Uncommon truths
A full English Brexit

It is crunch time (again) for UK-EU negotiators. The outcome is binary but we believe there is more chance of an outcome favourable to sterling and UK assets. However, like the UK government, there is a risk we end up with egg on our face.

We are having a rough time of it in the UK. We suffered one of the largest GDP declines during the first half of the year (a cumulative non-annualised decline of 22% across Q1 and Q2). If this was designed to preserve life, it didn't work (at 64 deaths per 100,000 of population, the UK also has one of the highest mortality rates -- see **Figure 1**).

It is noticeable that European (and Latin American) countries dominate those that we judge to have had a bad pandemic, whereas Asian counterparts dominate those that we think have fared well. Hopefully, by the time of the next pandemic, we will have learnt lessons from Asian countries.

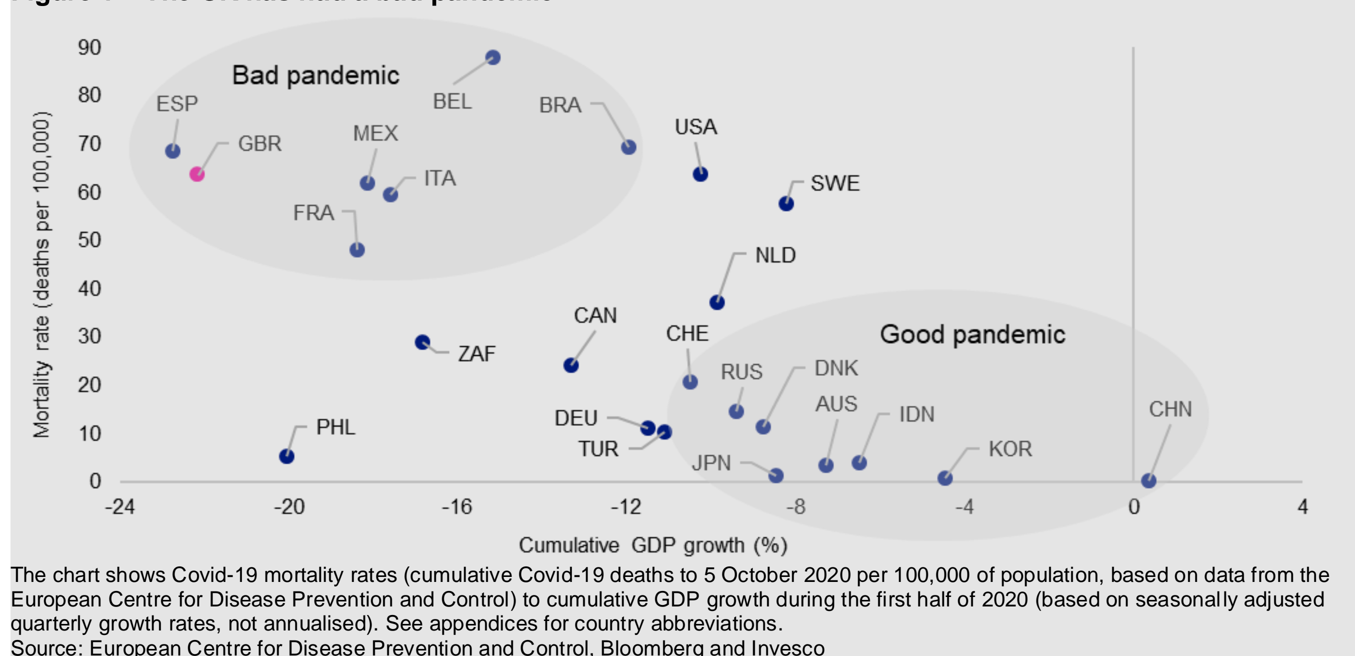
The UK chancellor has suggested that the UK has suffered more than other countries because of the structure of the economy (Napoleon is often credited with saying that England is a nation of shopkeepers). It would be nice to know upon which basis Rishi Sunak makes that claim because our own analysis of value-added by industry finds no such bias in the UK. Yes, trade, transport, hotels & catering accounted for 17.7% of UK value added in 2019. This was above the 14.7% in the US and 15.8% in China but less than Italy's 21.6% (even retail & wholesale trade was smaller in the UK than in the US).

Further, the other badly impacted sector (arts, entertainment and recreation) was only 1.6% of value added in the UK, compared to 4.1% in both Italy and the US. Maybe, after all, we have to accept that the pandemic has been handled less well in the UK than elsewhere.

There is of course an interesting intersection with the Brexit process. First, it is known that patients with comorbidities are more likely to have bad Covid outcomes. Could it be that a UK economy already weakened by the Brexit process, was in a vulnerable state when the pandemic hit? Second, Brexit has been an unfortunate distraction for policymakers at a time when controlling the pandemic required all their attention. Third, the handling of the Brexit process could perhaps have given clues about how the UK would perform during the pandemic.

More than four years after the Brexit referendum, the process may finally be ending. The UK government recently confirmed that if no deal were reached by October 15, it would walk away from negotiations, presumably heading for a future trade relationship with the EU based upon WTO terms (implying tariffs that run from 0% on fuel and pharmaceuticals, through 9% on vehicles to 45%-50% on cereals and meat). No countries trade solely on WTO rules, though Mauritania comes close. The UK already trades on WTO rules with partners such as the US, Australia, Brazil, China and Russia, for example. Adding the EU to that list would be a big step (in 2019, the EU accounted for 43% of UK exports and 51% of imports).

Figure 1 – The UK has had a bad pandemic



The chart shows Covid-19 mortality rates (cumulative Covid-19 deaths to 5 October 2020 per 100,000 of population, based on data from the European Centre for Disease Prevention and Control) to cumulative GDP growth during the first half of 2020 (based on seasonally adjusted quarterly growth rates, not annualised). See appendices for country abbreviations.
Source: European Centre for Disease Prevention and Control, Bloomberg and Invesco

Tariffs cannot fully capture the effect on the UK economy, given the importance of the financial sector. It should also be noted that the Canadian style deal much reclaimed by the UK government would not include service sector activity.

The effect on the UK economy of a "no-deal" outcome is difficult to know but it is hard to imagine that going from free trade to restrained trade would be good. Putting sand into the works never helps and the UK's lack of preparation is not encouraging. For example, to avoid traffic pile-ups at ports in Kent (due to more stringent checks before entering the EU), the government has proposed that lorries will no longer be able to enter Kent without a permit linked to a specific journey (thus pushing the problem further inland).

Despite the uncertainty about the economic effects, financial markets have long since passed judgement. For example, **Figure 2a** shows how sterling weakened upon the referendum result and that it has remained weak ever since (the real trade weighted index declined by 17% during 2016).

This decline in the currency could be viewed as a judgement that the UK economy had just been rendered less competitive, which was unfortunate given that the current account deficit was already 5%-6%. Despite the weakness of sterling, that deficit has remained substantial over the intervening period, though the sharp drop in imports during the Covid recession helped reduce it to 0.6% of GDP during 2020 Q2 (which we guess will be a temporary respite).

Figure 2b suggests an inverse historical relationship between sterling and the performance of UK stocks relative to global equities. Hence, we would normally expect UK stocks to outperform when sterling declines to the extent that it did in 2016. However, the reverse has been true (bear in mind that the equity index is on an inverted scale). No doubt some of the relative weakness in UK equities has been due to the performance of US technology stocks but last year we reported a similar Brexit gap in the performance of UK stocks relative to those of the Eurozone (see Brexit Scenarios). We believe this Brexit gap suggests that equity market participants think the UK economy has been fundamentally weakened by the divorce process.

So, if sterling has already weakened and UK stocks have failed to reap the benefit, what does the future hold for UK assets? Not surprisingly, we believe the answer depends upon whether a deal is reached with the EU (and, of course, how the pandemic evolves over the coming winter period).

At one extreme is the possibility that an all-singing, all-dancing deal is agreed over the next week or so (the most comprehensive possible given the UK's departure from the EU, single market and customs union). This would come as a mighty relief and, we believe, would allow sterling to recover some of the ground lost since the referendum (though perhaps not all of it, given the poor pandemic performance of the UK and the weakening of commodities since 2016, which play a big role in the UK stock market, if less so in the economy). We wouldn't be surprised to see a 10% gain in sterling under such a scenario (to 1.40-1.45 when looking at GBPUSD and 0.80-0.85 for EURGBP, for example).

Given that UK asset values are depressed relative to those of other countries, we suspect the relief would extend to the outperformance of some UK assets.

Figure 2a – Sterling and UK current account

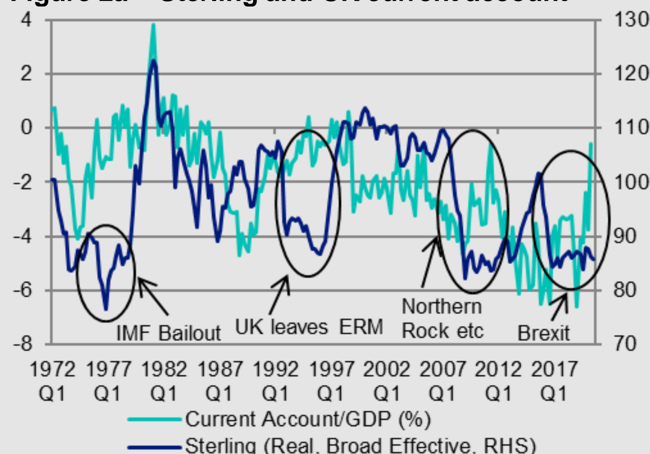
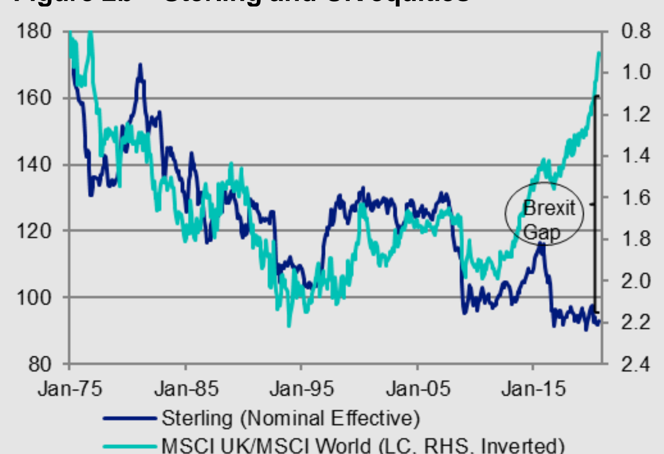


Figure 2b – Sterling and UK equities



Note: Figure 2a shows quarterly data from 1972 Q1 to 2020 Q3. "Sterling" is the real trade-weighted index (CPI adjusted) as calculated by the OECD. Past performance is no guarantee of future results. Source: OECD, Refinitiv Datastream and Invesco
Figure 2b shows monthly data since January 1975. As of 30 September 2020. "Sterling (Nominal Effective) is a trade weighted index provided by the Bank for International Settlements (BIS). MSCI indices are price indices and are in local currency format. Past performance is no guarantee of future results. Source: BIS, MSCI, Refinitiv Datastream and Invesco

Figure 3 shows that the valuation picture is more complex than we have just stated. The yields on UK fixed income assets are at historical lows (as in most countries) and it is not clear that spreads versus other countries are any more generous than usual (in fact the reverse appears to be true when it comes to sovereign debt). Hence, currency gains could be important for unhedged sterling fixed income positions under such a positive scenario but it is not clear what would happen to yield spreads, given the prevailing Covid influence on central banks.

UK equity yields appear closer to historical norms than in the US and the rest of Europe, though those of Japan and emerging markets (EM) seem even more generous on this basis (cyclically-adjusted price earnings ratios tell a similar story). Hence, we believe that relief about the UK economy under a "full-deal" scenario could allow broad UK equity indices to outperform counterparts in the US and the rest of Europe, despite the strengthening of sterling (closing the Brexit gap shown in **Figure 2b**). We would expect domestically focused stocks to outperform those with overseas exposure (FTSE 250 outperforming FTSE 100, say), though companies doing business with the EU could benefit from such a deal.

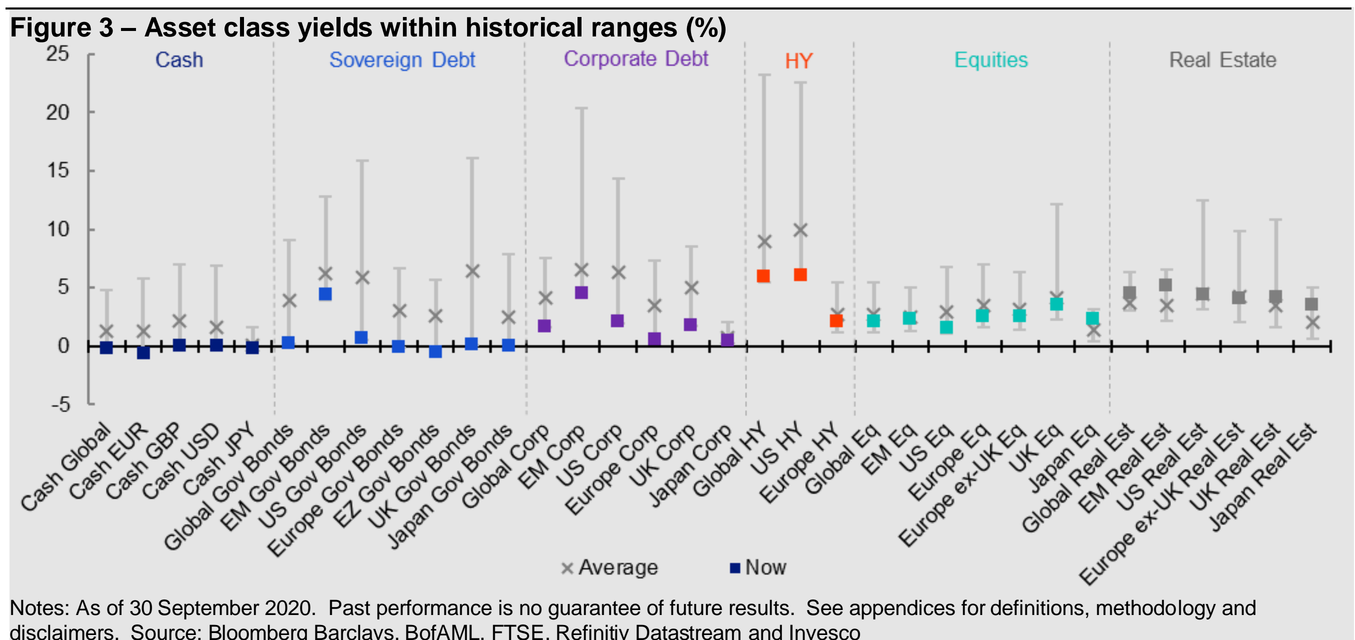
Though the real estate asset class has its own problems as a result of the pandemic, some of that appears to be priced-in, judging by the fact that yields are higher than normal in most countries and regions. Again, UK, EM and Japanese yields appear more generous than in other regions, on this historical comparison basis. We believe that UK REITS could benefit from a "full-deal" outcome.

Coming back to the real world, such a "full-deal" outcome is unlikely, in our opinion. More probable, we believe, is a "no-deal" scenario, the investment implications of which would be pretty much the opposite of those outlined above for the "full-deal" case. However, we think there would be some important variations: first, UK asset values (including sterling) are already depressed, suggesting this is to some extent priced-in and, second, we suspect the Bank of England (BOE) would be ready to intervene if it believed the economy would suffer further damage and/or financial markets became "too" volatile.

Under a "no-deal" scenario, we suspect sterling would fall but with smaller amplitude than in the "full-deal" case. For example, we believe GBP/USD could fall to 1.20 at most (from the current 1.29) and that EURGBP could perhaps reach parity (from the current 0.91). Given the risk of supplemental economic damage, we doubt this currency depreciation would help UK equities, though downside could be limited by the fact that some of this is already priced in. Further, despite the damage that we believe would be done to those trading with the EU, we suspect that companies with overseas exposure would fare better than domestically oriented counterparts (FTSE 100 outperforming FTSE 250, for example).

Though the BOE is considering the use of negative interest rates, we suspect any policy support would be in the form of asset purchases, which have so far largely been concentrated on the gilt market. On this basis, we wouldn't be surprised to see a further decline in yields (and flattening of the yield curve), though any unhedged gains would be dwarfed by currency losses (made worse by the BOE action).

Figure 3 – Asset class yields within historical ranges (%)



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

More likely, we believe, is an outcome that lies somewhere between those two extremes – a compromise deal that would fall short of "full-deal" but that would be better than a "no-deal". Exactly which compromises would be made and how this would impact the movement of goods and services is not clear but our presumption is that this is the sort of outcome that is currently priced into markets. The closer it gets to a "full-deal", the more likely would be a movement in the direction of the "full-deal" investment implications as outlined above (sterling and UK assets strengthening, with FTSE 250 outperforming FTSE 100). The closer it gets to "no-deal", the more likely the "no-deal" investment implications would hold.

At this stage with days or weeks to go until we know the answer, it is a question of the probabilities that we would assign to each scenario. Frustratingly, it is a binary process: "no-deal" may be more likely than "full-deal" but comes with smaller market implications given what has been priced-in since 2016. However, we suspect any compromise deal would be closer to "full-deal" than "no-deal", with market implications skewed accordingly. Forced to assign probabilities, we would say "Full-deal" 10%, "No-deal" 40% and a "Full-deal lite compromise" 50%.

Hence, we guess there is more likelihood of an outcome that would be positive for sterling and UK risk assets. For example, we forecast GBPUSD will be 1.35 in 12 months – see The Big Picture. However, we also believe there is a non-negligible chance of a "no-deal" outcome, in which case we would expect sterling and UK risk assets to suffer. **Figure 4** summarises the scenarios and investment implications outlined above. Positioning within our Model Asset Allocation reflects those scenarios and assigned probabilities, with an Overweight allocation to sterling assets and a focus on investment grade credit, real estate and equities.

There is of course another aspect of the Brexit process that could complicate the long-term outlook for sterling and UK assets, which is that it has been a largely English affair (neither Scotland nor Northern Ireland voted for it).

The management of the pandemic has made it clearer than ever that the UK government (in Westminster) has responsibility only for England in certain important policy areas. We believe this has reinforced the desire for a fracturing of the UK within both Scotland and Northern Ireland (the former favouring independence and the latter edging towards union with Eire). A bad outcome to the negotiations with the EU could kindle further resentment in those countries towards England, the risk being that the Westminster government oversees the disintegration of the Union (figuratively ending up with egg on its face).

Finally, we have focused upon the implications for the UK because that is where we believe the biggest risks lie. With a few exceptions (Ireland, say), the EU has far less to lose than the UK from a bad outcome, given the size of the respective economies.

Unless stated otherwise, all data as of 09 October 2020

Figure 4 – Brexit scenarios

Scenario	No-deal (40%)	Compromise (50%)	Full-deal (10%)
Short-term implications	UK economy weakens (EU less so); £ depreciates (to $1.20); BOE eases (gilt purchases)	Little new economic impact; £ strengthens slightly	UK investment boost; £ strengthens (to $1.40)
Long-term implications	UK supply-side reform may boost growth; trade deals easier with other countries; pressure for Northern Ireland and Scotland to leave UK	UK supply-side reform may boost growth; other trade deals possible; pressure for Scotland to leave UK	UK supply-side reform and new trade deals less likely; some pressure for Scotland to leave UK (but less likely)
Assets we would favour	Non-UK assets; Gilts among UK assets; UK large-cap equities with little exposure to UK economy (FTSE 100) hedged into USD or JPY	GBP; UK risk assets, especially domestically exposed companies (FTSE 250) and REITS; no currency hedges out of GBP	GBP; UK risk assets, especially domestically exposed companies (FTSE 250) and REITS; no currency hedges out of GBP
Assets we would avoid	GBP; small & mid-cap UK equities with large domestic exposure (FTSE 250)	Large-cap equities with overseas exposure (FTSE 100)	Large-cap equities with overseas exposure (FTSE 100); gilts

"No-deal" assumes the EU-UK negotiations fail to reach an agreement and that the transition period ends on 31 December 2020, with the UK moving to a relationship with the EU on WTO terms. "Compromise" assumes a less than comprehensive deal but which errs towards a "full-deal". "Full-deal" assumes the most comprehensive deal possible, considering that the UK has left the EU and is leaving the single market and customs union. Figures in parenthesis represent our subjective probabilities. These views may not come to pass. Source: Invesco

Figure 5 – Asset class total returns

Data as at 09/10/2020	Index	Current Level/RY	Total Return (USD, %) 1w	1m	QTD	YTD	12m	Total Return (Local Currency, %) 1w	1m	QTD	YTD	12m
Equities												
World	MSCI	585	3.7	2.6	3.5	5.3	16.9	3.4	2.5	3.2	4.9	15.2
Emerging Markets	MSCI	1123	3.8	3.6	3.8	2.9	16.0	3.2	3.0	3.0	6.0	17.4
US	MSCI	3371	4.0	3.1	3.6	11.1	23.6	4.0	3.1	3.6	11.1	23.6
Europe	MSCI	1649	3.0	0.2	3.4	-5.3	5.8	2.2	0.2	2.6	-8.6	-1.8
Europe ex-UK	MSCI	2085	3.2	0.3	3.5	0.2	11.0	2.3	0.3	2.6	-4.9	2.7
UK	MSCI	914	2.3	-0.2	3.1	-21.1	-9.6	1.8	-0.2	2.5	-19.6	-15.0
Japan	MSCI	3392	2.1	3.7	1.3	1.0	8.7	2.4	3.1	1.4	-1.8	6.9
Government Bonds												
World	BofA-ML	0.24	0.0	0.3	0.0	6.8	5.6	-0.2	0.1	-0.2	4.6	2.7
Emerging Markets	BBloom	4.27	1.7	-1.3	1.6	1.8	4.5	1.7	-1.3	1.6	1.8	4.5
US (10y)	Datastream	0.78	-0.8	-0.6	-0.9	13.7	10.7	-0.8	-0.6	-0.9	13.7	10.7
Europe	Bofa-ML	-0.15	1.1	1.4	1.3	9.8	10.2	0.3	1.4	0.5	4.3	2.4
Europe ex-UK (EMU, 10y)	Datastream	-0.53	0.8	0.7	0.9	9.1	7.5	0.0	0.7	0.1	3.7	-0.1
UK (10y)	Datastream	0.31	0.4	-0.4	0.1	3.8	8.9	-0.1	-0.4	-0.5	5.8	2.3
Japan (10y)	Datastream	0.02	-0.4	0.6	-0.2	2.7	-0.5	-0.1	0.0	0.0	-0.2	-2.1
IG Corporate Bonds												
Global	BofA-ML	1.66	0.5	0.1	0.4	6.3	7.8	0.2	0.0	0.2	5.1	5.6
Emerging Markets	BBloom	4.31	1.0	0.1	1.1	6.6	10.2	1.0	0.1	1.1	6.6	10.2
US	BofA-ML	2.09	0.2	-0.1	0.1	6.7	7.6	0.2	-0.1	0.1	6.7	7.6
Europe	BofA-ML	0.51	1.2	0.6	1.3	6.5	8.5	0.4	0.6	0.5	1.2	0.9
UK	BofA-ML	1.82	0.7	-0.1	0.5	2.7	11.1	0.2	-0.1	0.0	4.7	4.4
Japan	BofA-ML	0.50	-0.3	0.6	-0.2	2.7	1.0	-0.1	0.1	0.0	-0.1	-0.6
HY Corporate Bonds												
Global	BofA-ML	5.72	1.4	0.3	1.4	1.9	5.6	1.2	0.3	1.3	1.1	4.2
US	BofA-ML	5.81	1.3	0.6	1.4	1.1	4.2	1.3	0.6	1.4	1.1	4.2
Europe	BofA-ML	4.01	1.6	0.1	1.8	3.7	8.7	0.8	0.0	1.1	-1.5	1.0
Cash (Overnight LIBOR)												
US		0.08	0.0	0.0	0.0	0.4	0.7	0.0	0.0	0.0	0.4	0.7
Euro Area		-0.59	0.9	0.1	0.9	5.0	7.2	0.0	0.0	0.0	-0.4	-0.6
UK		0.05	0.9	0.4	1.0	-1.4	7.2	0.0	0.0	0.0	0.2	0.3
Japan		-0.11	-0.3	0.5	-0.2	2.8	1.7	0.0	0.0	0.0	-0.1	-0.1
Real Estate (REITs)												
Global	FTSE	1650	1.4	1.3	4.0	-16.3	-13.4	0.5	1.2	3.2	-20.5	-19.6
Emerging Markets	FTSE	1898	2.4	1.3	2.8	-20.3	-7.4	1.5	1.3	2.1	-24.3	-13.9
US	FTSE	2654	1.1	2.1	5.8	-15.4	-16.0	1.1	2.1	5.8	-15.4	-16.0
Europe ex-UK	FTSE	3333	2.1	-0.3	2.7	-9.1	-1.8	1.2	-0.3	1.9	-13.6	-8.7
UK	FTSE	1183	3.0	-0.4	4.9	-24.4	-5.3	2.5	-0.4	4.3	-22.9	-11.0
Japan	FTSE	2436	0.2	1.0	0.2	-16.7	-19.3	0.5	0.4	0.3	-19.1	-20.6
Commodities												
All	GSCI	1768	6.2	4.2	2.4	-31.8	-25.6	-	-	-	-	-
Energy	GSCI	233	9.4	4.4	2.0	-53.1	-46.9	-	-	-	-	-
Industrial Metals	GSCI	1261	4.0	1.2	2.6	3.5	5.4	-	-	-	-	-
Precious Metals	GSCI	2227	1.3	-2.1	2.1	24.5	25.2	-	-	-	-	-
Agricultural Goods	GSCI	348	3.9	8.2	3.7	0.0	5.0	-	-	-	-	-
Currencies (vs USD)*												
EUR		1.18	0.9	0.2	0.9	5.5	7.8	-	-	-	-	-
JPY		105.61	-0.3	0.6	-0.2	2.9	1.8	-	-	-	-	-
GBP		1.30	0.5	0.0	0.5	-1.9	6.4	-	-	-	-	-
CHF		1.10	1.2	0.2	1.2	6.3	9.4	-	-	-	-	-
CNY		6.69	1.4	2.1	1.4	4.0	6.5	-	-	-	-	-

Notes: *The currency section is organised so that in all cases the numbers show the movement in the mentioned currency versus USD (+ve indicates appreciation, -ve indicates depreciation). Past performance is no guarantee of future results. Please see appendix for definitions, methodology and disclaimers.
Source: Refinitiv Datastream and Invesco

Figure 6 – World equity sector total returns relative to market (%)

Data as at 09/10/2020			Global		
	1w	1m	QTD	YTD	12m
Energy	**0.3**	**-4.1**	**-1.2**	**-33.0**	**-33.1**
Basic Materials	**0.5**	**-2.0**	**0.5**	**1.9**	**3.6**
Basic Resources	0.7	-2.8	0.8	2.2	6.1
Chemicals	0.2	-1.0	0.1	1.6	0.6
Industrials	**0.2**	**0.9**	**0.5**	**-1.8**	**-2.5**
Construction & Materials	0.2	1.3	1.0	-3.7	-4.8
Industrial Goods & Services	0.2	0.9	0.4	-1.6	-2.2
Consumer Discretionary	**-0.2**	**1.2**	**0.0**	**10.2**	**8.9**
Automobiles & Parts	-0.1	2.9	-0.5	14.0	9.9
Media	0.4	-1.7	0.9	-2.8	-1.4
Retailers	0.1	1.4	0.0	30.1	28.4
Travel & Leisure	-0.9	-0.8	0.2	-18.3	-19.0
Consumer Products & Services	-0.5	2.0	0.1	8.2	7.3
Consumer Staples	**-1.4**	**-1.6**	**-1.2**	**-3.1**	**-6.0**
Food, Beverage & Tobacco	-1.2	-2.0	-1.0	-6.8	-8.9
Personal Care, Drug & Grocery Stores	-1.7	-0.8	-1.7	4.0	-0.4
Healthcare	**0.2**	**1.1**	**-0.6**	**8.7**	**10.9**
Financials	**-0.2**	**-2.5**	**0.6**	**-20.6**	**-20.4**
Banks	0.4	-3.0	1.1	-28.5	-28.5
Financial Services	-0.5	-0.5	0.5	-10.2	-8.7
Insurance	-0.7	-4.0	-0.2	-15.9	-16.6
Real Estate	**-2.0**	**-0.8**	**-0.3**	**-13.1**	**-15.7**
Technology	**1.1**	**2.1**	**0.4**	**29.2**	**34.6**
Telecommunications	**-1.0**	**-1.2**	**-1.2**	**-3.1**	**-6.6**
Utilities	**-0.5**	**1.0**	**1.3**	**-3.8**	**-7.0**

Notes: Returns shown are for Datastream sector indices versus the total market index. Past performance is no guarantee of future results.
Source: Refinitiv Datastream and Invesco

Figure 7 – Model asset allocation

	Neutral	Policy Range		Allocation	Position vs Neutral	Hedged	Currency
Cash	**5%**	**0-10%**		**10%**			
Cash	2.5%			10%			
Gold	2.5%			0%			
Bonds	**45%**	**10-80%**	↓	**45%**			
Government	30%	10-50%	↓	15%			
US	10%		↓	4%			
Europe ex-UK (Eurozone)	8%		↑	2%			
UK	2%		↓	0%			
Japan	8%			5%			
Emerging Markets	2%			4%			
Corporate IG	10%	0-20%		20%			
US Dollar	5%		↓	5%			
Euro	2%		↑	3%			
Sterling	1%			4%			
Japanese Yen	1%		↑	4%			
Emerging Markets	1%		↑	4%			
Corporate HY	5%	0-10%	↑	10%			
US Dollar	4%		↑	8%			
Euro	1%		↑	2%			
Equities	**40%**	**20-60%**	↑	**30%**			
US	24%			14%			
Europe ex-UK	6%		↑	5%			
UK	3%			3%			
Japan	3%		↑	6%			
Emerging Markets	4%		↓	2%			
Real Estate	**8%**	**0-16%**	↑	**15%**			
US	2%			2%			
Europe ex-UK	2%		↑	4%			
UK	1%		↑	3%			
Japan	2%		↓	4%			
Emerging Markets	1%		↓	2%			
Commodities	**2%**	**0-4%**	↓	**0%**			
Energy	1%		↓	0%			
Industrial Metals	0.3%			0%			
Precious Metals	0.3%			0%			
Agriculture	0.3%		↓	0%			
Total	**100%**			**100%**			
Currency Exposure (including effect of hedging)							
USD	49%		↓	38%			
EUR	20%		↑	18%			
GBP	7%		↓	11%			
JPY	15%		↑	21%			
EM	8%		↓	12%			
Total	**100%**			**100%**			

Notes: This is a theoretical portfolio and is for illustrative purposes only. See the latest The Big Picture document for more details. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Arrows indicate the direction of the most recent changes.
Source: Invesco

Figure 8 – Model allocations for global sectors

	Neutral	Invesco	
Energy	**4.2%**	**Neutral**	↓
Basic Materials	**4.2%**	**Neutral**	
Basic Resources	2.3%	Underweight	
Chemicals	2.0%	Overweight	
Industrials	**12.4%**	**Underweight**	
Construction & Materials	1.5%	Underweight	
Industrial Goods & Services	10.9%	Underweight	
Consumer Discretionary	**14.5%**	**Underweight**	
Automobiles & Parts	2.1%	Underweight	↓
Media	1.3%	Underweight	
Retailers	5.4%	Neutral	
Travel & Leisure	1.9%	Underweight	
Consumer Products & Services	3.9%	Neutral	↑
Consumer Staples	**7.4%**	**Overweight**	
Food, Beverage & Tobacco	4.7%	Overweight	
Personal Care, Drug & Grocery Stores	2.7%	Overweight	
Healthcare	**11.0%**	**Neutral**	
Financials	**14.7%**	**Neutral**	
Banks	6.7%	Overweight	
Financial Services	4.4%	Neutral	
Insurance	3.6%	Underweight	
Real Estate	**3.9%**	**Overweight**	
Technology	**19.2%**	**Overweight**	
Telecommunications	**4.9%**	**Neutral**	
Utilities	**3.6%**	**Neutral**	↑

Notes: These are theoretical allocations which are for illustrative purposes only. They do not represent an actual portfolio and are not a recommendation of any investment or trading strategy. See the latest Strategic Sector Selector for more details.
Source: Refinitiv Datastream and Invesco

Appendix

Methodology for asset allocation, expected returns and optimal portfolios

Portfolio construction process

The optimal portfolios are theoretical and not real. We use optimisation processes to guide our allocations around "neutral" and within prescribed policy ranges based on our estimations of expected returns and using historical covariance information. This guides the allocation to global asset groups (equities, government bonds etc.), which is the most important level of decision. For the purposes of this document the optimal portfolios are constructed with a one-year horizon.

Which asset classes?

We look for investibility, size and liquidity. We have chosen to include: equities, bonds (government, corporate investment grade and corporate high-yield), REITs to represent real estate, commodities and cash (all across a range of geographies). We use cross-asset correlations to determine which decisions are the most important.

Neutral allocations and policy ranges

We use market capitalisation in USD for major benchmark indices to calculate neutral allocations. For commodities, we use industry estimates for total ETP market cap + assets under management in hedge funds + direct investments. We use an arbitrary 5% for the combination of cash and gold. We impose diversification by using policy ranges for each asset category (the range is usually symmetric around neutral).

Expected/projected returns

The process for estimating expected returns is based upon yield (except commodities, of course). After analysing how yields vary with the economic cycle, and where they are situated within historical ranges, we forecast the direction and amplitude of moves over the next year. Cash returns are calculated assuming a straight-line move in short term rates towards our targets (with, of course, no capital gain or loss). Bond returns assume a straight-line progression in yields, with capital gains/losses predicated upon constant maturity (effectively supposing constant turnover to achieve that). Forecasts of corporate investment-grade and high-yield spreads are based upon our view of the economic cycle (as are forecasts of credit losses). Coupon payments are added to give total returns. Equity and REIT returns are based on dividend growth assumptions. We calculate total returns by applying those growth assumptions and adding the forecast dividend yield. No such metrics exist for commodities; therefore, we base our projections on US CPI-adjusted real prices relative to their long-term averages and views on the economic cycle. All expected returns are first calculated in local currency and then, where necessary, converted into other currency bases using our exchange rate forecasts.

Optimising the portfolio

Using a covariance matrix based on monthly local currency total returns for the last 5 years and we run an optimisation process that maximises the Sharpe Ratio. Another version maximises Return subject to volatility not exceeding that of our Neutral Portfolio. The optimiser is based on the Markowitz model.

Currency hedging

We adopt a cautious approach when it comes to currency hedging as currency movements are notoriously difficult to accurately predict and sometimes hedging can be costly. Also, some of our asset allocation choices are based on currency forecasts. We use an amalgam of central bank rate forecasts, policy expectations and real exchange rates relative to their historical averages to predict the direction and amplitude of currency moves.

Definitions of data and benchmarks for Figure 5

Sources: we source data from Datastream unless otherwise indicated.

Cash: returns are based on a proprietary index calculated using the Intercontinental Exchange Benchmark Administration overnight LIBOR (London Interbank Offer Rate). The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1st January 2001 with a value of 100.

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

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

Corporate investment grade (IG) bonds: Bank of America Merrill Lynch investment grade corporate bond total return indices, except for in emerging markets where we use the Barclays Bloomberg emerging markets corporate US dollar bond index.

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

Equities: We use MSCI benchmark gross total return indices for all regions.

Commodities: Goldman Sachs Commodity total return indices

Real estate: FTSE EPRA/NAREIT total return indices

Currencies: Global Trade Information Services spot rates

Definitions of data and benchmarks for Figure 3

Sources: we source data from Refinitiv Datastream unless otherwise indicated.

Cash: yields are based on 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.

Government bonds: yields are based on Bank of America Merrill Lynch government bond indices with historical ranges starting on 31st December 1985 for the Global, Europe ex-UK, UK and Japanese indices and 30th January 1978 for the US. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index with the historical range starting on 28th February 2003.

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

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

Equities: Dividend yields are based on 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.

Country abbreviations for Figure 1

BEL	Belgium
BRA	Brazil
CAN	Canada
CHE	Switzerland
CHN	China
DEU	Germany
DNK	Denmark
ESP	Spain
FRA	France
GBR	United Kingdom
HK	Hong Kong
IND	India
ITA	Italy
IDN	Indonesia
JPN	Japan
KOR	South Korea
MEX	Mexico
PHL	Philippines
RUS	Russia
SWE	Sweden
TUR	Turkey
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