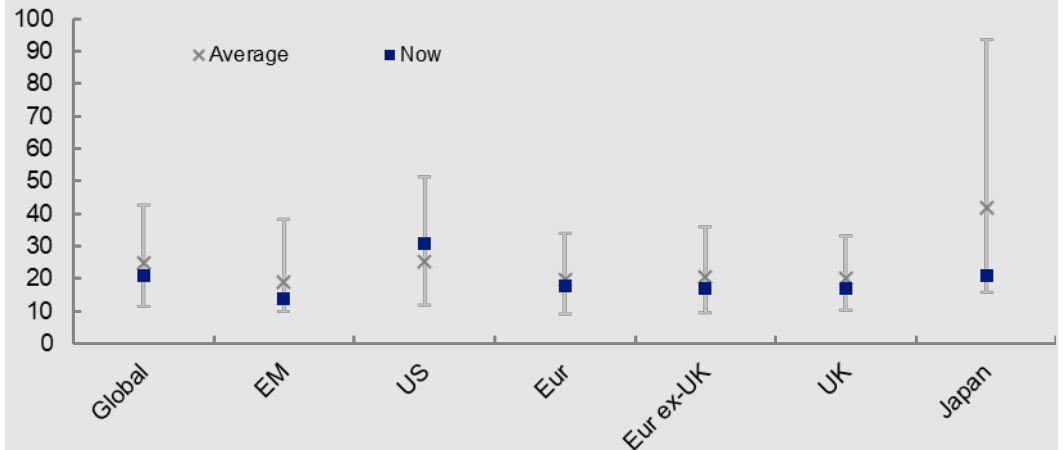
Start dates are: cash 1/1/01; govt bonds 31/12/85; corp bonds 31/12/96; corp HY 31/12/97; equities 1/1/73; REITs 18/2/05. See appendices for definitions, methodology and disclaimers. As of 31 October 2019.
Source: Refinitiv Datastream and Invesco

US equities seem expensive to us

US equities are expensive but not about to collapse

The only valuation concern that we have among equity markets is the US. Figure 26 shows it is the only region with a cyclically-adjusted price-earnings ratio (CAPE) above its historical norm. The US CAPE is also well above that of other regions (30.7 versus 14.0 in the emerging markets, for example).

Figure 26 – Historical ranges for CAPEs



Note: CAPE = Cyclically Adjusted Price/Earnings and uses a 10-year moving average of earnings. From 1983 (except for EM from 2005). As of 31 October 2019. Source: Refinitiv Datastream and Invesco

This could limit returns over the long-term

Though we believe that rich valuations limit the potential for long term returns, we also believe they are neither necessary nor sufficient to provoke an immediate bear market (see **Figure 8**). We find that US equity bear markets are associated with a range of factors and that elevated valuations are not that high on the list.

But is probably not enough to provoke an immediate bear market...we are watching EPS growth

We believe the main threat to the equity market (recession) has receded for the moment, which is a relief. However, our US equity bear market indicator is still at an elevated (though not critical) 73%, with all four components on the wrong side of normal (see **Figure 27**). The components that contribute most to that elevated reading are the Shiller P/E and the yield curve but even profit momentum is now a factor (momentum is weaker than normal). As mentioned earlier, we hope profit momentum picks up again because, without it, the rich valuations could become a handicap.

Figure 27 – US equity bear market indicator is 73%



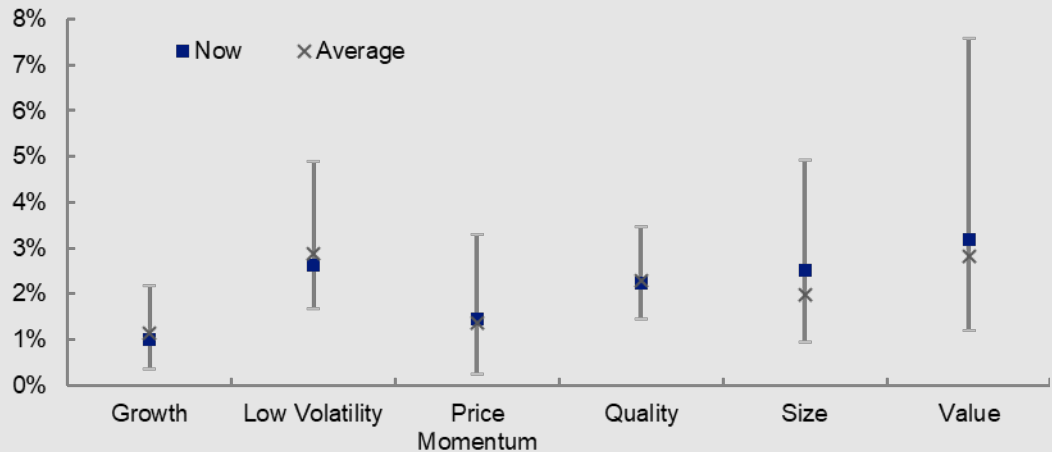
Notes: The bear market indicator is the average of the US yield curve (10y yield minus Fed rates), earnings yield gap (inverse of the Shiller PE minus 10-year yield), Shiller PE and EPS momentum (3m/3m). Each is expressed with reference to the cumulative distribution of its own history since 1881 (since 1914 for yield curve), assuming a normal distribution. A higher reading suggests more risk of an equity bear market (maximum = 100%). Monthly from 31 January 1900 to 31 October 2019. Source: Global Financial Data, Robert Shiller, Refinitiv Datastream and Invesco. See Appendix 8 for definitions and methodology.

Equity factor valuations are in line with historical norms but value stands out

Equity factors and sectors

Within the US equity market, the dividend yields on our factor indices are broadly in line with historical norms since 1989 (see **Figure 28**). The value factor currently offers the highest yield, though that has not always been the case (low volatility has on average offered a higher yield over the time period we cover). Size and value currently have yields above historical norms, whereas growth and low volatility offer less than usual. European factors show a similar pattern but with value clearly offering a higher yield (5.3%) than other factors (and higher than it usually does).

Figure 28 – Historical ranges for US equity factor dividend yields



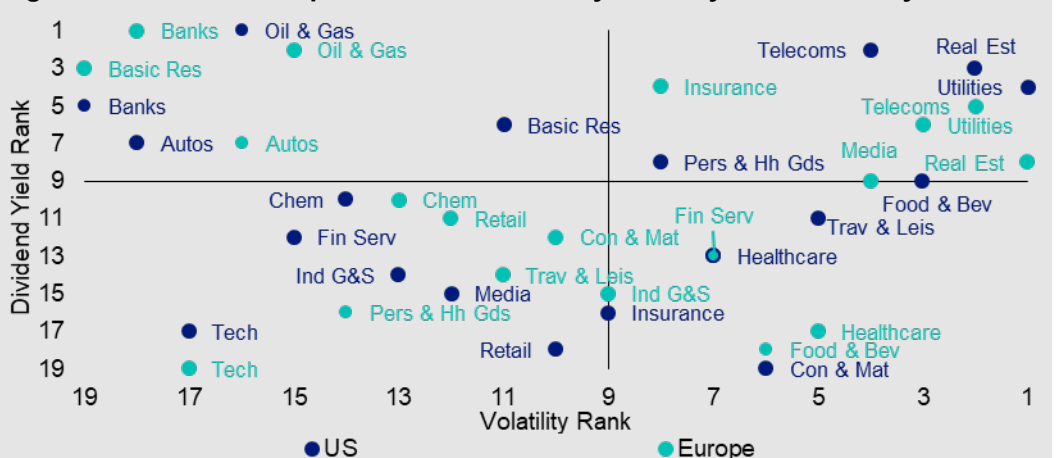
Notes: All indices are subsets of the S&P 500 index, they are rebalanced monthly, use data in US dollars and are equal-weighted. The historical ranges started on 30 September 1989. Past performance is no guarantee of future results. As of 31 October 2019. See appendices for definitions and methodology. Source: Refinitiv Datastream and Invesco

Equity sector valuations favour real estate, utilities and telecoms

When it comes to equity sectors, **Figure 29** suggests those with the desirable mix of high dividend yield and low volatility are concentrated in the real estate, telecoms and utilities segments of both US and European markets (this approach was outlined in 2017 in [Control your volatility](#)). The US personal and household goods sector also fall into that category. More surprisingly, so does European insurance.

The technology sector is clearly at the other end of the spectrum (in both regions), as are the chemicals and retail sectors.

Figure 29 – US and European sectors ranked by volatility and dividend yield



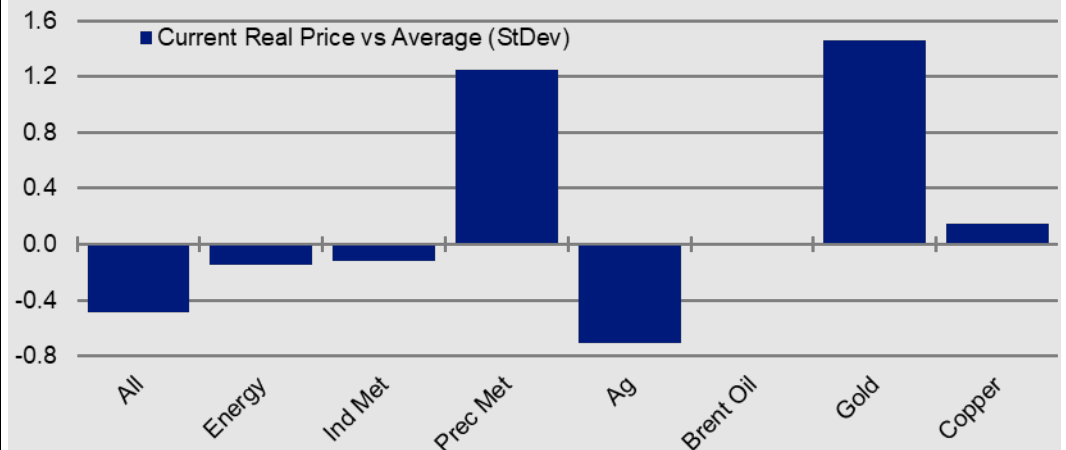
Notes: We rank sectors on the vertical axis by their current 12-month trailing dividend yields. On the horizontal axis, the sectors are ranked by the 3-month standard deviation of their daily returns. The top right quadrant contains the sectors favoured by this approach and it would avoid those in the bottom left. As of 31 October 2019. See appendices for methodology and disclaimers. Source: Refinitiv Datastream and Invesco

Commodities now below historical norms

Commodities and currencies

Given the lack of yield, we analyse the valuation of commodities by using real prices (deflated by US CPI). **Figure 30** suggests that commodities are cheaper than they have been on average over recent decades, except for precious metals (we believe that gold has been boosted by low bond yields). Agricultural goods appear to be the cheapest but continue to underperform for now. If we are right that the economic cycle will be extended, then perhaps industrial commodities (energy and industrial materials) could receive a boost in the early part of 2020.

Figure 30 – 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 2019. See appendices for definitions, methodology and disclaimers. Source: GSCI, Datastream, Invesco

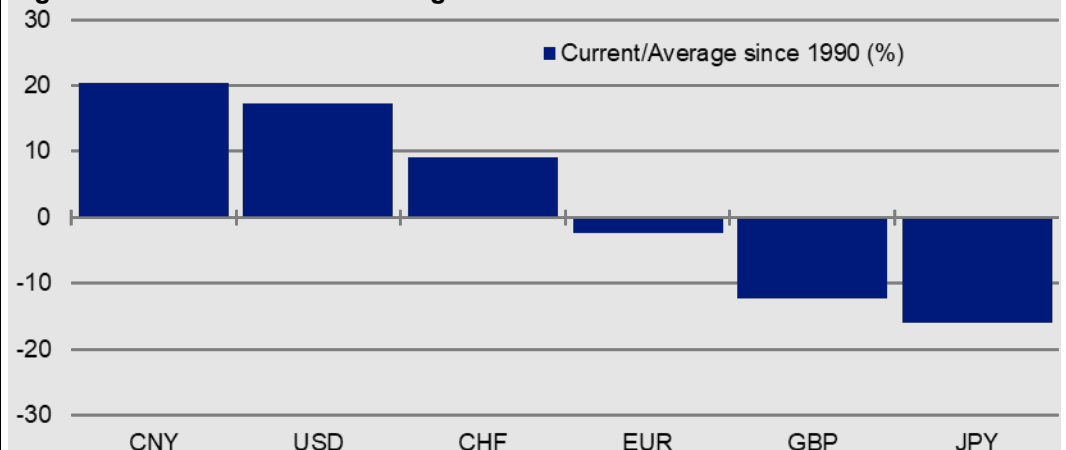
The yen is cheap but may weaken if no recession in 2020; sterling still vulnerable

Taking a similar approach to major currencies, **Figure 31** 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 (see **Figure 34**). 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 we fear it may weaken again during 2020 (if we are right that Brexit will be a no-deal affair).

Yuan to continue weakening 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 mixed performance during 2020 (relief about the global economy but other countries have problems).

Figure 31 – Real effective exchange rates*



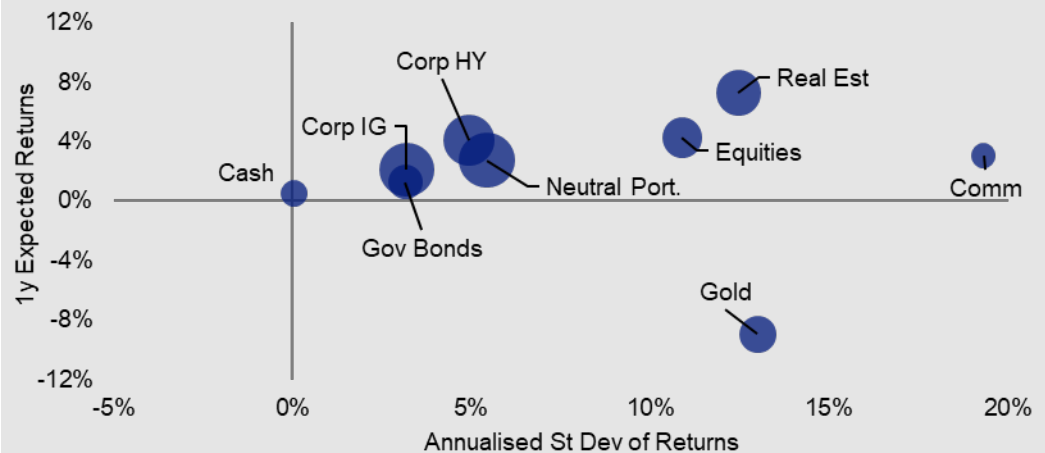
*Currency indices measured against a trade-weighted basket of currencies and adjusted for inflation differentials. As of 31 October 2019. Source: OECD, Datastream and Invesco

One-year projections broadly suggest more risk will bring more reward

Projections for 2020 and beyond

Our projected returns for the next year are summarised in **Figures 32 and 34**. The former compares projected one-year returns for global assets with historical volatility. In general, more risk is rewarded with more return, as we would expect. There are striking similarities to the long-term historical data shown in **Figure 5**, except we are more pessimistic about the outlook for gold, especially if the global expansion continues.

Figure 32 – 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 31 October 2019. 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

Cash and real estate at either end of the efficient frontier

The efficient frontier would appear to run from cash to real estate, so it should be no surprise that those assets feature prominently in the optimal outcomes shown in **Figure 31** (cash preferred in the conservative “Sharpe Ratio” version and real estate preferred in the more aggressive “Max Return” version). The other big difference is the swing from government bonds to IG and equities when moving from the conservative to more aggressive stance.

HY and real estate favoured

The optimisations shown in **Figure 33** are based on local currency returns, so that our currency forecasts do not bias the outcomes. We also run the optimisations using other currency bases (USD, EUR, GBP and CHF) and the results vary. Common across all versions are: maximum allocation to HY, near universal maximum allocation to real estate and zero allocation to gold.

Figure 33 – Optimised allocations for global assets (using local currency returns)

	Neutral Portfolio	Policy Range	Optimisation results		Model Asset Allocation*	
			Sharpe Ratio	Max Return		
Cash & Gold	5%	0-10%	10%	0%	↓	5%
Cash	2.5%	0-10%	10%	0%	↓	5%
Gold	2.5%	0-10%	0%	0%		0%
Government Bonds	30%	10-50%	50%	23%	↑	17%
Corporate IG	10%	0-20%	8%	20%	↑	20%
Corporate HY	5%	0-10%	10%	10%	↑	10%
Equities	45%	20-70%	20%	40%	↓	40%
Real Estate	3%	0-6%	2%	6%		6%
Commodities	2%	0-4%	0%	0%	↑	2%

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

IG preferred to government debt and equities slightly Underweight

The other optimisation conclusions vary depending upon the currency base and type of optimisation (Sharpe Ratio versus Max Return). We prefer to focus on the Max Return results, as we believe maximising the Sharpe Ratio gives too conservative an outcome, especially as we feel more confident about the economic expansion being prolonged. On that basis, and looking across currency bases, things become clearer: we would be Underweight government debt, maximum allocated to IG and slightly Underweight equities. Interestingly, the local currency version is the only one in which we would be zero weighted in commodities: in all others we would be maximum allocated. Cash is the only asset class for which there is no clear outcome.

Central bank rate cuts expected but not in US

Another way of looking at the 2020 projections is to consider our market forecasts, as shown in **Figure 34**. Our 2020 projections are predicated upon the assumption that the Fed will not cut interest rates any further, though we do assume rate cuts in Europe (we suspect the BOE will need to cut rates as the Brexit process unfolds and that the ECB may make a slight adjustment to rates, also partly due to the effect of Brexit). We also expect the PBOC to cut rates, given the recent deceleration in the Chinese economy.

A slight decline in government yields expected but better returns projected on credit

Consequently, we expect a slight decline in 10-year bond yields, though not in the US, where we expect a slight steepening of the yield curve. Hence, we expect the 2020 return on government bonds to be positive (especially in the UK and EM) but limited due to the low starting yields. Higher yields in IG and HY credit lead us to expect better returns in those segments of the fixed income universe, especially as a prolongation of the global economic cycle should allow spreads to remain relatively tight and default rates to remain low, in our opinion.

USD may strengthen against some currencies but not enough to damage sentiment

We expect the US dollar to strengthen slightly against most major developed world currencies during 2020, though this has more to do with what is happening in the other countries. We do not expect it to appreciate enough to damage global market sentiment. In fact, we expect this dollar appreciation to provide a slight boost to non-US equity markets. To the extent that industrial commodity prices strengthen, as we suspect they may, EM currencies could resist this dollar strength and may appreciate a little.

Figure 34 – Market forecasts

		Current (31/10/19)	Forecast	
			31/12/20	5-year
Central Bank Rates	US	1.75	1.75	2.50
	Eurozone	-0.50	-0.60	0.50
	China	4.35	4.00	4.00
	Japan	-0.10	-0.20	0.50
	UK	0.75	0.50	1.00
10yr Bond Yields	US	1.69	1.80	3.50
	Eurozone	-0.40	-0.60	1.50
	China	3.28	3.00	3.50
	Japan	-0.14	-0.25	0.70
	UK	0.63	0.00	1.30
Exchange Rates/US\$	EUR/USD	1.12	1.10	1.20
	USD/CNY	7.04	7.30	7.50
	USD/JPY	108.04	110.00	85.00
	GBP/USD	1.29	1.25	1.40
	USD/CHF	0.99	1.00	0.95
Equity Indices	S&P 500	3038	3100	3150
	Euro Stoxx 50	3604	3500	4200
	FTSE A50	13889	14000	18000
	Nikkei 225	22927	24100	28200
	FTSE 100	7248	7500	10000
Commodities (US\$)	Brent/barrel	59	60	45
	Gold/ounce	1510	1375	900
	Copper/tonne	5770	6000	5800

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

Combining value and momentum

Real estate and EM assets seem to be in the sweet-spot

Cash may not offer an interesting return but it may offer diversification

Hope versus reality

A process that uses valuations to calculate return potential often runs into the reality of what markets thinks right now (value investors often suffer quietly until markets move in their favour). **Figure 35** applies a value-momentum approach to asset class selection.

The sweet-spot is the top-right quadrant – assets that we think will produce above average returns over the next year and that have been outperforming our Neutral benchmark index over the last year. Assets in this quadrant are largely in the real estate group (REITs), along with EM equities and EM government debt. The size of the bubbles is in inverse proportion to historical volatility and out of those assets, EM government debt may offer the best combination of return and risk (in our opinion).

We believe assets should move around the chart in a clockwise fashion but there are few assets in the bottom-right quadrant (assets that have performed well but that we think will produce below average returns: gold, UK REITS, Eurozone equities and US IG). The bottom-left quadrant contains those assets that we think will give below-par returns and which have been underperforming in the recent past. This includes cash and a lot of other fixed income categories (especially in Japan and the Eurozone), along with energy. Most of these categories display limited volatility, hence the larger than average bubbles (we have capped the size of the cash bubbles). Return projections may not be very exciting but that can be good in volatile markets.

The top-left quadrant is worthy of interest, as it shows assets with strong potential (we think) that have not yet started outperforming. It contains a mix of equities, credit and commodities. The evidence in **Figure 35** would push us to stick with our real estate and EM holdings and to look carefully at UK and Japanese equities and commodities.

Figure 35 – Hope versus reality (returns relative to Neutral benchmark)

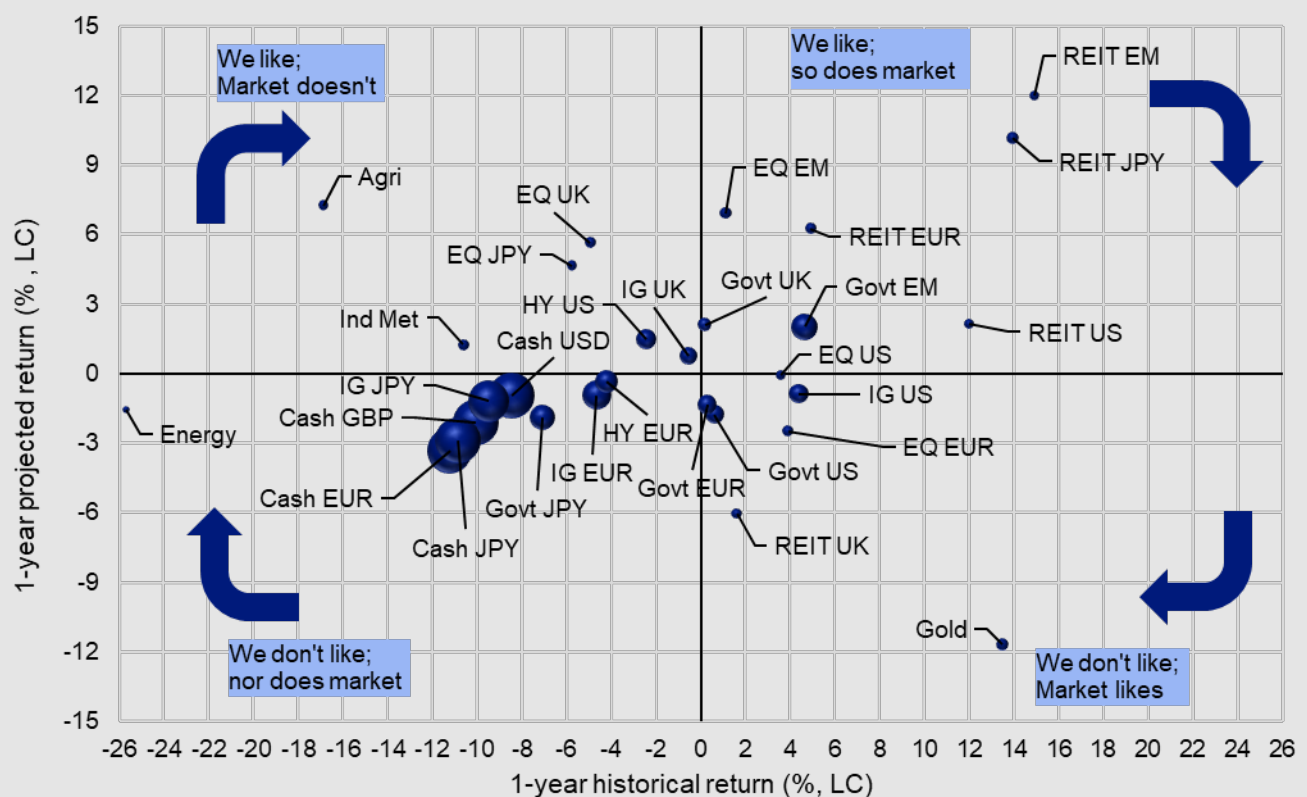


Chart shows a comparison of our projections for 1-year returns versus actual returns over the last 12 months, as of 31 October 2019. All are total returns, expressed in local currency (LC) and relative to the returns on our Neutral benchmark (see **Figure 3** for details of the benchmark). Size of bubbles 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. Source: BofAML, FTSE, GSCI, JP Morgan, MSCI, Datastream and Invesco

What if we are wrong? Five scenarios for 2020

It is of course possible that we are wrong, especially as our central scenario is based on the supposition that recent policy loosening will stabilise the global economy, for which there is scant evidence at the moment.

We will later consider five possible scenarios for 2020 but must first decide which assets we think are best suited to each stage of the economic cycle. **Figure 36** shows the broad asset categories that we would prefer at each stage of the economic cycle (“preferred assets”). We had previously thought the global economy was in the late expansion phase, heading toward recession in 2020/21. That would have led us to have a mix of defensive and late cyclical assets.

Now more of a mix between mid and late-cycle, rather than late-cycle/recession

However, as outlined above, we suspect the recent broad-based policy easing may be enough to prolong the cycle, perhaps pushing us back to somewhere between the mid and late-expansion phases (where we would normally prefer equity-like assets). Were the policy easing enough to reaccelerate the global economy, we would revert to more of an early-expansion asset mix, with an emphasis on EM assets, cyclicals and value.

Our best-in-class assets based on valuations

Of course, not all those preferred assets have the same degree of attractiveness. For instance, and as outlined in earlier sections, we consider that among defensive assets, gold is currently expensive, while the Japanese yen is cheap. Hence, when nominating “best-in-class” assets, we choose JPY and not gold for the recession group. As another example, for early expansion choices, we like EM assets and think that EM real estate has a lot of potential. We also find that the value factor often performs well in the rebound phase of the market and we have already referred to the high dividend yield available on that factor.

Figure 36 – Best-in-class assets for each stage of the cycle

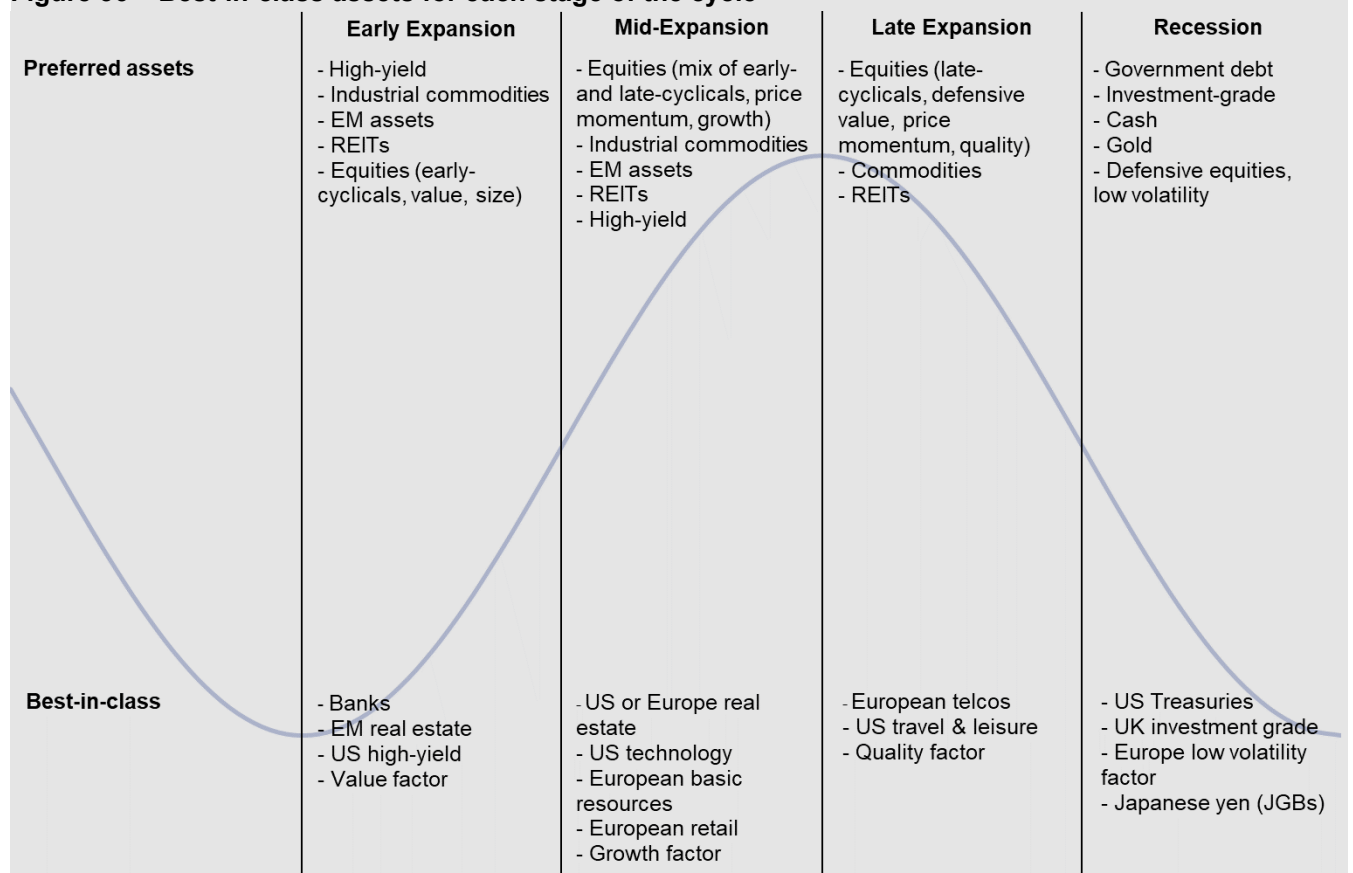
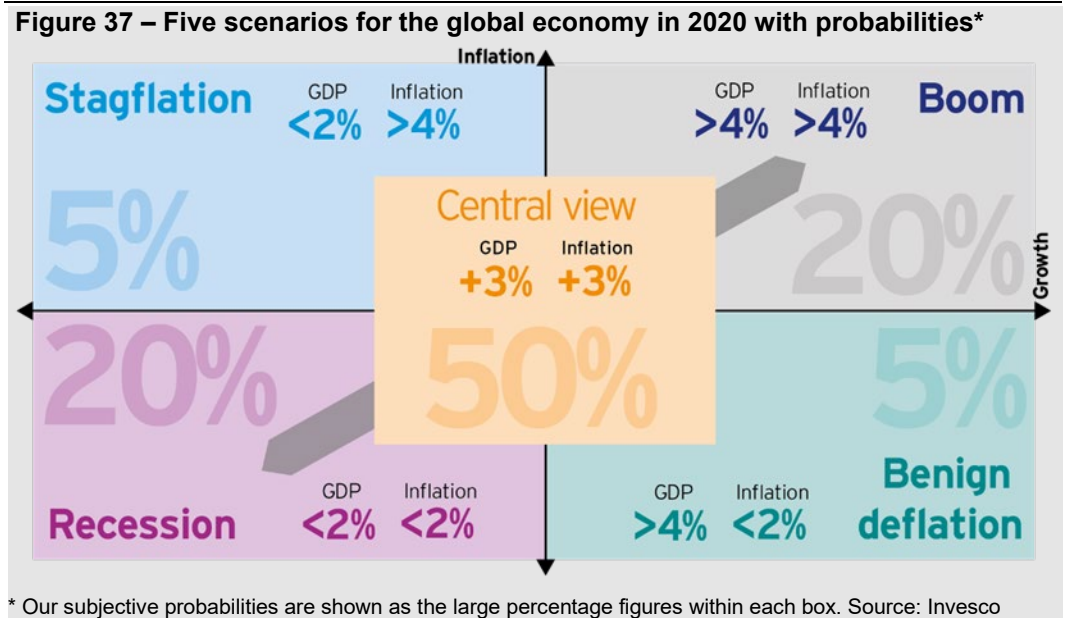


Chart shows our view of which assets have tended to perform better at each stage of the economic cycle (“Preferred assets”), based mainly upon our research published in “Asset allocation in pictures” in November 2017 but also draws upon our research on equity sectors and factors. “Best-in-class” shows 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

Central scenario remains 3% GDP growth and 3% inflation (global) but less likely than a year ago

Figure 37 shows five scenarios, along with our subjective probabilities for 2020. The scenarios remain the same as we used 12 months ago, though the probabilities have changed. The central scenario remains one of 3% global GDP growth and 3% global consumer price inflation and we assign it a probability of 50%. This would be a repeat of the pattern seen in 2019 but crucially implies no worsening in growth and, if anything, an acceleration from the intra-2019 low point.



Though we could describe an infinite number of scenarios around the central case, we focus on just four. “Recession” and “boom” are the extremes on what we might call the Phillips Curve continuum, whereby more/less demand/growth is accompanied by more/less inflation. The diagonal that links “stagflation” and “benign deflation”, on the other hand, describes supply side-shocks.

Less probability of recession

Of these alternatives, we assign a probability of 20% to “recession”, which in fairness could also be described as “deceleration”, given that we define it as global GDP growth below 2%. This is lower than a year ago (25%), which may seem odd given that the cycle is now a year older but it reflects the potential for policy easing to prolong the cycle.

....and higher probability of acceleration

We also believe that same policy action could produce an acceleration, so we have boosted the “boom” scenario probability to 20% (from 5%). “Boom” may overstate the case but this scenario is designed to represent the possibility of an acceleration in global GDP.

Recession risk down but consequences could be severe

We have maintained the same 5% probability for both supply-side shock scenarios as we do not see the possible catalysts right now.

Though we have reduced the probability of recession, we are concerned that if the recent policy action fails to prevent further economic deceleration, the market reaction could be severe: first, because markets have reacted positively to that policy relaxation and, second, we fear that markets would conclude that central bankers really are impotent. That could come as a shock to many market participants, in our opinion.

Central scenario assets focused on real estate, credit, industrial commodities and some equities

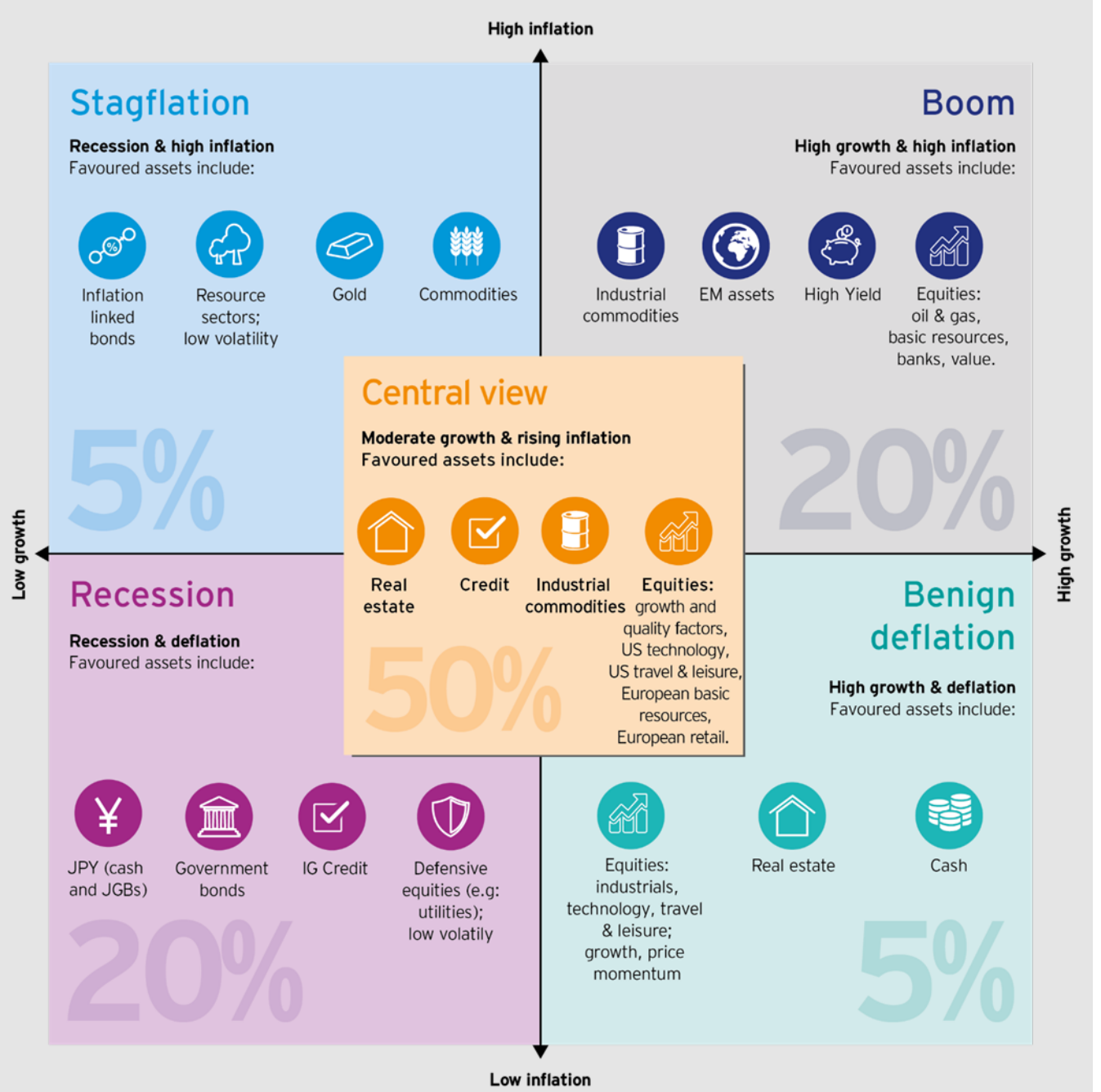
We show in **Figure 38** the assets that we would prefer under each scenario. Not surprisingly, given all that was written in the earlier sections, our central scenario asset preferences are real estate, credit and industrial commodities. We also mention the parts of the equity asset class that we would favour: growth and quality factors, US technology and travel & leisure, European basic resources and retail.

Under recession, the preferences switch to gold, the yen, government debt and IG credit.

Under recession we would prefer assets such as government debt, IG credit, gold, the yen and defensive equities (especially the low volatility factor in Europe). We would expect gold to benefit from lower bond yields but we think the Japanese yen is better value. The choices under a stagflation outcome would be similar (gold and the low volatility factor, for example) but among bonds we would only choose the inflation protected variety and would now prefer commodities and resource related equity sectors.

The boom and benign deflation preferences are variants on the central scenario choices, with some tweaking toward early-cycle favourites. We suspect high-yield credit, commodities, resource sectors, EM assets and the value factor would benefit from a reacceleration of the global economy.

Figure 38 – Five scenarios for 2020 and our favoured assets (percentages reflect assigned probabilities)



See appendices for definitions, methodology and disclaimers. Source: Invesco

All change	Model Asset Allocation: reducing cash/equities; adding to credit/industrial CTY
Cash rates are lower, bond yields higher, less recession risk but higher equity-like prices	<p>Considering the outlook for 2020 and recent financial market developments, we are reducing our exposure to cash and equities, while adding to credit and industrial commodities (and a marginal increase to government debt). The major geographical changes are a reduction of exposure to UK assets and an increase to those of the Eurozone (and a slight increase to the US dollar due to the additions to commodities). Figure 3 shows the full regional detail of the allocations.</p> <p>A range of factors lie behind those changes: lower cash rates (as a result of central bank rate cuts), the rebound in longer term yields, strong equity market performance and our hope that the economic cycle will be prolonged by policy support. In answer to the question posed at the outset of this document, we suspect 2020 will be somewhere between 2010 and 2018. Hence, some of these changes add risk to the portfolio, while others reduce it. Note that when analysing the optimisation results shown in Figure 33, we emphasise the “Max Return” over the “Sharpe Ratio” version, as we find the latter pushes us too far to the conservative end of the efficient frontier.</p>
Cash reduced because rates are lower and recession less likely	<p>Cash is reduced from the maximum 10% to a still Overweight 5% (Neutral is 2.5%). Lower policy rates, especially in the US have reduced the attractiveness of cash. If we are right about the global economic cycle being prolonged, 2020 will not be a year in which the attractive characteristics of cash will be needed (low volatility and lack of correlation to other assets).</p>
Equities reduced to slightly Underweight	<p>Despite the attractive returns that we believe are on offer in some parts of the equity asset class, we follow the conclusions of the optimisation process shown in Figure 33 (and the fact we consider recession is still possible), by being slightly Underweight, with an allocation of 40% versus a Neutral 45% (a reduction from the previous 44%).</p>
Cautious on Europe	<p>Positions are scaled back in Europe, both the UK and Eurozone (to roughly Neutral in both cases). The UK equity position is reduced because we now fear a no-deal Brexit at the end of 2020, a reality that could reveal itself around mid-year. The Eurozone position is reduced because we fear dividend cuts on the back of weak profits (and despite what we consider to be attractive valuations). We view US equities as being too expensive, which leaves us with a strong preference for EM and Japanese equities (Figure 35 suggests EM equities are already outperforming and Appendix 3 shows that Japanese equities have performed well in recent months).</p>
We like Japan and EM	<p>On the positive side, we are taking both IG and HY credit to their maximum allowable positions (20% and 10%, respectively), in line with the outcome of our optimisation process (see “Max Return” column in Figure 33). This is because bond yields are higher than they were a few months ago and because the possibility of a prolonged economic cycle eases our fear of a downturn in the credit cycle during 2020. In both cases, the positions are increased by adding to Eurozone allocations (as we were already at the maximum in other regions).</p>
Credit increased to the max	<p>Within fixed income, we have also made a slight addition to government bonds, from 16% to 17% (Underweight versus a Neutral 30%). This net change comes from an addition to US treasuries (yields are up) and a reduction to UK gilts (due to the risk to sterling during 2020). In general, we find developed world government bond yields to be too low for our liking, hence the large Underweighting. We are more attracted to EM yields and maintain the maximum allocation to that part of the universe (we have a slight preference for the local currency versions, especially if the global cycle is extended).</p>
Still Underweight government debt but add to US and reduce UK (and still prefer EM)	<p>We have had a long-standing bias against Commodities, on the belief that they broadly remain more expensive than usual in real terms and that the bubble of the first decade of this century has yet to fully deflate. However, further industrial commodity price weakness over the last year (see Appendix 3) has brought alignment with historical norms in real terms, which gives the hope of upside during 2020 if the global economy stabilises. Though the optimisation results shown in Figure 33 suggest a zero allocation to commodities, the full set of results across currency bases is more positive. Hence, we increase the allocation to a Neutral 2%, with a focus on energy and industrial metals.</p>
Adding to industrial commodities...at last	

But not gold	Nevertheless, we remain zero-weighted in gold, which we find too expensive, especially if recession is avoided for another year.
Real estate still favoured but reducing UK and adding to Japan (we also like EM)	Real estate remains our favourite asset class, offering the best returns during 2020, we believe. We therefore maintain the maximum exposure (6%) though make two changes within the asset class: a reduction in the UK position to zero (on no-deal Brexit fear) and an increase in the Japanese position to the maximum allowed 2%. Japanese and EM real estate are the two assets that we expect to produce the best returns during 2020.
Brexit Britain has scared us away	A common theme in the above changes is the reduction in UK allocations. As the Brexit process has unfolded, we have oscillated between our belief that UK assets are good value and our fear of what Brexit could do to the UK economy and financial markets. We still believe that UK assets are cheap but the increased possibility of a no-deal Brexit at the end of 2020 makes us wary of UK asset volatility during the year ahead. Therefore, we have once again retreated to a broad Neutral exposure to UK assets.
Eurozone positions increased (by default)	The other side of that reduction in UK positions is an increase in the allocation to the Eurozone. Though we reduced the Eurozone equity position for fear of dividend cuts, we were obliged to increase Eurozone credit positions in order to take the global exposure to the maximum allowed (a kind of last resort, if you like, though we do expect positive returns during 2020). US dollar exposure is also increased, partly due to a boost to the treasury position and partly due to the addition to industrial commodities.
No currency hedges	Finally, we continue with the policy of not hedging currency exposures. Though the Chinese yuan and US dollar now look to be expensive, and the Japanese yen and sterling look cheap, we do not feel there is enough deviation from historical norms to justify currency hedging. We suspect the yuan will drift lower over time but that concerns about the reaction of the US authorities will limit the pace at which the PBOC allows that to happen. When the time comes, we suspect the yen will be the currency into which we hedge.
If our hopes are misplaced, we will have many regrets	Much of the above relies on the central assumption that the global economy will stabilise (and perhaps improve during 2020). If this proves to be wrong, we will regret not having more defensive assets in our Model Asset Portfolio. We would want to boost allocations to what we consider to be “best-in-class” defensive assets such as: US treasuries, UK IG, European low volatility equity factor and Japanese yen (see Figure 36). We would also regret having so much exposure to EM assets.
But we could also be underestimating growth	On the other hand, if we are underestimating the impact of policy easing and the extent of the economic acceleration, we would regret not having more cyclical assets. We would want to boost allocations to what we consider “best-in-class” early and mid-cycle assets: equities (value and then growth, basic resources, banks, technology) and industrial commodities.
It could go either way. We watch profits and investment...and remain diversified	After the strong performance by equity-like assets during 2019, we are alert for any signs of acceleration or deceleration during 2020. October 2019 data from China and the US suggests the industrial cycle remains weak and we will particularly focus on developments in corporate profits and investment spending. We think (hope) there will be economic stabilisation but for the moment that remains an act of faith and the Model Asset Allocation remains well diversified.

Appendices

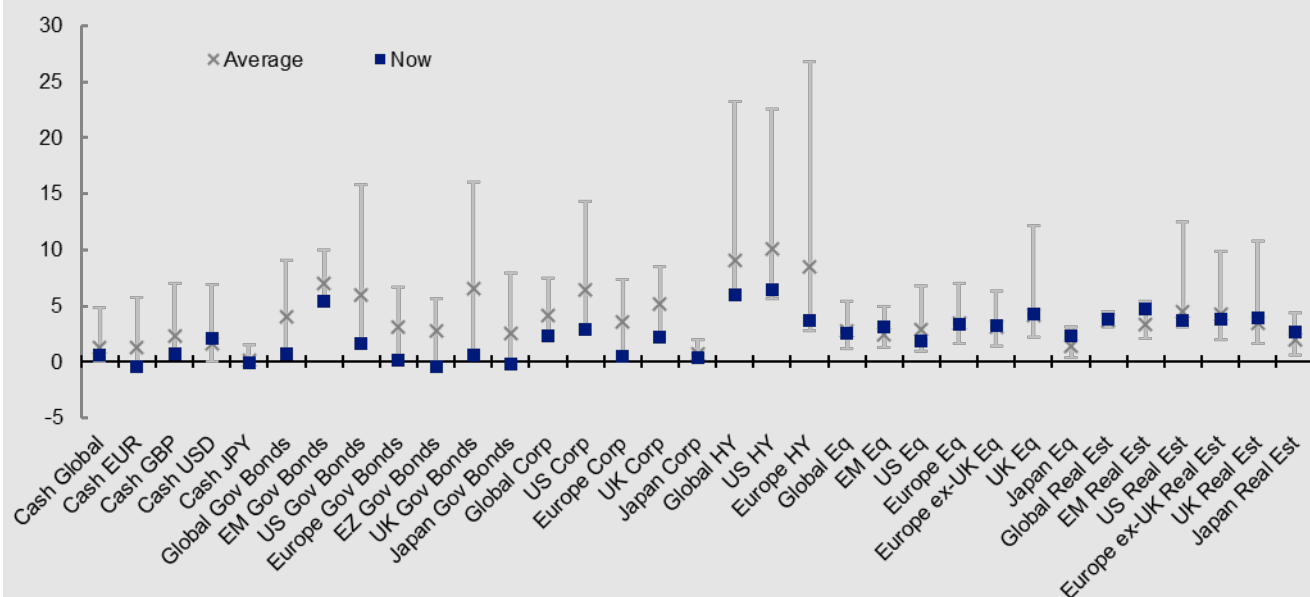
Appendix 1: Consensus economic forecasts

GDP Growth (%)				
	2018	2019	2020	2021
World	3.6	3.1	3.1	3.3
US	2.9	2.3	1.8	1.9
Eurozone	1.9	1.1	1.0	1.3
China	6.6	6.1	5.9	5.7
Japan	0.8	0.9	0.3	0.8
UK	1.4	1.2	1.1	1.5
Brazil	1.1	1.0	2.0	2.5
Russia	2.3	1.1	1.6	1.9
India	7.2	6.2	6.1	6.7
Canada	1.9	1.5	1.5	1.7
Australia	2.8	1.8	2.4	2.6
CPI Change (%)				
	2018	2019	2020	2021
World	3.6	3.0	3.0	2.9
US	2.5	1.8	2.0	2.0
Eurozone	1.8	1.2	1.2	1.5
China	2.1	2.5	2.4	2.2
Japan	1.0	0.6	0.9	0.8
UK	2.5	1.9	1.9	2.0
Brazil	3.7	3.7	3.6	3.7
Russia	2.9	4.5	3.6	4.0
India	4.0	3.3	3.6	3.9
Canada	2.3	2.0	2.0	1.9
Australia	1.9	1.6	2.0	2.1
Nominal GDP (%)				
	2018	2019	2020	2021
World	7.3	6.2	6.2	6.3
US	5.5	4.1	3.8	3.9
Eurozone	3.7	2.3	2.2	2.8
China	8.8	8.8	8.4	8.0
Japan	1.8	1.5	1.2	1.6
UK	3.9	3.1	3.0	3.5
Brazil	4.8	4.7	5.7	6.3
Russia	5.3	5.6	5.3	6.0
India	11.5	9.7	9.9	10.9
Canada	4.2	3.5	3.5	3.6
Australia	4.8	3.4	4.4	4.8

Source: Bloomberg L.P. There is no guarantee that these views will come to pass.

Appendix 2: Global valuations vs history

Regional yields within historical ranges



Notes: As of 31 October 2019. Past performance is no guarantee of future results. See appendices for definitions, methodology and disclaimers. Source: BofAML, FTSE, JP Morgan, Refinitiv Datastream, Invesco

Appendix 3: Asset class total returns

Data as at 31/10/2019	Index	Current Level/Ry	Total Return (USD, %)				Total Return (Local Currency, %)			
			3m	YTD	12m	5y*	3m	YTD	12m	5y*
Equities										
World	MSCI	534	2.5	19.9	13.2	7.7	2.3	20.1	13.0	8.8
Emerging Markets	MSCI	1042	1.1	10.7	12.3	3.3	1.9	11.4	11.9	6.2
US	MSCI	2891	2.2	23.3	14.3	10.7	2.2	23.3	14.3	10.7
Europe	MSCI	1695	3.4	18.1	11.6	4.2	1.9	19.7	12.3	7.2
Europe ex-UK	MSCI	2031	3.9	19.9	13.3	5.3	3.7	22.8	14.7	7.6
UK	MSCI	1119	2.1	13.2	7.2	1.5	-3.4	11.5	5.8	5.9
Japan	MSCI	3353	8.2	16.9	9.6	7.3	7.7	15.2	5.0	6.5
Government Bonds										
World	BofA-ML	0.69	1.8	6.5	9.7	2.1	1.3	6.7	8.8	3.0
Emerging Markets	JPM	5.37	1.1	11.4	15.4	0.8	3.2	12.1	15.4	8.0
US (10y)	Datastream	1.69	3.5	11.6	16.9	3.4	3.5	11.6	16.9	3.4
Europe	BofA-ML	0.17	2.4	7.1	9.3	1.1	2.2	9.7	11.1	3.4
Europe ex-UK (EMU, 10y)	Datastream	-0.40	-0.3	4.6	7.0	1.3	-0.5	7.2	8.7	3.7
UK (10y)	Datastream	0.63	6.2	8.8	10.4	0.9	0.5	7.1	9.0	5.2
Japan (10y)	Datastream	-0.14	0.4	3.4	7.6	2.6	0.0	1.8	3.1	1.8
IG Corporate Bonds										
Global	BofA-ML	2.29	2.3	10.8	11.8	3.1	2.0	11.2	12.1	4.1
US	BofA-ML	2.94	3.0	13.6	15.1	4.6	3.0	13.6	15.1	4.6
Europe	BofA-ML	0.55	0.0	4.0	4.5	0.2	-0.2	6.5	6.1	2.6
UK	BofA-ML	2.17	7.1	12.7	11.6	1.4	1.3	10.9	10.2	5.8
Japan	BofA-ML	0.34	0.4	2.4	5.7	1.5	0.0	0.9	1.3	0.7
HY Corporate Bonds										
Global	BofA-ML	6.03	1.1	11.0	8.7	4.8	1.0	11.4	8.9	5.4
US	BofA-ML	6.40	0.9	11.8	8.3	5.2	0.9	11.8	8.3	5.2
Europe	BofA-ML	3.69	0.7	6.5	4.9	2.0	0.5	9.1	6.5	4.4
Cash (Overnight LIBOR)										
US		1.80	0.5	1.9	2.3	1.1	0.5	1.9	2.3	1.1
Euro Area		-0.57	0.6	-3.2	-1.9	-2.7	-0.1	-0.4	-0.5	-0.4
UK		0.67	6.6	2.0	2.1	-3.7	0.2	0.6	0.7	0.5
Japan		-0.12	0.6	1.4	4.5	0.8	0.0	-0.1	-0.1	0.0
Real Estate (REITs)										
Global	FTSE	2036	6.2	22.7	21.7	7.0	6.0	25.7	23.6	9.5
Emerging Markets	FTSE	2228	-1.5	14.1	23.7	7.3	-1.7	16.9	25.6	9.9
US	FTSE	3350	7.7	27.6	22.8	8.0	7.7	27.6	22.8	8.0
Europe ex-UK	FTSE	3619	8.3	18.3	13.9	9.3	8.1	21.2	15.7	11.9
UK	FTSE	1228	21.4	23.9	13.8	0.7	14.9	22.0	12.4	5.1
Japan	FTSE	3125	11.5	26.2	30.2	4.2	11.0	24.4	24.7	3.4
Commodities										
All	GSCI	2423	-2.8	10.0	-10.0	-10.4	-	-	-	-
Energy	GSCI	450	-5.0	17.3	-14.9	-13.5	-	-	-	-
Industrial Metals	GSCI	1217	0.8	2.4	0.1	-2.3	-	-	-	-
Precious Metals	GSCI	1785	6.2	17.4	24.0	4.2	-	-	-	-
Agricultural Goods	GSCI	333	-0.5	-4.5	-6.1	-9.3	-	-	-	-
Currencies (vs USD)**										
EUR		1.12	0.7	-2.8	-1.4	-2.3	-	-	-	-
JPY		108.04	0.7	1.4	4.5	0.8	-	-	-	-
GBP		1.29	5.7	1.6	1.3	-4.2	-	-	-	-
CHF		1.01	0.8	-0.5	2.2	-0.5	-	-	-	-
CNY		7.04	-2.2	-2.3	-0.9	-2.8	-	-	-	-

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 4: 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	Barclays US Treasury Short	2.1	2.1	1.6	1.37
	US Treasury Intermediate	BBG BARC US Treasury Intermediate	1.8	1.9	4.6	0.41
	US Treasury Long	BBG BARC US Treasury Long	0.8	1.5	11.4	0.13
	US TIPS	BBG BARC US TIPS	1.7	1.9	5.8	0.32
	US Bank Loans	CSFB Leverage Loan Index	5.2	5.5	8.1	0.67
	US Aggregate	BBG BARC US Aggregate	2.2	2.4	6.0	0.40
	US Inv Grd Corps	BBG BARC US Investment Grade	2.1	2.3	7.6	0.31
	US MBS	BBG BARC US MBS	2.6	2.8	6.6	0.42
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	3.6	4.4	12.7	0.34
	US High-Yield Corps	BBG BARC US High Yield	4.5	5.0	10.0	0.50
	US Intermediate Municipals	BOA ML US Municipal (3Y-15Y)	2.5	2.7	6.0	0.44
	US High-Yield Municipals	BBG BARC Municipal Bond High Yield	2.1	2.5	9.0	0.28
	Global Aggregate	BBG BARC Global Aggregate	2.0	2.3	6.9	0.33
	Global Aggregate-Ex US	BBG BARC Global Aggregate- Ex US	1.8	2.4	10.4	0.23
	Global Treasury	BBG BARC Global Treasuries	1.9	2.2	8.6	0.26
	Global Sovereign	BBG BARC Global Sovereign	1.6	1.8	6.7	0.27
	Global Corporate	BBG BARC Global Corporate	2.3	2.5	7.4	0.34
	Global Inv Grd	BBG BARC Global Corporate Inv Grd	2.3	2.5	7.6	0.33
	Eurozone Corporate	BBG BARC Euro Aggregate Credit - Corporate	2.4	3.2	13.5	0.24
	Eurozone Treasury	BBG BARC Euro Aggregate Government - Treasury	2.1	2.9	12.7	0.22
	Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	2.7	3.1	8.8	0.35
	Asian Dollar High Yield	BOA Merrill Lynch ACHY	6.9	8.5	18.8	0.45
	EM Aggregate	BBG BARC EM Aggregate	3.8	4.6	13.3	0.35
EM Aggregate Sovereign	BBG BARC EM Sovereign	4.2	4.9	12.3	0.40	
EM Aggregate Corporate	BBG BARC EM Corporate	3.9	4.9	14.8	0.33	
EM Corporate IG	BBG BARC EM USD Aggregate - Corporate -IG	2.4	2.7	8.3	0.33	
Equities	World Equity	MSCI ACWI	6.4	7.7	16.6	0.46
	World Ex-US Equity	MSCI ACWI Ex-US	6.9	8.5	18.6	0.46
	US Broad	Russell 3000	6.1	7.5	17.1	0.44
	US Large Cap	S&P 500	6.0	7.3	16.4	0.44
	US Mid Cap	Russell Midcap	6.5	8.1	19.0	0.43
	US Small Cap	Russell 2000	7.1	9.3	22.2	0.42
	MSCI EAFE	MSCI EAFE	6.3	7.9	18.4	0.43
	MSCI Europe	MSCI Europe	6.6	8.1	18.4	0.44
	Eurozone	MSCI Euro X UK	6.2	7.9	19.5	0.40
	UK Large Cap	FTSE 100	7.3	9.1	19.7	0.46
	UK Small Cap	FTSE Small Cap UK	8.7	11.4	25.1	0.46
	Canada	S&P TSX	6.0	7.8	19.9	0.39
	Japan	MSCI JP	5.0	7.4	22.7	0.32
	Emerging Market	MSCI EM	8.6	11.4	25.2	0.45
	Asia Pacific Ex JP	MSCI APXJ	8.4	11.3	25.6	0.44
Pacific Ex JP	MSCI Pacific X JP	7.4	10.1	24.9	0.41	
Alternatives	US REITs	FTSE NAREIT Equity	4.4	6.1	18.7	0.32
	Global REITs	FTSE EPRA/NAREIT Developed Index	4.9	6.3	17.2	0.36
	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite	5.7	6.7	14.5	0.46
	Hedge Funds	HFRI HF Index	4.4	4.7	8.5	0.56
	Commodities	S&P GSCI	5.4	7.7	22.6	0.34
	Agriculture	S&P GSCI Agriculture	0.7	2.9	21.6	0.14
	Energy	S&P GSCI Energy	7.8	12.8	34.8	0.37
	Industrial Metals	S&P GSCI Industrial Metals	5.1	7.7	24.2	0.32
Precious Metals	S&P GSCI Precious Metals	3.2	4.9	18.8	0.26	

Notes: Estimates as of 30 September 2019, as published in 2020 Long-Term Capital Market Assumptions (November 2019). 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 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 data and benchmarks

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 values in the market forecast table (figure 34) 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 25, 32, 34) 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 JP Morgan emerging markets global composite government bond index with the historical range starting on 31st December 2001. The same indices are used to construct figure 25 and appendix 2.

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.

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 26 and appendix 2) 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 and sources for Figures 5, 8, 10 and 27

US Federal Reserve (Fed) interest rate: Fed Discount Rate from November 1914 to October 1982, then the Fed Funds Rate is used (source: Global Financial Data, Datastream)

US 10-year treasury yield (bond yield): monthly from 1871 (source: Robert Shiller and Datastream)

US Shiller PE and Earnings Per Share (EPS): the Shiller PE is a price to earnings ratio constructed by dividing price by the average earnings per share in the previous 10 years (with both numerator and denominator adjusted for inflation). It is what is commonly known as a cyclically-adjusted PE ratio. It is constructed by US academic Robert Shiller. We also use the raw EPS data from his database to calculate EPS momentum on a 3m/3m basis (the percentage change in the latest three months versus the previous three months). Data is monthly from 1881 (source Robert Shiller – see [here](#)). EPS momentum data since June 1973 is derived from S&P 500 index and PE data sourced from Datastream.

US stock/equity index: we have calculated a total return index for broad US stocks based on index and dividend data from US academic Robert Shiller and Datastream. The index prior to 1926 is Robert Shiller's recalculation of data from Common Stock Indexes by Cowles & Associates (see [here](#)). From 1926 to 1957, the Shiller data is based on the S&P Composite Index and thereafter is based on the S&P 500 as we know it today.

Fed policy cycles: Fed tightening cycles have been defined with reference to movements in Federal Reserve Requirement Ratios (1936-1954), the Fed Funds Effective Rate (1954-1969) and the Fed Funds Target Rate (after 1969). Periods of tightening were deemed to start when the first policy action took place (rate rise, for example) and to end with the last such action. We have undertaken a similar process to identify easing cycles.

Definitions of data and benchmarks for Appendix 3 and Figure 35

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 JP Morgan emerging markets global composite government bond index.

Corporate investment grade (IG) bonds: Bank of America Merrill Lynch investment grade corporate bond total return indices.

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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