

Long-Term Outlook

Macroeconomic Scenarios
and Expected Returns
2021 – 2024

*Beyond
borders™*

For professional and institutional investors only

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Foreword



Foreword

In these uncertain and challenging times, it has never been more important for investors to tune out the background noise and commotion of the daily news flow and assess the longer-term opportunities available in the investment markets.

In this, Aegon Asset Management's global Long Term Outlook, we draw upon the expertise of our world-wide investment teams, reflecting our new global structure, and consider the emerging trends, opportunities and challenges facing the markets and how we expect these to pan-out over the coming years.

The Covid-19 pandemic, in terms of cost in human lives and global prosperity, has been truly tragic and difficult to come to terms with. It has ripped up the playbook in terms of how we view the world from a wider, as well as an investment perspective. The impact has been profound, witnessed by the greatest peacetime fall in economic activity, leading to both monetary and fiscal policy greater than that seen during the Great Financial Crisis of a decade or so ago which has driven yields to all-time lows.

Facing such challenges, it has never been more important to take a well-considered global outlook on what the future holds, to achieve investment success. Whilst we believe the economic recovery can be swift, we believe a full recovery back to pre-Covid levels will be drawn out and investment returns lower than those historically.

As we look to the future, this year's LTO considers the many opportunities that are available for active managers across the investment universe. We also analyze the new trends that are emerging and quickly gaining traction, changing the investment landscape as we know it. These include the accelerated adoption of technology and ecommerce which is benefiting some sectors to the detriment of others. We also focus on the growing importance of Responsible Investing and the growth in the adoption of Environmental, Social & Governance factors.

I hope you find this year's LTO useful and informative. My Aegon Asset Management colleagues and I are looking forward to helping you navigate the new investment landscape.



Bas NieuweWeme
CEO Aegon Asset Management

Chapter 1

Thematic articles






ESG Megatrends

Environmental, social and governance (ESG) issues are increasingly gaining prominence across the globe. From social unrest in the form of protests for democracy or against discrimination, to pandemics and lockdowns, to environmental degradation and climate change, the current paradigm will be transformed by ESG trends as we progress through the 21st century.

We believe this change, however, will not only affect the political and societal status quo. As consumption and production patterns change – willingly or not – the economy may be transformed beyond recognition, for better or for worse. In a recent paper, we reviewed the literature about 'ESG megatrends' that could shape the world for many years to come. We identified 16 such trends, along environmental, social and governance themes (Figure 1).

Figure 1. ESG Megatrends

Environmental 	Climate change <ul style="list-style-type: none"> • Long-term physical risks • Extreme weather events • Transition risks 	Environmental pressures <ul style="list-style-type: none"> • Long-term physical risks • Extreme weather events • Transition risks
	Social 	The future of work <ul style="list-style-type: none"> • AI and automation • Gender, diversity and inclusion • Platform economy
Governance 	Democracy and politics <ul style="list-style-type: none"> • Polarization with countries • Polarization between countries • New Governance models 	Privacy and cyberspace <ul style="list-style-type: none"> • Cybersecurity and privacy

Source: Aegon Asset Management

Out of these 16 trends, we set out to identify the ones that we thought could be most material to investors' portfolios and asset allocation. We ranked them based on a trend's impact on (1) macroeconomic factors, such as interest rates or unemployment, and (2) on single asset classes, such as infrastructure threatened by climate change. We also considered timeframe and uncertainty. We arrived at the following list of what we believe could be some of the most material ESG megatrends in the coming years:

- Extreme weather events arising from the physical effects of climate change
- Risks and opportunities linked to the transition to a net-zero carbon economy
- Changes in the labor market due to increasing automation and artificial intelligence
- Demographic trends and the impact of population aging on labor markets and interest rates
- The increased risk of pandemics

We expect that these five trends will eventually help shape the economy – for better or for worse. Risks will increase, or at least change, as they unfold. Opportunities may arise, however, as markets react and adjust to these changes; the skyrocketing valuation of electric car manufacturers is a worthy example. We continue to research the drivers of these trends and their effect on macroeconomic variables, as well as particular asset classes. Our aim is to identify the consequences for investment portfolios. Below, we give an overview of how we think these trends may impact risk and return across the economy in the future.

Extreme weather events

The key consequence of man-made climate change is well-known: temperatures will likely rise by a few degrees on average by the end of the century. While this seems far away, another consequence of climate change is much more immediate: the increasing frequency of (and damage caused by) extreme weather events. This is a product of the change in distribution of weather events – for instance, a shifting mean and increasing variance of temperatures implies more hot extremes. This is also true for hurricanes, floods, droughts and other natural disasters.

Key possible effects:

- Stranded assets and supply chain disruptions caused by weather events, as seen after hurricane Harvey in Houston, or during the 2018 heat wave across Europe that slowed production in Germany, leading to lower earnings for companies.
- Decreasing productivity in some geographies due to extreme temperatures, which may cause crop failure or even human deaths.
- Asymmetry between advanced and developing economies, as a consequence of different exposure and adaptation capacity.
- Overall greater risk in markets, especially for instruments related to physical infrastructure.

Transition to a net-zero carbon economy

Governments around the world are attempting to live up to their commitments under the Paris Agreement and the private sector also recognizes the importance of transitioning to a net-zero carbon economy. At the same time, public opinion is shifting towards a greener mindset. But the transition to a net-zero carbon economy will have to rely on policy measures. Most of these measures, market-based or not, can be summarized into a general 'price' for carbon emissions. While this price on carbon emissions should be the same across sectors, those companies depending on carbon to operate will face the highest costs, as they face a choice between paying this carbon price or investing in transition technologies.

Key possible effects:

- Lower earnings, especially in carbon-intensive sectors such as energy and materials, which will affect the financial profile of companies' equity and debt.
- Governments will increase revenue via an additional tax, but this should be balanced by increased investment in transition technologies and related subsidies.
- Overall, demand for investment in transition technologies will increase and carbon-intensive activities will face greater risk.

Artificial intelligence and automation

The rise of Artificial Intelligence (AI) and automation threatens jobs with an increasing level of required skill, with the potential to reshape the labor market. Recent studies show that global GDP could be up to 14% higher in 2030 as a result of AI, as productivity increases. The general expectation is that the economic impact will emerge gradually and be visible only over time. The adoption of AI by firms may follow an S-curve pattern—a slow start given the investment associated with learning and deploying the technology, and then acceleration driven by competition and improvements in complementary capabilities. As a result, AI's contribution to growth may be three or more times higher by 2030 than it is over the next five years. Initial investment, ongoing refinement of techniques and applications, and significant transition costs might limit adoption by smaller firms.

Historically, automation in the workplace has replaced workers in low-skilled jobs, by automating easy, repetitive tasks. Advances in AI, however, raise the possibility of ever-higher skill levels being automated, which could have more dramatic consequences on the labor market.

Key possible effects:

- Increased unemployment, especially in lower-skilled occupations, with partial reconversion only, which would dampen growth and further increase inequality.
- Productivity gains due to businesses automating processes (including use of robots and autonomous vehicles) and augmenting their existing labor force with AI technologies (assisted and augmented intelligence).
- Rise of AI and automation eventually leads to lower production costs (labor costs) in several industries which could yield downward pressure on inflation, leading to lower interest rates, and higher equity returns from cheaper inputs.

Demographic trends: Population aging

Advanced economies are undergoing an aging process. This process is particularly pronounced in Europe and Japan, characterized by decreasing fertility and mortality rates. In Europe, before the 1980s, the ratio of the elderly (aged 65 and above) to working-age (aged 15-64) was less than 2 to 10, in 2050 the proportion will likely be more than 5 to 10 according to United Nations (2017) projections.

The notion that there should be a demographic influence on investments is often based on the life-cycle savings hypothesis. In short, this hypothesis suggests that people borrow when young, invest for retirement when middle-aged, and live off their investments once they are retired.

Key possible effects:

- A falling share of the working population leads to reduced productivity and lower economic growth.
- The age cohort that is saving (older people) is larger than the cohort that is borrowing (younger people) in the economy. Given an increasing supply and demand shifting downward, the price of money is decreasing, which implies lower interest rates.

- Ageing affects the savings decision of workers through interest rates. A permanent increase in life expectancy decreases the workers' marginal propensity to consume.
- The details of the results vary across different studies, but the general conclusion that is often reached is that ageing populations will dampen future returns on equities, bonds, and housing.

The risk of pandemics

The increased interconnectedness of regions, made possible by the explosion in air travel in the latter decades of the 20th century, also raises concerns about the speed and ease at which new diseases can spread, which of course we are currently witnessing in the Covid-19 pandemic. This has had devastating consequences for economies. The effect is compounded by increasing evidence of anti-microbial resistance (AMR), whereby new strains of diseases mutate to become immune to antibiotics, which further increases the risk of future pandemics.

The humanitarian impact is, and should always be, the most important aspect of a pandemic. However, the path pandemics take can also have major consequences for economies, as economic sectors all but shut down and deadly diseases wipe out parts of the population.

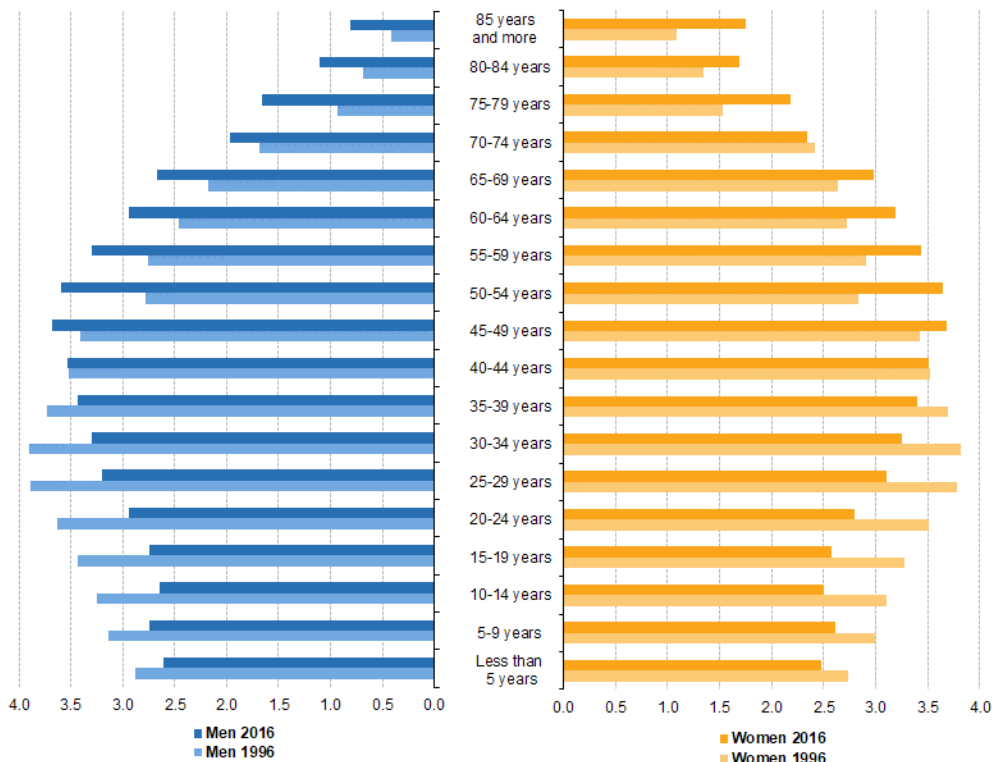
Key expected effects:

- In general, the economic impact of a pandemic can be very large. The expected magnitude is highest in the first year(s) after the outbreak.

- Each pandemic is different and has its own impact on health, society and economics. Arguably, the biggest economic shock occurs when a disease hits the working age population hard and sufficiently high-quality healthcare is not available or overloaded.
- The economic damage will depend on the availability of accurate information (via widespread testing and global co-operation) and the effectiveness of support actions by our governments and central banks.
- Alleviating the risks of future pandemics will likely have economic consequences, as healthcare systems are reinforced out of state budgets, and strategic industry is protected from foreign competition.

The macroeconomic outlook and views of returns, combined with the expected risks and correlations across asset classes is key to constructing portfolios. A considerable challenge in doing so is the complexity and interconnectivity of the world around us. For example, none of the identified ESG megatrends will occur in isolation and all of them are expected to have a global impact. Different methods are available to deal with this complexity in the investment decision making process. We find scenario analysis helpful in building an understanding of how assets classes and portfolios may perform under different future states of the world, given a set of assumptions. Throughout the year, we research the potential impact of each of these trends by means of scenario analysis. This helps provide insights into how a portfolio is positioned to weather these trends or how it may evolve and whether the goals of the investor are likely to be achieved.

Figure 2. Population structure by five-year age groups and sex, EU-28, 1996 and 2016.



Source: Eurostat

High risk-adjusted returns in BB-rated corporate bonds

Fixed income investors typically expect additional yield (a spread) over government bond yields as compensation for assuming additional credit risk. The higher the anticipated credit risk, i.e. the higher probability of default and the lower expected recovery rates, the higher the required spread. As investors generally will require additional compensation for an increase in risk, the spread over government bond yields should theoretically increase in line with the increase in credit risk if credits are fairly priced. This article analyses to what extent credit spreads have indeed offered fair compensation for assuming credit risk.

Total returns

In a perfect world one would expect lower rated, riskier bonds to outperform higher rated, lower risk bonds in the long run to compensate investors for assuming more risk. Exhibit 1 and exhibit 2 show the long-term total returns of credits in the United States and Europe. For each region, bonds rated from AAA (high credit quality) down to CCC (low credit quality) are included. The exhibits show that BB-rated bonds have outperformed the other ratings in both the US and Europe. CCC-rated credits performed well in the US in times of economic expansion, i.e. between 2002-2008 and 2009-2016, but lost substantially more value in times of economic distress compared to other ratings. It appears then, that investors were not compensated on a total return basis for assuming more risk. Rather, investors could have been better-off investing in BB-rated credits, which are less risky than their B and CCC-rated counterparts. This outcome conflicts with the principle that in efficient markets investors should be compensated in the long-term for assuming credit risk. How can we explain the outperformance of BB-rated credits?

Interest rate sensitivity

A key driver of total returns is the price sensitivity of credits to changes in government bond yields. In general, high quality credits are more sensitive to changes in sovereign bond yields as they make up a larger component of the overall yield. That is because the probability of default is lower in high quality credit, and as such, they tend to behave more like government bonds. Companies with high credit ratings also tend to issue longer-dated bonds. For lower quality credits, the probability of default is higher and therefore the credit spread dominates the overall yield. If BB-rated bonds had structurally higher duration (sensitivity to interest rates) than other credit rating categories, then that could be an explanation for their outperformance. This would make sense given the yields on sovereign bonds in the US and Europe have been falling secularly over the past two decades. Exhibits 3 and 4 show, however, that BB-rated bonds have not had structurally higher durations compared to other rated credits. It is true that BB-rated bonds have had slightly higher duration than other high yield bonds but the difference is not large enough to explain their outperformance.

Chart 1: Total return of U.S. credits
Total returns of AAA to CCC rated credits

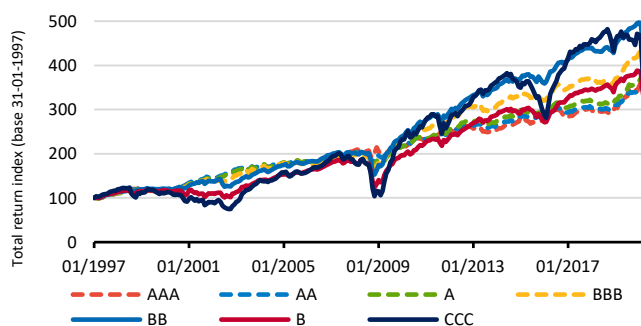


Chart 2: Total return of Euro credits
Total returns of AAA to CCC rated credits

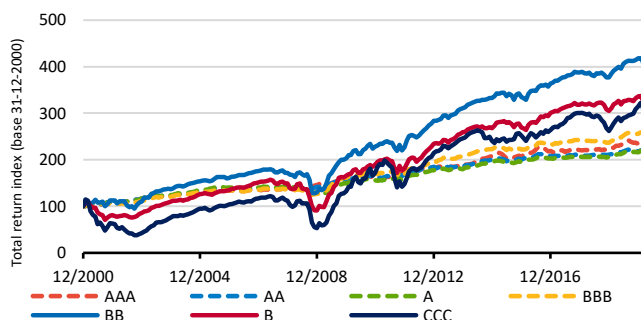


Chart 3: Interest rate sensitivity of U.S. credits
Effective duration of AAA to CCC rated credits

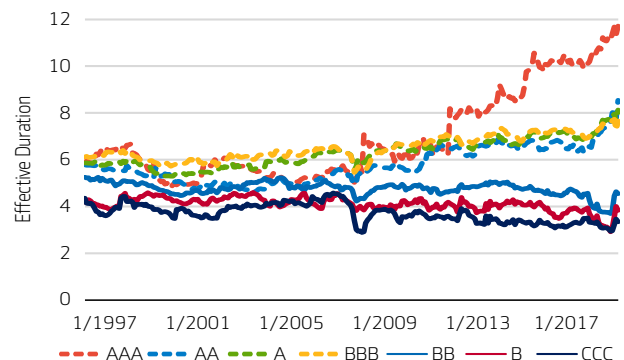
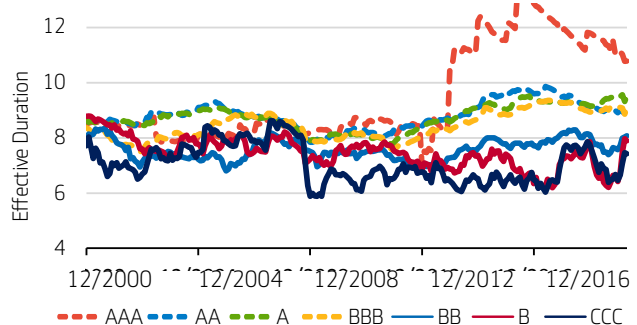


Chart 4: Interest rate sensitivity of Euro credits
Effective duration of AAA to CCC rated credits



Source: ICE BofA Corporate Indices, Aegon Asset Management as at April 2020

Excess Returns

If interest rate sensitivity cannot fully explain the outperformance of BB-rated credits, what can? If we strip out government bond returns, we are left with the excess returns achieved by an individual credit. Excess returns gauge to what extent a particular credit bond has been able to earn a return in excess of duration-matched government bonds. It therefore represents the degree to which investors have been compensated for bearing the risk of incurring credit losses on the bond. Generally speaking, when the spread on a credit bond is higher than the realized credit losses on that bond, the investor earns a return in excess of government bonds. As can be seen in exhibits 5 and 6, high yield bonds have achieved higher excess returns than investment grade bonds. In particular, BB-rated credits outperformed B-rated credits in both Europe and the US. US CCC-rated credits have had slightly higher excess returns than their BB-rated counterparts, while Euro CCC-rated bonds have underperformed BB-rated bonds. Also note that the excess returns of CCC-rated credits are associated with substantial higher volatility than BB-rated credits. To illustrate, the volatility of excess return within BBs has been 8.5% in US credits and 10.9% in Euro credits, whereas CCC's annualised volatility has been 15.8% and 21.7% for Euro and US credits, respectively. Hence, from a risk/reward perspective, BB-rated bonds appear to be most attractive compared to other rating categories (table 1).

Chart 5: Risk and excess return of U.S. credits

Excess return and volatility of AAA to CCC credits (1997-2020)

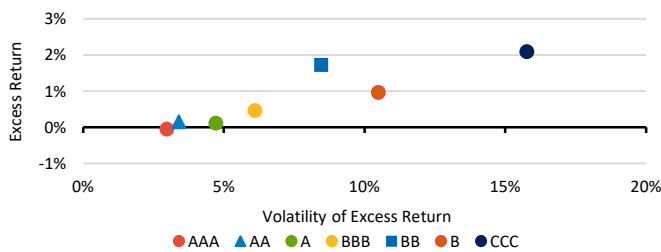


Chart 6: Risk and excess return of Euro credits

Excess return and volatility of AAA to CCC credits (2000-2020)

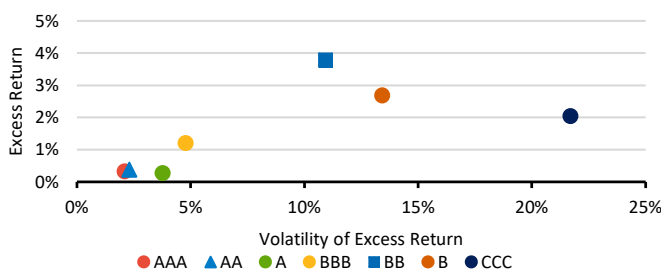


Table 1: Information Ratios

	AAA	AA	A	BBB	BB	B	CCC
U.S.	-0.02	0.05	0.02	0.08	0.20	0.09	0.13
Euro	0.16	0.16	0.07	0.25	0.35	0.20	0.09

Source: ICE BofA Corporate Indices. US: over the period 1997 - 2020. Euro: over the period 2000 - 2020.

Consistency of excess returns

As noted, BB-rated bonds typically outperform other ratings on a risk-adjusted basis. That outcome, however, can be very much dependent on the chosen horizon. To get a better sense of the consistency of excess returns, exhibits 7 and 8 show the excess returns of BBB to CCC-rated credits over two-year intervals from 2000 to 2020.

Chart 7: Excess return of U.S. credits

Excess return over 2-year intervals of BBB to CCC credits

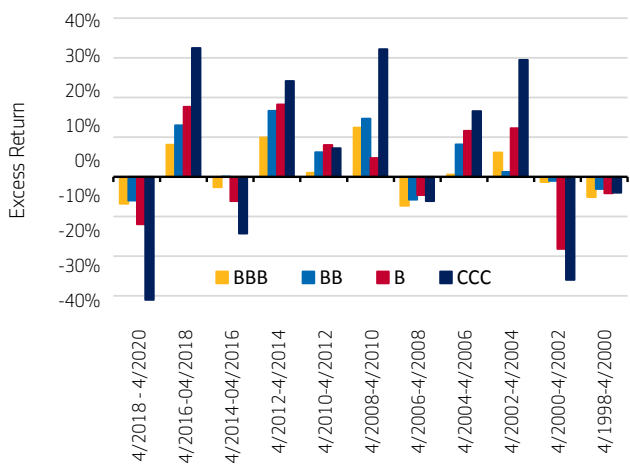
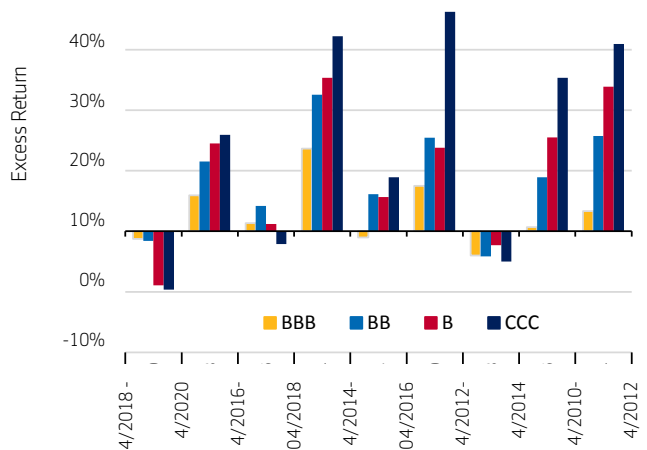


Chart 8: Excess return of Euro credits

Excess return over 2-year intervals of BBB to CCC credits



Source: ICE BofA Corporate Indices, Aegon Asset Management, as at April 2020

From these return intervals, it is evident that when excess returns are positive, lower credit quality generally outperforms higher credit quality. When excess returns are negative, however, BB-rated credits typically show substantially less negative excess returns than the other high yield ratings. This observation suggests excess returns for BB-rated credits are positively skewed. In other words, BB-rated bonds seem to have limited downside risk compared to other high yield ratings. At the same, the upside potential of BB-rated bonds tend to be in line with the associated level of credit risk. Also note that, more often than not, BB-rated bonds perform better than their BBB-rated cousins, both in positive and negative economic environments. Taking the long-term and short-term excess return profiles together, we can conclude that BB-rated credits have, historically, given investors the most compensation for assuming credit risk.

Exhibits 9 and 10 illustrate how BB-rated credits have been able to outperform other ratings. In these exhibits, the average spread increment and average credit loss increment on US and Euro credits are shown. If markets fairly price for credit risk, then one would expect the average credit spread to increase in line with the increase in average credit losses as one moves down the credit quality curve. In exhibits 9 and 10, however, the spread increment spikes at BB-rated credits, while the average credit spread loss increment spikes at CCC-rated credits. That implies that either the average spread on BB-rated credits has been too high – given the average credit loss for BB-rated credits – or spreads on the other rating buckets have been too low – given the average credit loss on credits with non-BB rating.

Chart 9: Compensation for credit risk in U.S. credits
Average spread increment to average increase in credit loss between 1998-2016

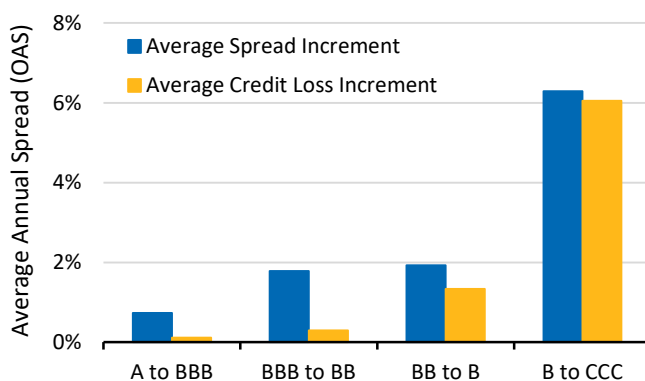
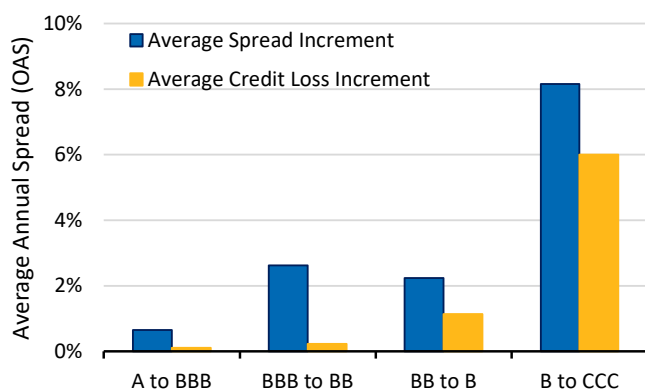


Chart 10: Compensation for credit risk in Euro credits
Average spread increment to average increase in credit loss between 2001-2016



Source: ICE BofA Indices, Moody's Default Study 2016

Explanations for outperformance of BB-rated credits

The observed asymmetry in average spreads on BB-rated credits can be explained from both sides of the credit quality spectrum. From an investment grade perspective, when credits are downgraded to BB (so-called 'fallen angels'), managers of investment grade credit portfolios are typically forced to sell them, in order not to breach investment guidelines. That forced selling can create excessive selling pressure, since the market for investment grade credits is typically larger than that for high yield credits. Consequently, the limited ability of the high yield market to absorb bonds that have been downgraded to BB pushes spreads above their fair value. If these BB-credits do not default, they pull back to par value as they approach maturity.

If we look at the lower end of the quality spectrum, we can explain the asymmetry between average spreads and average credit losses from a behavioural perspective. If credit markets fairly price expected credit losses, then average spreads on low credit quality ratings (B and CCC) would be aligned with average realized credit losses. But as exhibit 9 and 10 showed, average spreads on B and CCC-rated bonds have not followed the magnitude of average credit losses. That suggests that credit markets tend to misprice credit risk. Financial literature provides several explanations for what could be causing the mispricing of credit risk in low credit quality. On the one hand, investors could be prone to 'lottery' type behaviour and move toward the most risky asset in an attempt to shoot for high returns. The search for yield that has emerged over the past couple of years might have amplified this type of behaviour. On the other hand, investors could be prone to overly optimistic cyclical views, effectively underestimating the probability of default and overestimating recovery rates. In both cases, the misinterpretation of risk results in spreads being pushed below their fair values.

Conclusion

BB-rated credits have outperformed other ratings over the past 20 years. Since the interest sensitivity of BB-rated credits has not been substantially higher than other high yield ratings, duration does not fully explain why BB-rated credits have outperformed other bond ratings. Rather, excess returns of BB-rated credits have shown to be consistently more attractive than their other rating counterparts. That attractive risk/reward profile is most probably the result of an asymmetric shape of the spread-to-credit-risk curve, which is optimal at the BB-rated bonds point. Relatively high spreads on BB credits could be explained by the 'fallen angel' effect, which tends to push spreads above fair value. At the same time, behavioural biases such as over optimism and lottery seeking tend to push down spreads below fair value on B and CCC-rated bonds. The combined outcome of these factors seems to create an optimal spot in the credit quality spectrum, which is located right at the crossover of the investment grade to high yield credit market.



Sharp rise in government debt will likely imply low interest rates

The coronavirus crisis will result in a sharp rise in government debt. Unlike in previous crises, there is almost unanimous approval of governments' attempts to support the economy by using their fiscal capacity. At the same time, Central Banks have initiated massive purchase programs, which includes buying government and corporate debt. So, in essence Central Banks are indirectly financing the government. The debate is currently whether this can - and should - continue in the future. In a lecture the former head of the IMF, Olivier Blanchard, said that "public debt, may have no fiscal costs". The IMF has always been bent on maintaining prudence in regard to fiscal deficits. That the former head of that institution now questions fiscal prudence indicates there is a change in view on the optimal application of fiscal resources. Blanchard's main argument is that interest rates are likely to remain below growth rates, thereby reducing the fiscal burden of debt.

Our view is that there is, unfortunately, no free lunch. Debts will have to be paid back. It is, however, not always obvious who will bear these costs. This is especially relevant for financial markets.

Central Banks will finance their sovereign issuer

Central Banks have the tools to avoid sovereign defaults, as long as the country issues debt in its own currency. However, this does not mean there are no costs involved in ever-increasing government debt levels. Most Central Banks, will have to support their sovereign regardless of the size of their debt or deficits. Not doing so, would result in a financial crisis. A peculiar case is the Eurozone, where one Central Bank serves multiple sovereign issuers. A sovereign in the Eurozone is therefore more likely to experience a default, as we witnessed with Greece in 2011. Greece is, however, a relatively small country - defaults in a larger sovereign issuer would be very costly and the ECB will likely do "whatever it takes" to prevent that happening.

Central Banks have a range of tools at their disposal. Traditionally, adjusting the policy rate was one of the main monetary tools they used. More recently, they have added new monetary tools to their mandates, of which asset buying programs are among the most powerful. So what happens when a Central Bank buys sovereign bonds? When a government issues bonds, they bought by market participants such as a commercial bank. The commercial bank receives interest from the Treasury and pays interest on its liabilities, typically depositors. The Central Bank can buy this bond from the commercial bank. In the process the Central Bank creates reserves, which it uses to pay the commercial bank, in exchange for the bond. So going forward, the Treasury pays the central bank the interest rate on the bond. And the Central Bank pays an interest on the reserves rate to the commercial bank.

So to a large extent the interest rates are passed through from borrower (the government) to lender (depositors). The key here, is that the Central Bank can set the level of rates on reserves and can decide to buy more or less bonds thereby influencing short and long-term sovereign yields. As you see from this example, the depositor will get less income if the Central Bank decides to keep rates low. Many other (fixed income) asset classes are valued based on sovereign yields, so if sovereign rates are kept low it will also imply low rates on many other assets.

High real rates become increasingly unlikely

We expect that Central Banks will ensure rates stay low to reduce the fiscal burden for governments. This can be illustrated by a simple debt sustainability analysis. The table below shows the debt-stabilizing primary budget, which is the budget balance excluding interest costs needed to keep debt levels stable. The table shows this as a function of both Debt-to-GDP and real interest rates. In this example, we assume nominal growth of 2%, with inflation of 1.5% and real growth of 0.5%. This is likely to reflect the economic situation in several major developed countries.

As can be seen from the table, at higher real interest rates and higher debt levels, the primary balance needs to be larger. So what level of a primary balance can realistically be achieved? That depends. In the last two decades, countries like Germany and Italy have been running (small) positive primary balances of around 1%, while most other countries range between -1% and -4%. In the future, we expect most developed countries to run negative primary balances on average. Aging will increase pressure on budgets via higher pension and healthcare expenditure, and it will take many years to reduce deficits from the Covid-19-induced hit.

Debt-to-GDP

		40%	60%	80%	100%	120%	140%	160%
Real interest rate	-3.0%	-1.4%	-2.1%	-2.7%	-3.4%	-4.1%	-4.8%	-5.5%
	-2.5%	-1.2%	-1.8%	-2.4%	-2.9%	-3.5%	-4.1%	-4.7%
	-2.0%	-1.0%	-1.5%	-2.0%	-2.5%	-2.9%	-3.4%	-3.9%
	-1.5%	-0.8%	-1.2%	-1.6%	-2.0%	-2.4%	-2.7%	-3.1%
	-1.0%	-0.6%	-0.9%	-1.2%	-1.5%	-1.8%	-2.1%	-2.4%
	-0.5%	-0.4%	-0.6%	-0.8%	-1.0%	-1.2%	-1.4%	-1.6%
	0.0%	-0.2%	-0.3%	-0.4%	-0.5%	-0.6%	-0.7%	-0.8%
	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	1.0%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%
	1.5%	0.4%	0.6%	0.8%	1.0%	1.2%	1.4%	1.6%

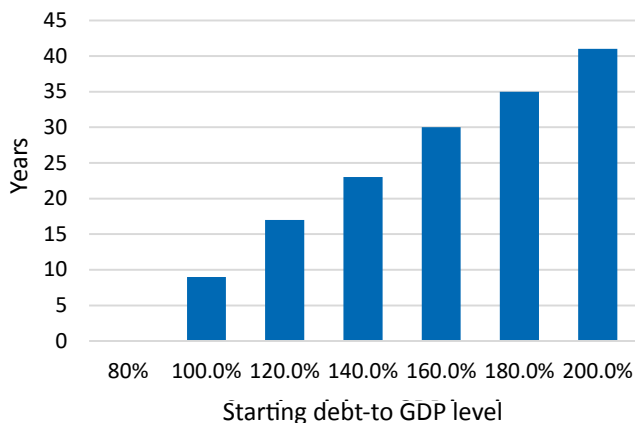
Source: Aegon Asset Management, Bloomberg. Projections provided by Aegon Asset Management.

So if budget balances can't be structurally positive and debt levels are high, then it follows that real interest rates can't be structurally positive. If they were, debt levels would increase continuously.

At lower debt levels, it is more likely that countries can absorb positive real rates. To illustrate how long it is likely to take to reduce debt levels, we have constructed the chart below.

Years until debt-to-GDP is reduced to 80%

Assuming 1% primary budget surplus and -1% real rates



Hypothetical example for illustrative purposes only.

Source: Aegon Asset Management, Bloomberg. Projections provided by Aegon Asset Management.

The figure estimates how many years it takes to reduce debt-to-GDP to 80% assuming a government runs a persistent primary budget surplus of 1% and has -1% negative real interest rates. For instance, at 120% debt-to-GDP it will take almost two decades, and at 160% of GDP it will take three decades.

After the coronavirus crisis, many developed nations will have debt levels varying between 100 and 160%. Apart from that, very few governments have been able to sustainably run a budget surplus. And surely the majority are very far removed from achieving that aim in the next couple of years. The assumptions made in our calculation are therefore very optimistic. One could argue that governments don't need to reduce debt levels as they will remain stable as long as real interest rates are lower than real growth at balanced budgets. However, that would imply persistently high debt levels, which would make a return to structurally positive real rates nearly impossible. That would, in turn, suggest an even longer period of negative real rates.

Implication for financial markets

Persistently negative real rates will have profound implications for financial markets.

Firstly, negative real rates clearly imply negative real returns on many fixed income assets. Secondly, negative real rates will support the value of real assets, such as real estate and infrastructure. While equities are also supported by negative real rates, the impact varies per sector; typically, banks and insurance companies suffer due to low rates while many other sectors will benefit.

Persistently negative real rates also increase the likelihood of financial 'boom and bust' cycles, as financial assets can be bid-up indiscriminately by investors who don't see any alternative.

Quantifying the “unprecedented”

The coronavirus has often been described as unprecedented, and rightfully so. Throughout human history there have only been a small number of pandemic outbreaks with a global social and economic impact of this magnitude. The term ‘unprecedented’ has also been linked to financial market developments. Global financial markets received a significant shock due to the Covid-19 pandemic and a real ‘risk-off’ scenario unfolded, with investors fleeing to safe-havens and risk markets falling sharply. Nobody can deny that the circumstances were volatile and unusual. But how unprecedented was the behaviour of markets?

Heavy tails

Financial markets are much less ‘well behaved’ than the public believes. In the past few decades extreme events have shocked markets on several occasions. These extreme ‘real-world’ events – such as an unforeseen bankruptcy or an abrupt change in a political situation – simply do not allow for a mathematically well-defined distribution. That is why financial data has so-called ‘heavy tails’; occasional events with extreme returns. The existence of these heavy tails means that extreme events do happen more often than a “normal distribution” would imply. This has many implications for investors.

Quantifying the Covid-19 tails

We put the “unprecedented” into perspective by comparing the Covid-19-driven market developments to other extreme events in past decades. We consider four major asset classes: US equity, US government bonds, US corporate bonds and commodities – typical building blocks of multi-asset funds. These asset classes were all impacted in their own ways. The actual market rout started around the third week of February and ended in the third week of March, with volatility remaining high in the weeks thereafter. In that period interest rates on US government bonds declined to historic lows, equities fell into a bear market, credit spreads reached crisis levels and the price of some oil contracts dipped into negative territory.

Asset class	Index	Sample period
US equities	Dow Jones Index	1900-2020
US government bonds	Generic 1st 10-year US Treasury Note Future	1982-2020
US Corporate bonds	Bloomberg Barclays US Corporate Total Return Value Un-hedged USD	1989-2020
Commodities	S&P GSCI Total Return CME	1970-2020
Multi-Asset	30% US equities, 30% US govt. bonds, 30% US corp bonds, 10% commodities	1989-2020

Note: The timespan is not consistent across asset classes (due to data availability). This is a limitation to this study.

To assess how extreme these events were, we analyse daily returns. We compare the daily returns to their historical samples and use the number of standard deviations that the returns deviate from the average return as a degree of extremeness. We refer to this as sigmas or sigma-events. The higher the number of sigmas, the higher the degree of extremeness. In this study, we use six standard deviations as a threshold. Any observation that exceeds six-sigmas is classified as extreme. Theoretically, the probability of a six-sigma event is extremely small, but in real world (non-normal) financial markets six-sigma events occur more often.

Probabilities of k-sigma event: k=3, 4, 5, 6, 10, 15

k	Probability in any given day	Expected occurrence	
		Once every days	Once every years
3	0.270%	370	1
4	0.006%	15780	63
5	5.80E-07	1741523	6911
6	1.98E-09	5.05E+08	2003922
10	1.52E-23	6.61E+22	2.62E+20
15	7.34E-51	1.37E+50	5.45E+47

Note: Probability are for two-sided sigma events (positive and negative)
Source: Aegon Asset Management.

Our analysis shows that most markets did not experience unprecedented market returns, but that most daily return moves were extreme. The equity and government bond markets, as well as the commodity market, experienced more extreme daily moves in the past, i.e. the daily returns during the Covid-19 rout were not really unprecedented. The negative daily returns in the US corporate bond market were unprecedented, as losses of this magnitude were not experienced before.

Asset class	Unprecedented	Extreme	Covid-move	Largest move
US equities	No	Yes	-12.9% on 16/3/20 -12 sigmas	-20 sigmas on 19/10/87 +12 sigmas on 6/10/31
US govt. bonds	No	No	+1.7% on 16/03/20 +4 sigmas	-23 sigmas on 22/12/99 +8 sigmas on 18/3/2009
US Corp. bonds	Yes	Yes	-3.9% on 18/03/20 -12 sigmas	-12 sigmas on 18/3/2020 +6 sigmas on 18/3/2009
Commodities	No	Yes	-11% on 9/3/20 -10 sigmas	-17 sigmas on 17/1/91 +8 sigmas on 6/8/90

Note: We use a rolling window of daily returns. We classify an event as unprecedented if the sample holds no larger sigma-event. We classify the event as extreme if the event exceeds 6 sigmas. For the Covid-19 move we use the most extreme daily return in the relevant period (February to May). The largest moves are the most extreme sigma events (up and down) for the full sample. We round sigmas to the nearest number.

Source: Aegon Asset Management, Bloomberg, Refinitiv (as of Jun-20).

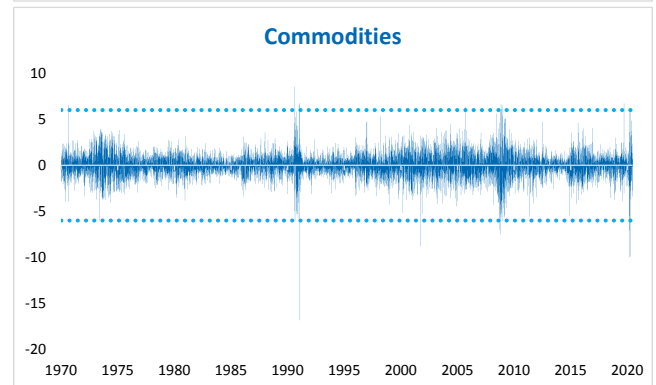
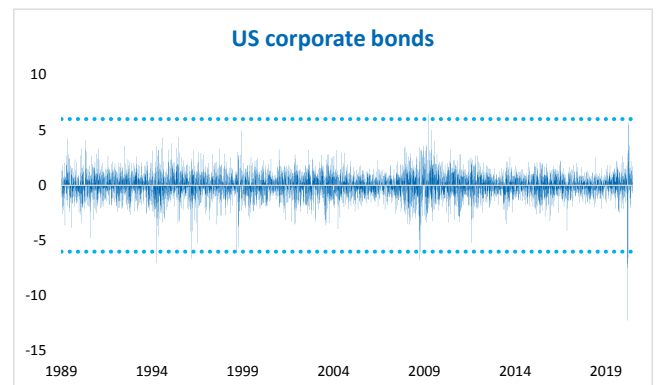
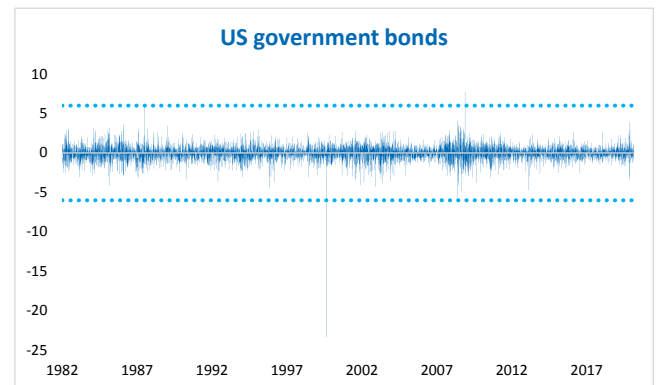
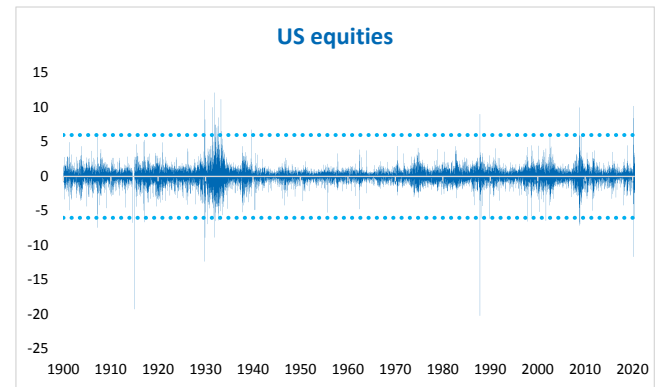
The equity market was hit hard in the sell-off, with some sectors halving in value in just a few days. On several occasions trading was halted and volatility spiked to crisis levels. Without doubt, these events were very serious, but not unseen before. Stock markets have experienced similar phases in the past. The first six-sigma event in the history of the Dow Jones was in 1907 when the 'Bankers' Panic' took place over a three-week period. Since then, the market has experienced 49 six-sigma events. The most famous ones are Black Monday, the 2008 financial crisis, the dot-com bubble crash and the 1987 stock market crash – the most extreme on record. The correction within equity markets on March 16, 2020 was definitely extreme – exceeding 11 sigmas. To put this in perspective, if equity markets were to behave normally, such an event would have occurred less than once in the entire history of the universe. In reality, the Dow Jones has experienced such extreme returns seven times since 1900. The Dow Jones sell-off would have been truly unprecedented if markets were mathematically normal. But given the heavy tails of equity returns, similar – and even more extreme – events have happened before.

The US Treasury market is regarded as one of the safest assets in the world. Typically, yields on US Treasuries decline in times of market stress, as investors seek safety. This happened during the Covid-19 stress period too. In March 16 – the same day as the largest equity move – US Treasuries returned +1.7%. Compared to its history, that was a relatively high return (at almost +4 sigmas) but March 16 still falls within the 6 sigma bandwidth.

The US corporate bond market was also caught up in the market turmoil. Interestingly, the most extreme daily market moves happened on March 18, lagging the developments in equity and Treasury markets by two days. That said, the Covid-19 sell-off was very extreme and unprecedented. The loss of almost 4% – a 12 sigma event – had not been seen before in this market. That said, the historical sample that we used is the shortest across the asset classes. The data for corporate bonds covers roughly 30 years, whilst for other asset classes more historical data is available. Therefore, the classification of the corporate bond developments being unprecedented is somewhat weaker.

The commodity sell-off was extreme (reaching -10 sigmas) but not unprecedented. The market moves in 1991 were much more extreme with -16 sigmas.

Historical Sigma events across asset classes



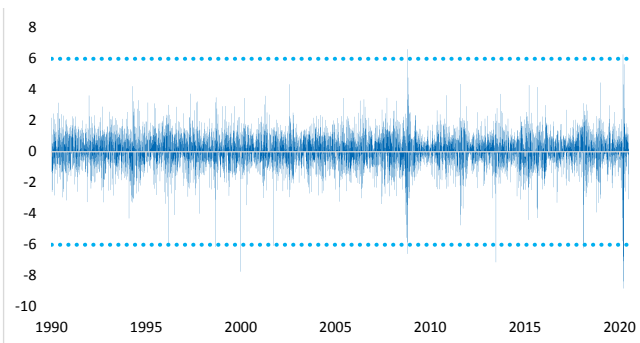
Source: Aegon Asset Management, Bloomberg, Refinitiv as of June 2020

The perfect storm: fat tail synchronisation

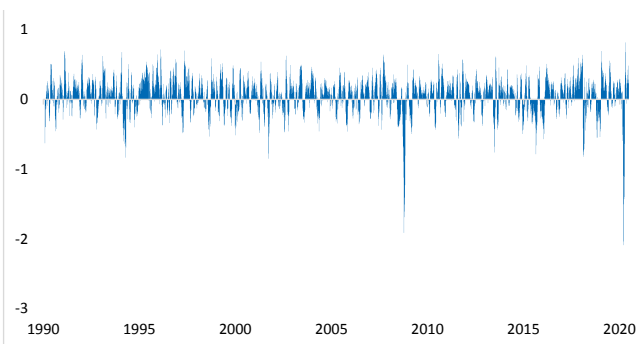
Diversification is one of the key investment principles for long-term investment portfolios. This means that investors lower their total portfolio risk by combining various asset classes that exhibit low correlations to each other. A real risk to this strategy occurs when negative heavy tails synchronise. This happens when the correlations among asset classes increase at times of a broad-based market sell-off.

The charts below show the sigma events of a typical multi-asset portfolio. The chart shows that such portfolios – often used by long-term investors – experienced a -8 sigma event during the Covid-19 sell-off, which is extreme and unprecedented. This shows that the market reaction was fierce across asset classes and that diversified portfolios experienced an extreme situation too. As mentioned earlier, the market rout happened in just a few weeks. To include this in our analysis, we also smoothed data over a one-month period. The correction over the full month – and not just on a single day – were unprecedented too. In that period, diversification did not mitigate the risks sufficiently, and investors simply had nowhere to hide.

Multi-Asset



Multi-Asset (1m smoothed)

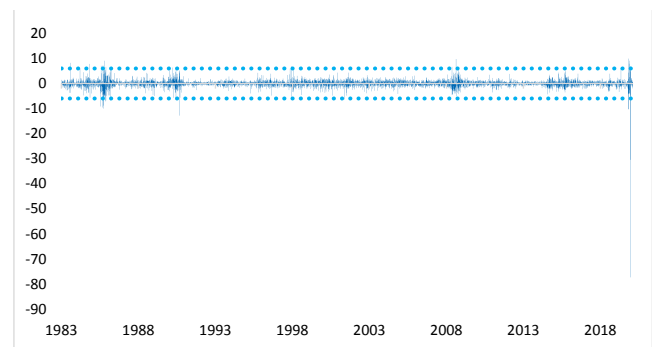


Source: Aegon Asset Management, Bloomberg, Refinitiv (as of Jun-20).

Truly Unprecedented

We analysed the market moves in the commodities market but did not specifically analyse the oil market developments. The oil market situation was particular, and therefore justifies a stand-alone analysis. The oil market was hammered by much lower demand, a lack of supply cuts and technical factors that pushed the oil price lower. For a short period, oil prices turned negative. The chart is very telling. On 20 April the spot price of Crude WTI oil fell from \$18 to -\$37, resulting in a return of -300% and a -77 sigma event. By far, this is the most extreme sigma event in our analysis, and we expect this to be one of the largest sigma events in financial markets ever. Theoretically – assuming normality - such an event is statistically impossible. But given the presence of heavy tails across financial markets, nothing is impossible.

US Crude Oil WTI Cushing OK Spot Price



Source: Aegon Asset Management, Bloomberg, Refinitiv (as of Jun-20).

Implications for asset managers

Investing and risk are two sides of the same coin. There are simply no ways to invest without incurring any type of risk. Investors should structure investment portfolios according to their risk tolerance. Still, investors can be surprised by unexpected, extreme and sometimes even unprecedented market circumstances. The market situation in February and March is a reminder that markets can turn very quickly. For long-term investors that hold diversified portfolios the situation was extreme too. Tail risks synchronised across asset classes and multi-asset portfolios were caught up in the broad market rout. This teaches us that diversified portfolios are vulnerable to adverse market circumstances, especially when a tail event has a similar impact across asset classes. The Covid-19 rout is another reminder that financial markets are not normal, and that extreme events do occur. Investors should be aware of – and consider – these features. After all, extreme, unprecedented and even statistically impossible events happen more often than normal.

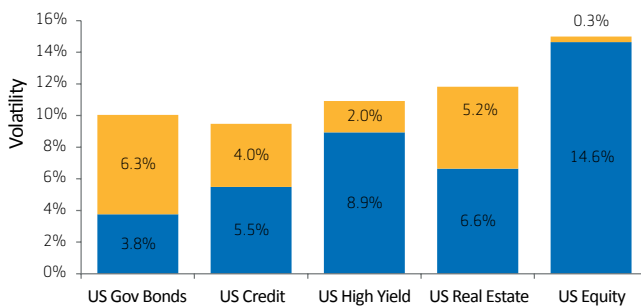
Currency risk & FX hedging

Investments made in assets listed in a foreign currency are subject to currency risk. Changes in the exchange rates can cause the value of the underlying investment to fluctuate widely. This risk can be mitigated by currency hedging. Many investors choose to hedge currency risk because they believe it is an unrewarded risk. But whether this is the case depends on a number of factors.

Currency risk

Exchange rates can be volatile and vary widely over time, which means currency risk can be a large contributor to the total risk of an asset listed in a foreign currency. However, the impact of currency risk is highly dependent on the characteristics of the underlying asset class. As Figure 1 shows, currency risk has dominated the total risk of US government bonds for a euro investor, while the impact on the total risk of US equities has been almost negligible.

Figure 1: Volatility investments 1999 - 2019



Source: Aegon Asset Management, Bloomberg, NCREIF (as of Dec-19). Based on monthly data from January 1999 to December 2019. Volatility as measured by standard deviation of returns. Asset classes measured by following total return indices: Gov bonds US (ICE BofA All mat US government bonds), Credit US (ICE BofA US corporate bonds), High Yield US (ICE BofA US High Yield), Real Estate US (FTSE EPRA/Nareit US index), Equity US (MSCI US equity).

Currency hedging costs

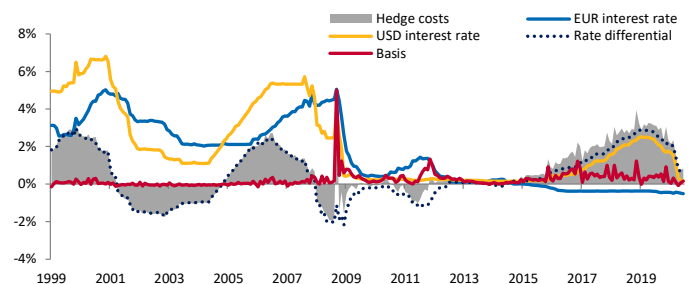
Currency hedging requires the purchase of foreign exchange (FX) derivatives and an infrastructure to manage these, both of which tend to be costly. In general, we can differentiate between four types of costs involved in hedging currency risk:

- Interest rate differential between the currencies (also known as carry)
- The premium or discount of the forward rate relative to interest rate differential, known as the cross-currency basis spread
- Establishing the transaction costs/rolling the hedging position
- Operational cost.

Figure 2 shows the impact of the first two components on hedging costs, while the latter two are strongly dependent on the investor, its size and the set-up for the currency hedge. From Figure 2 it seems clear that the interest rate differential between the currencies has been by far the largest contributor to the costs of currency hedging, while the cross-currency basis spread has been especially relevant during times of crisis (e.g., the 2008 financial crisis). According to interest rate parity theory, the cost or gain resulting from the interest rate differential should be offset by the change in exchange rate over the contract period.

Although the interest differential and the basis spread can be a cost or an earning, it appears that hedging foreign currency does impact the expected return of the investment. This implies there is a trade-off between minimizing risk and maximizing return, and currency risk is most attractive when the costs of hedging do not outweigh the potential impact on total risk.

Figure 2: Costs of currency hedge (EUR/USD)



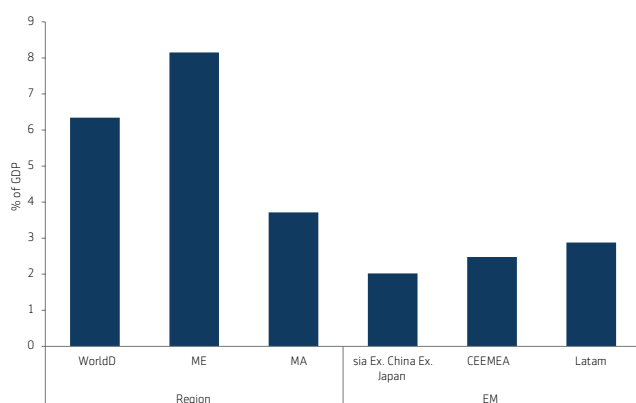
Source: Aegon Asset Management, Bloomberg (as per Jun-20). Currency hedging fee based on EUR/USD 1 month forward contracts, date to 30 June 2020.

As a result, we believe currency hedging should be considered carefully and is not necessarily an unrewarded risk. In particular, the potential for an additional return from the interest rate differential (known as carry) should be balanced against a potential increase of risk.

The impact of COVID-19 on both developed and emerging market economies has been significant, with interest rates being slashed worldwide. It has left 'carry', for many currencies, a limited driver of returns and hedging costs are typically lower. The global macro policy response to this pandemic has been large - emerging markets (EM) have been less aggressive than developed markets due to some EM countries being constrained by relatively large fiscal deficits or external balances (figures 3 and 4). For example, on average, developed market governments have implemented fiscal stimulus of around 8% of GDP and central banks have cut interest rates by 1%. In comparison, EMs have had, on aggregate, around fiscal stimulus of 3% of GDP and interest rate cuts of 80 basis points.

Given the magnitude of aggressive easing by central bankers worldwide, the amount of 'carry' an investor receives has fallen dramatically. Specifically, for G10, carry is very small, and as such it is almost a negligible factor for prospective performance. For example, when US rates were higher Japanese institutions would not have hedged the currency when buying US assets due to the costs involved. With significant cuts by the Federal Reserve, the cost of hedging has fallen dramatically, allowing Japanese investors to increase their hedges. This factor in isolation (all else being equal) implies that the yen would be expected to outperform the dollar.

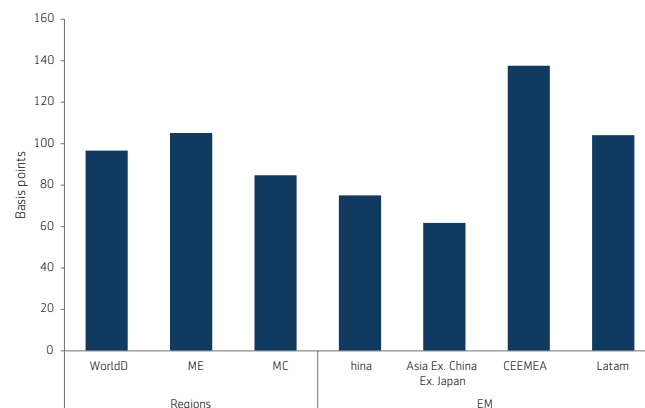
Figure 3: Fiscal Easing* in Response to Corona crisis



*Discretionary policy actions taken since the outbreak that leads to higher government expenditure or lower tax receipts.

Source: Goldman Sachs Global Investment Research

Figure 4: Amount of Policy Rate Easing since January 1, 2020



Source: Goldman Sachs Global Investment Research

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In EM, the carry argument has retraced greatly, for example interest rates in Brazil are at a record low. However, the carry argument will still matter for some EM FX crosses (Mexican peso and Turkish lira) where interest rates remain high, but investors will need to justify the risk/reward.

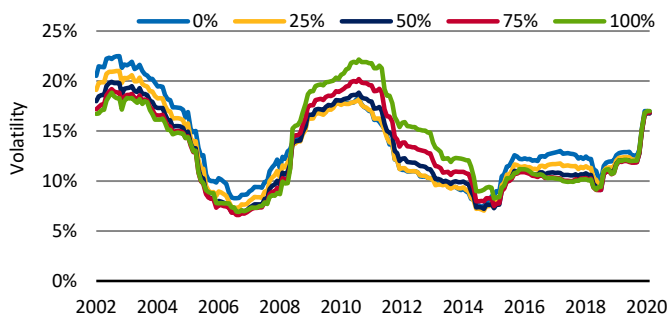
Currency risk at an asset class level

In figure 1, we showed that currency risk has been a large contributor to the total risk of fixed income and (non-listed) real estate. The cash flows of these asset classes are, to a large extent, fixed and not dependent on exchange rates. From a risk perspective, we believe it therefore makes sense to hedge the currency risk using derivatives. However, for equities the value of hedging currency risk is typically much smaller, only marginally reducing total volatility when the full value of listings is hedged.

The reason is that the cash flows from equity investments depend on the exchange rate. The majority of companies in equity portfolios are multinationals, who have earnings and/or production facilities in different (currency) regions. The currency of listing therefore does not fully represent the currency exposure of the investment. Some companies have listings in more than one currency. While the listing suggests otherwise, the currency exposure of these two types of stocks of the same company are not actually different. Even companies that are only active in a single market can see their competitive position change due to currency movements. So the impact of a depreciation of a foreign currency can partly be compensated by an increase in the competitive position of companies in that region.

This effect is illustrated in figure 5 which shows the (3-year rolling) volatility of the MSCI USA index in euros with different levels of currency hedging. Although there is much variation over time, a full hedge would not have resulted in the lowest volatility over all time periods, and in some periods would even have led to the highest volatility. On average, a currency hedge of 50% would have generated the lowest volatility, but the difference with either a 25% or 75% hedge is limited. This suggests that a suitable neutral level of hedging on an equity portfolio, when hedging costs are close to zero, would be around 50%.

Figure 5: Volatility MSCI USA



Source: Aegon Asset Management, Bloomberg (as per Jun-20). Sample for illustrative purposes only. 3 year rolling volatility of MSCI USA Equity Index TR, with different hedging levels based on 1 month forward contracts, based on monthly date from January 1999 to June 2020. Volatility as measured by standard deviation of returns.

Currency risk at a portfolio level

So far, we have focused on currency risk at an asset class level. However, many investors will invest across a range of asset classes. Therefore, it is also important to look at the potential impact of currency risk at a total portfolio level. In particular, currency risk at a portfolio level does not necessarily equate to the sum of currency risks at an asset class level. There are a number of reasons for this:

- Investment in domestic companies may still have indirect exposure to foreign currencies through overseas activities or supply chains
- Correlation can change, especially over shorter time periods. Individual currency exposure can increase or reduce risk; a positive correlation (with equity markets) will add risk and vice-versa. It should be remembered that while the cost of hedging will generally change slowly over time, correlations can alter sharply. For example, for a large period of time prior to the financial crisis in 2008, euro-based investors were effectively adding risk to their international equity portfolio through maintaining exposure to the Japanese yen (i.e. the yen/euro exchange rate was positively correlated with equity market movements). Since then, correlations have reversed and exposure to the Japanese yen has generally acted to reduce risk from investing in international equities. A client with a static currency hedging policy of 100%, for example, could have gone from a position of reducing risk to adding risk without doing anything at all.
- Diversification across different currencies may lead to a natural decline in the total currency risk
- In times of market volatility, the US dollar tends to see large capital inflows, in turn appreciating its value relative to other currencies. This 'safe haven' characteristic of the US dollar may make hedging less US dollar exposure attractive from a risk reduction perspective.



To illustrate this, table 1 sets out the example portfolio we have used to analyse the impact of currency risk at a total portfolio level, from the perspective of a euro investor.

Table 1: Example asset portfolio

Asset class	Asset allocation	Euro	USD	GBP	JPY	Other
Government bonds (EMU)	20%	100%	-	-	-	-
Investment grade credit	20%	50%	50%	-	-	-
High yield debt	10%	50%	50%	-	-	-
Emerging market debt	5%	0%	100%	-	-	-
Equities – developed markets	31%	10%	56%	5%	7%	23%
Equities – emerging markets	4%	-	10%	-	-	90%
Real estate (listed)	10%	50%	50%	-	-	-
Total	100%	43%	43%	2%	2%	11%

Source: Aegon Asset Management. **Hypothetical example for illustrative purposes only. Not indicative of the past or future allocation of any Aegon-managed portfolio or strategy.** Asset classes measured by following total return indices: EU Gov bonds US (ICE BofA AAA Euro government bonds (all mats)), IG credit (50% ICE BofA US corporate bonds / 50% ICE BofA EU corporate bonds), High Yield debt (50% ICE BofA US High Yield / 50% ICE BofA EU High Yield), EMD (JPM EMBIG Diversified Index), Equities – dev markets (MSCI World equity net TR), Equities – EM (MSCI EM equity net TR), Real estate listed US (FTSE EPRA/Nareit US index)

Table 2 shows the risk / return characteristics, based on historical returns from 1999-2019, of the example portfolio with various different levels of currency hedging applied to it.

Table 2: Currency hedge impact at portfolio level

Currency hedge	Hedge USD	GBP	JPY	Portfolio return	Vol	Max drawdown
No hedge	-	-	-	6.0%	7.3%	-29.9%
Full hedge (USD, GBP, JPY)	43%	1%	2%	5.8%	7.8%	-32.7%
Equities 50%, others full	34%	1%	1%	5.8%	7.5%	-31.9%
Minimum vol hedge	5%	17%	-	6.0%	7.1%	-26.8%

Source: Aegon Asset Management, Bloomberg. **Hypothetical example for illustrative purposes only.** Based on historical monthly returns on underlying asset classes within the example portfolio from January 1999 to December 2019.

Table 2 shows that fully hedging the currency risk of the example portfolio has increased volatility over the period analysed. The minimum volatility hedge portfolio has low levels of US dollar and Japanese yen hedging. However, the sterling hedge is far higher than the portfolios sterling exposure. However, it should be remembered that the optimal currency hedging level is highly investor-specific and results may look quite different for different blends of asset allocations and currency exposures.

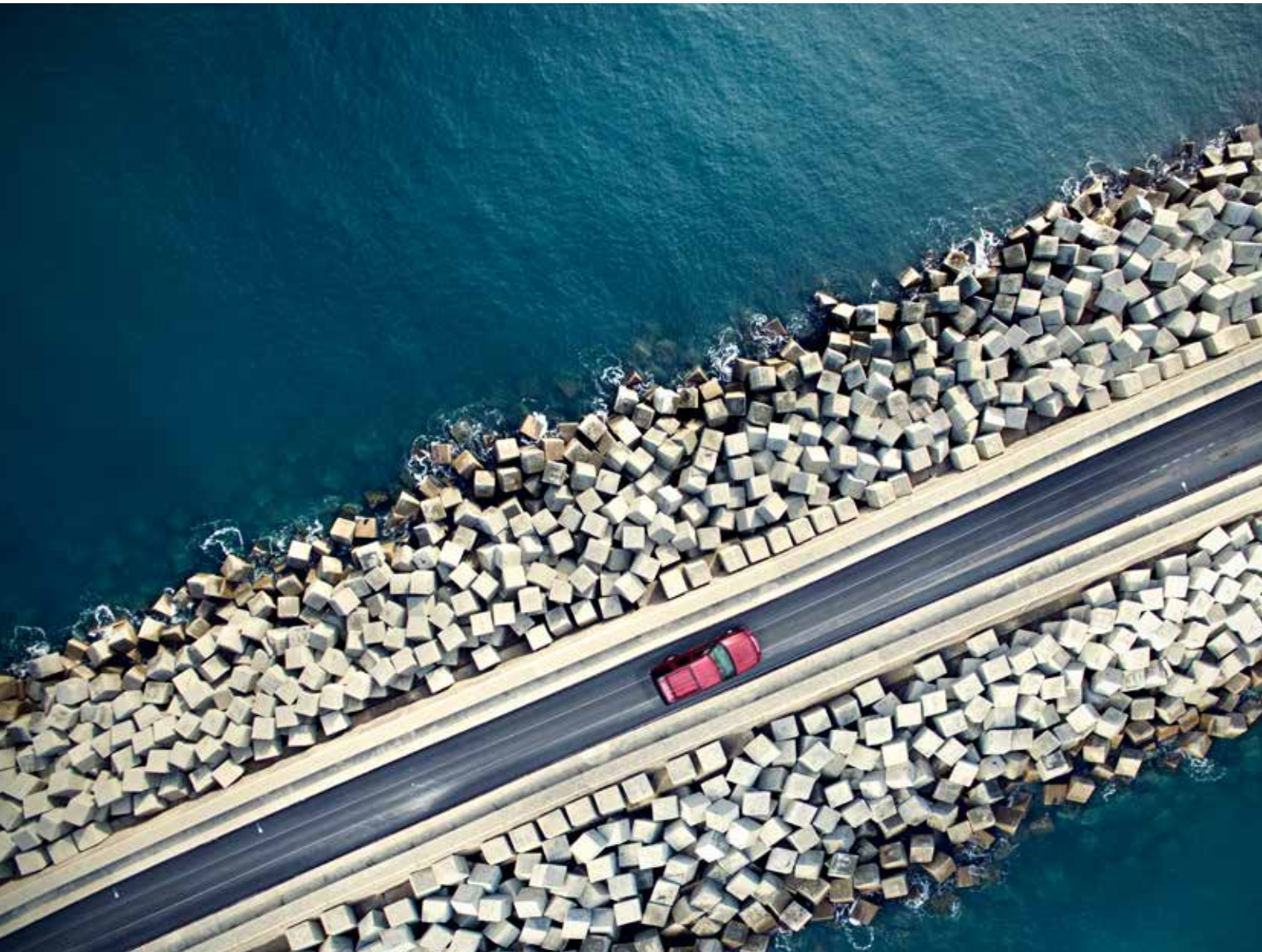
In terms of maximum drawdown, high levels of US dollar hedging have generally led to higher max drawdowns. In times of market stress, the US dollar tends to appreciate in value as capital flows into it. One of the reasons for this is due to the use of US Treasuries as the world’s primary ‘safe haven’ asset. This means that the currency hedge tends to have negative impact on returns when markets are also falling. Therefore, low US dollar hedging (or totally unhedged) would likely produce the desired reduction in volatility or max drawdown.

Conclusion

Currency risk can have a major effect on the risk/return profile of foreign investments. In the past 20 years, currency risk has not always been an unrewarded risk, and currency hedging has not always provided lower volatility at an asset class or total portfolio level.

The optimal currency hedging is highly investor-specific and depends on a number of factors such as the asset allocation, make up of overseas currency exposure, cash flows, time horizon, risk attitude and investment beliefs. It is important that all these characteristics are included when the currency hedging policy is adopted. In the investment plan, all of these points can be combined with the current market conditions in an effort to implement a portfolio with an efficient allocation to risk sources, including currency risk.

Overall, investors are more likely to reward policies that help stabilise the economy and asset markets. Currencies should be driven by relative growth prospects and risk perceptions are likely to be more important as 'carry' evaporates. Once we are at the normal risk-on stage, we believe the carry should become an advantage, but it is probably too early to argue that now.



Chapter 2

Global macroeconomic developments



United States

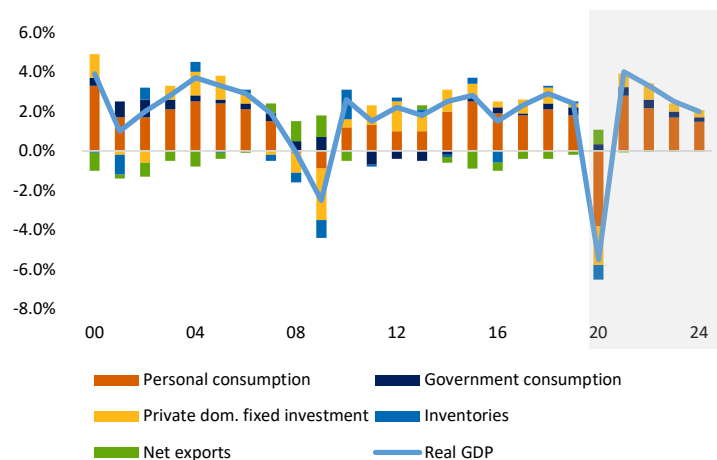
The medium-term outlook for the US economy is best characterised as ‘the long road back’. In practice this means that if we believe economic activity peaked during the fourth quarter of 2019, it will likely take two to three years for the economy to recover to previous peak levels (for comparison, during the Financial Crisis it took seven quarters to return to the third-quarter, 2008 peak level). A key determinant in how long the road will be centres around the ultimate path of the pandemic. Our baseline scenario is that the shape of the recovery will fall between a ‘U’ and a ‘Swoosh’ shape. This implies an extended ‘pivot’ phase at the trough before the recovery begins to gain solid traction.

Why the duration of the pandemic is systematically important

Clearly, a key variable underpinning the economic trajectory is the ultimate path of the coronavirus pandemic. To a degree, there is an element of positive correlation between the duration of the pandemic and the magnitude of the lasting economic damage. For example, job losses that were earmarked as ‘temporary’ due to an expectation of a quick rebound, will transition into the ‘permanent’ job loss category if the quick rebound fails to materialise.

Similarly, businesses can reduce their variable costs, but the ‘stickiness’ of the fixed costs weighs on the solvency of the business – the longer a deep contraction lasts the heavier the burden of those fixed costs. If the burden grows too big and forces the business to dissolve, it is highly unlikely it will reopen once an economic recovery gains traction.

Figure 1: United States GDP Composition



Source: Aegon Asset Management, Bloomberg, Refinitiv (as of Aug-20) 2020-2024. Projections provided by Aegon Asset Management

This dynamic of lasting economic damage from an exogenous event is called hysteresis and it is an important element to keep in mind when forecasting how the economic rebound will take shape. It is also why it so important that the monetary and fiscal authorities step in with economic relief – if they don't, the negative economic consequences could linger for much longer than the pandemic itself.

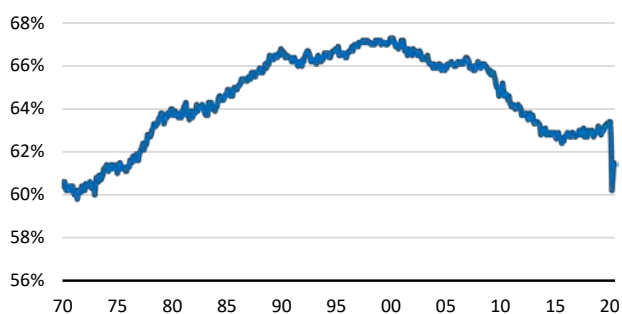
Is there a new culture towards household savings?

One American characteristic that has been exposed during this pandemic is the historically low level of household savings. According to the 2019 annual survey by the Federal Reserve* (the latest data available), 37% of US adults do not have the cash or savings to meet an emergency expense of \$400. With the sharp rise in unemployment hitting the low-wage worker with lightning speed, this lack of emergency savings has truly been exposed. As employment recovers it will be interesting to see if this segment of the US population increases their savings rates to insure against such hardship in the future. If so, this would provide a headwind against aggregate consumer spending growth, the largest part of the US economy.

The demographic influence on labor markets.

While the path of the labor market will be a by-product of the recovery, the path of the unemployment rate will also be heavily influenced by the labor force participation rate (LFPR). Pressured by demographic influences since 2000, the LFPR has displayed a secular downtrend, which has been offset by episodes of cyclical strength. Why are we making such a big deal of LFPR? Because it has an enormous influence on the actual unemployment rate – trying to forecast the latter without assumptions for the former is a fool's errand. In our four-year forecast, we have the unemployment falling under 5%. This is led by a large recovery in the LFPR, albeit not back to the pre-pandemic levels due to the structural ageing demographic effects continuing to play out.

Figure 2: US labor force participation rate



Source: Bloomberg, US Bureau of Labor Statistics (as of 31-7-20)

Monetary policy

Over the four-year forecast window we see the Fed mostly on hold for the first half of the forecast horizon before modestly hiking rates in the second half. Note, the hikes should be seen more as a removal of emergency cuts once the economy starts to normalize, rather than a hawkish tightening (more akin to taking the foot off the gas pedal as opposed to tapping the brakes). On the QE front, non-conventional policy has now become conventional as structural forces have reduced the effectiveness of low rates in isolation.

Election risks

It would be remiss of us not to include some comments on how the upcoming US presidential election could affect the macro landscape. Decades ago, this would not necessarily be the case as the electorate largely represented a bell curve where the majority oscillated tightly around the middle. Today, that bell curve has a hollowed out middle and is more representative of a camel's back with two humps. What this means is that a change in leadership from one party to the other can have more drastic policy implications than in previous generations.

Later this year, the presidential card pits Democrat challenger Joe Biden against the incumbent President Donald Trump. However, given the structure of the US government, the elections for both Congress and the Senate will be key in determining how much of the president's policy platform is actually able to be enacted. Most permutations result in a varying degree of gridlock. However, there is one potential outcome that investors need to be prepared for:

Biden President, Democrat-controlled House & Senate

Given current polling, this is a possibility. It would likely be a negative for the markets as it would be a greenlight for higher taxes and new regulation costs to fund sizable spending programs touted by the Biden campaign. The corporate tax cut under Trump would largely be reversed, posing a major earnings headwind. Furthermore, a Democrat sweep would allow for a debate on implementing a single-payer healthcare option (i.e., socialized medical care), posing a risk to the publicly traded healthcare sector.



Eurozone: Recovery?

The Covid-19 pandemic hit the European economy hard in the first half of 2020. Most countries entered a prolonged period of government-imposed lockdowns and this led to a sharp decline in infections, but it also resulted in the deepest output contraction since World War II.

The pandemic has disproportionately impacted Italy and Spain in particular. The virus arrived early in both countries and proceeded to spread rapidly. Consequently, they implemented stringent containment measures over a prolonged period. Several Northern European countries experienced less infections and had to implement less severe lockdowns, resulting in less economic damage.

Since the second quarter of 2020, lockdowns across Eurozone countries have been eased. This has led to a strong rebound in economic activity although it remains well below levels seen before the pandemic hit. At the time of writing, restrictions remain in place on large events, bars and other activities in many countries. At the same time, households and business are reluctant to spend and invest due to the uncertainty surrounding the economy. These factors hold back the chance of a swift and full economic recovery in the Eurozone.

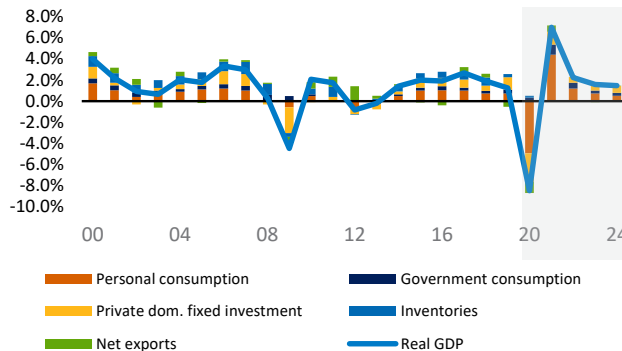
The reaction of governments has been quick to offset the worst effects of the lockdowns. They have enacted a wide range of policy measures on top of automatic stabilizers. One of the most important measures taken by governments was the introduction of short-term unemployment schemes. These schemes aim to retain jobs and limit any rise in structural unemployment. Governments also implemented a wide range of measures to support the corporate sector, which has suffered revenue losses from the lockdowns.

The reaction from the European Central Bank has also been quick and unprecedented in size. It introduced several programs to ensure that sovereigns could fund themselves and that banks had sufficient incentive to keep lending to the real economy. It introduced, for instance, the Pandemic Emergency Purchase Programme (PEPP), which aimed to buy government and corporate debt, and it also implemented large long-term lending operations to banks at favorable terms.

Outlook

An economic recovery will not only depend on the containment of the virus, as well as a successful medical solution. It will also depend on how much scarring the economy has suffered. A large part of economic activity has - and will - rebound, but due to company defaults and rises in unemployment, there will be some lasting damage. In our baseline forecast, we expect that economic output will not return to its pre-Covid-19 levels until well into 2022. Growth in 2021 is likely to be high but this is partly the result of a rebound in activity from the lower 2020 level, which was impacted by the lockdowns.

Figure 1: Eurozone GDP Composition



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020 - 2024 projections provided by Aegon Asset Management as of August 2020

Private consumption is likely to increase, however the rise in unemployment and the uncertain outlook will likely prevent a full recovery in 2021. Government consumption provides a counter-cyclical impulse to growth; several fiscal programs will be implemented in 2021. Much of the fiscal support has been done via income transfers to households and corporates and, in turn, these groups can choose to consume or save that income. Much of the fiscal stimulus will therefore appear in private consumption instead of government consumption.

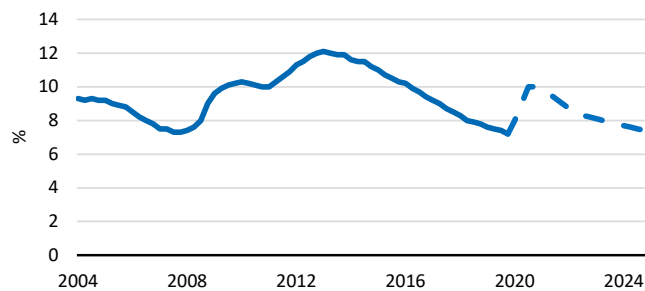
Typically, investments fall steeply in a crisis. They are also less likely to rebound quickly as companies face an uncertain demand outlook and already have idle capacity. Investing in new capacity is therefore less likely. Moreover, some corporates will have liquidity constraints and lower profits to fund investments. We therefore expect investment to recover to pre-Covid-19 levels in 2023. One activity that does support investment is the large European investment program, which aims to kick-start private investments along the policy objectives of the European Commission.

The Eurozone is a relatively open economy given exports account for around 50% of GDP. Net exports, which are exports minus imports, are around 3% of GDP. Europe has been successful in growing its trade share with both the US and China but the Covid-19 pandemic has clearly disrupted supply chains, leading to a sharp fall in trade. In the short term, part of this fall is likely to be recovered. Longer-term, however, there will be several headwinds to further trade growth. First of all, the pandemic has made it clear that countries cannot fully rely on essential goods from abroad. Secondly, the trade disputes triggered by the Trump administration has laid bare Europe's vulnerability to changing trade policies. And lastly, the UK (a major trade partner) has left the EU and the resulting trade arrangement will be far from frictionless. On a net basis, we expect the EU to keep running a trade surplus as lower energy prices reduce the cost of imports, while some reshoring is likely to impact exports.

Unemployment

At the peak of the pandemic around 30% of the European labour force received some form of government sponsored employment support. These programmes have likely averted a significantly sharper increase in unemployment. Nonetheless, unemployment is expected to rise sharply; we expect it to peak at around 10% in early 2021, after which a gradual decline is likely to start. We do not expect employment to recover fully in our forecast horizon, which is until 2024.

Figure 2: Eurozone Unemployment



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020 - 2024 projections provided by Aegon Asset Management, as of August 2020

Productivity - idle hope?

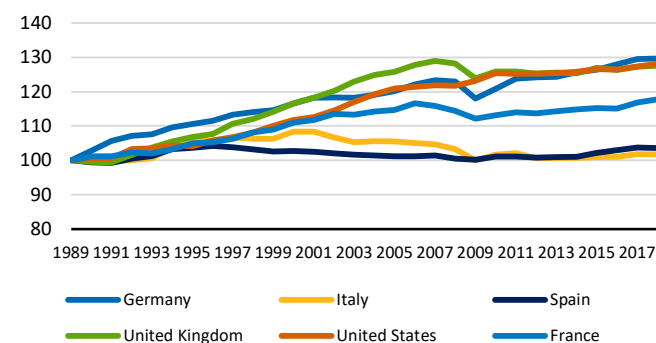
In the longer term, economic growth depends on the growth in labour as well as levels of capital, and how productive these two are used. Clearly, becoming more productive is the most efficient way to grow the economy as it would lessen the need for people to work more and it would not consume any additional capital.

The chart below shows the index of multi-factor productivity for several countries. In general, productivity has been increasing, although its growth rate seems to have slowed down since the financial crisis.

Within Europe there are large differences. Spain and Italy, for example, have been lagging many other countries since the late 1990s. This points to a structural issue. It is difficult to ascertain the exact cause, but in the case of Italy, a general lack of labor reforms is a possible culprit.

Much has been written about the underlying drivers of productivity. And, in all fairness, economists must admit it is a variable that is very hard to forecast with any certainty. Our assumption is that productivity will likely resume its historical upward trend as the pace of innovations has not diminished. Key drivers of growth differences between countries will likely be education and investment in research. On that front, several Asian countries seem likely to have higher growth levels than the US or Europe.

Figure 3: Multifactor productivity indices

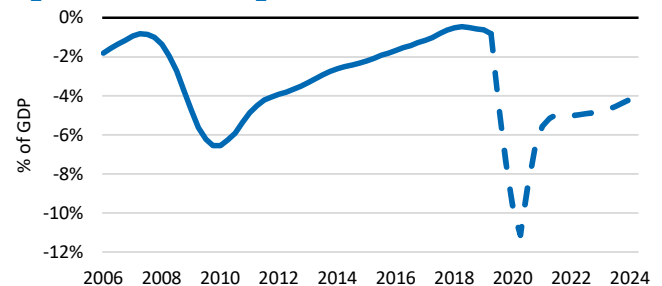


Source: Aegon Asset Management, OECD as of 2018

Large fiscal response has prevented a larger fall in activity

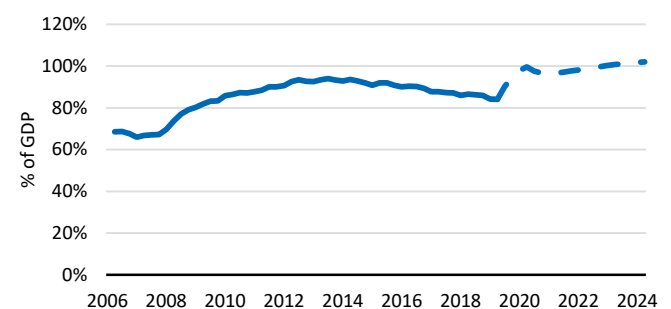
Fiscal stimulus in Europe is likely to reach around 6% of GDP in 2020. Deficits have reached record highs, peaking at over 10% of GDP as a result. As highlighted in Figure 4 these deficits are much larger than what we saw during the financial crisis. A large part of these record deficits is due to employment support schemes. These schemes will expire, however, resulting in a decline in budget deficits towards the end of 2020 and in 2021. Overall, we expect deficits to remain high in the next few years as governments are unlikely to raise taxes substantially; they will not want to risk harming the recovery from the pandemic. As a result, government debt levels will rise materially. In the Eurozone as a whole debt-to-GDP will reach 100% to 105% in our forecasts. Within that figure there are large differences regionally, with Italy reaching 150% and Germany likely to stay below 80%. Some countries will be reliant on low interest rates to keep their debt levels sustainable, which is one reason why we expect the ECB will keep rates at current levels and will increase its purchase program. In the longer term, we expect the Eurozone to move towards debt mutualization, but that is a process which is likely to take many years. The Recovery Fund is already a step in that direction, although it is intended to be temporary.

Figure 4: Eurozone Budget Balance



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020 - 2024 projections provided by Aegon Asset Management, as of August 2020

Figure 5: Eurozone Government Debt



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020 - 2024 projections provided by Aegon Asset Management, as of August 2020

Inflation likely to stay low

Near-term inflation will decrease as weaker oil and suppressed levels of demand lower prices. Furthermore, the pass-through of VAT cuts in several member states has a deflationary effect. In the medium term, the effects on inflation are more difficult to forecast. Large output gaps should result in deflationary pressures, while the disruption of supply chain and de-globalisation will have an upward pressure in the longer term.

Overall, we think inflation will stay below the ECB's target. The depth of this shock and the persistently low interest rates have a deflationary signaling effect.

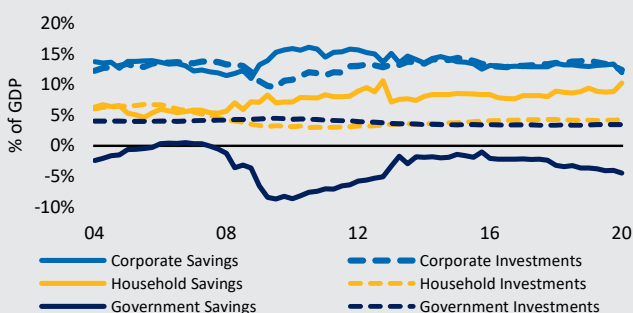
Who is saving who?

Household savings rates across the developed world have shot up during the Covid-19 crisis. They have cut back on spending as their confidence in the near future has taken a turn for the worse. Also, generous employment retention schemes have supported household income from the immediate effects of the recession.

A claim often made, is that a decline in this savings rate would support the recovery. But is this entirely correct? Well, not necessarily. Typically, economic data is split across three sectors: households, corporates and government. Each sector has its own savings rate. In this case the government sector's savings rate, or its budget deficit, has decreased sharply, which is offsetting the rise in the household and corporate savings rates.

Total savings in a closed economy will equal total investments. Economies are typically not fully closed, and therefore there can be a small difference between savings and investments, which is the current account. The graph below shows gross savings and investment for each sector in the US. A few of observations are worth making. Firstly, households have the highest gross savings and have a low investment rate. Secondly, corporates are responsible for most investments. And thirdly, the government savings rate is typically negative and is counter-cyclical. In general, it is only the government savings rate, ie its budget balance, which can be used pro-actively to offset a rise in savings rates of the private sector.

Figure 6: Savings and Investments as a share of GDP in the US



Source: Aegon Asset Management, US Federal Reserve, Bloomberg, as of August 2020

Viewing total savings and investments in an economy makes it easier to understand what happens when one sector tries to change its savings behavior. So what would happen if the government suddenly withdrew temporary work schemes in a crisis? Well, initially its budget deficit would fall. But income within the household sector would also fall. In this case, it is unlikely that the household sector will find new employment, given corporates will be hesitant to hire new staff during a crisis. It is likely that the savings rate of the household sector will decline due to the fall in income. Clearly, spending will be cut as far as possible, resulting in a decline in GDP.

A better option is for the government to wait until a recovery takes hold. In that case the savings rate of the household sector is likely to decline automatically as it will increase spending. This would allow the government to cut back on employment support programmes.

The implications for the economy of a fall in the savings rate depend, therefore, on what is driving the change. If governments are too early in retracting support, then incomes will fall. If the private sector regains confidence and starts spending, then the economy will rebound more sharply.

So basically, the level of a savings rate does not tell us much about the potential economic trajectory. It is much more important to investigate the underlying forces driving these variables.

The forces behind the changes in savings have important investment implications. The demand (investment) and supply (savings) of money will drive the price (interest rate) on savings. In a crisis the supply of savings increases and demand falls, which causes interest rates to fall. Governments to some extent, have stepped in to support investments, but this is unlikely to be sufficient to offset the scale of the investment decline in the private sector. Going forward, we expect interest rates to remain low as a result of this supply/demand change. Clearly, another reason for structurally low interest rates is central bank policy, but more on that later.

Ever closer union?

One of the key questions surrounding the European economy is whether the Eurozone (the currency union) will survive. Will the Eurozone economies integrate further or will imbalances build, leading to a break-up? Without doubt, there are many challenges ahead, and the ride will not be smooth. But in the end, we do expect the EU to gradually integrate further to become a more cohesive and resilient union.

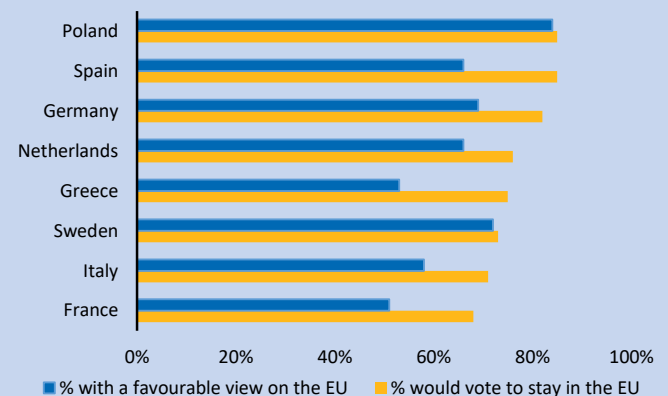
As we have experienced during the past decade, the Eurozone is not sufficiently integrated for a well-functioning monetary union. After the creation of the euro, imbalances started to build due to difference in economic structures. During and after the financial crisis, these imbalances came to the surface, which eventually led to the “Eurozone crisis”. Since then, several changes have been implemented to make the Eurozone more resilient. Initially, programs like the European Financial Stability Facility (EFSF) and later, the European Stability Mechanism (ESM) were implemented to provide financing to member states. Then the EU set up a joint banking supervisor, a mechanism to resolve insolvent banks, and an investment plan (the “Juncker plan”). Over time, reform momentum started to wane, as the EU experienced a more benign economic backdrop.

The current pandemic is likely to trigger another wave of structural reforms. The Recovery Fund is leading to a large fiscal transfer within the EU, which reduces imbalances. It has also resulted in a large common debt instrument. The Recovery Fund is intended to be a temporary boost to the recovery from the Covid-19 crisis. But as the economist Milton Friedman said: “Nothing is so permanent as a temporary government program”.

The Recovery Fund is sometimes referred to as the “Hamiltonian” moment for the Eurozone after Alexander Hamilton. In 1790, he famously was able to engineer a deal between the various US states to assume their war-time debts and convert them into a joint liability of the US federal government. Although this was a hugely important moment in the formation of a common fiscal union in the US, further alignment of economic and fiscal policies in the US was a very prolonged process with successes and setbacks along the way. It was not until the New Deal and subsequently the WWII debts, that the US become far more fiscally integrated. Similar to the experience in the US, further integration of the Eurozone will not be a smooth process and will likely be driven by crises as we have seen during the past decade.

In the longer term, we expect the EU and the Eurozone to integrate further for three main reasons. Firstly, the general population tends to support EU membership. To be fair, many people are not content by the functioning of the EU on many fronts, but when asked whether they hold in general “a favorable view of the EU” the majority agrees (see chart below). In countries like France and Greece this is, however, only slightly more than 50%. It becomes more interesting when asked whether they would vote in a referendum to leave the EU or stay in it. On that question, in most countries more than two-thirds support staying in the EU. Clearly, opinion polls can change, especially during difficult economic times. However, these results indicate that there still is popular support for the EU despite the fact people think the EU should function better.

Figure 7: Opinion polls on the EU



Source: Kantar, YouGov, PEW research, as of December 2019

Secondly, the cost and complications of leaving the European Union while not being a Eurozone member, is likely to be high, as the Brexit process shows. The cost of leaving a currency union is likely to be significantly higher and more complicated. Leaving the Eurozone will lead to massive defaults in banks, corporates and households, resulting in a prolonged recession. Governments will therefore likely try to avoid such a negative outcome. Greece is a pertinent example when it voted against the bailout conditions in the 2015 referendum. In theory this could have implied an exit from the Eurozone. But in reality, the government signed very similar bailout arrangements just seven days after the referendum, as it did not want to risk an exit from the currency union.

Thirdly, the more assertive role of China and confrontational policies of the US administration have led to a realization that the EU should stick together. Until just a couple of years ago, the geopolitical situation was much more benign, which made people believe that the EU might not be that necessary. Since then, Brexit, the election of President Trump and the rise of China on the world stage have increased the belief that the EU should act united.

United Kingdom

The UK economy has been severely impacted by a relatively long lockdown due to the spread of the coronavirus. Some restrictions remain in place, which continue to curtail economic activity. Fiscal policy has been quick and unprecedented in size, which has limited further damage.

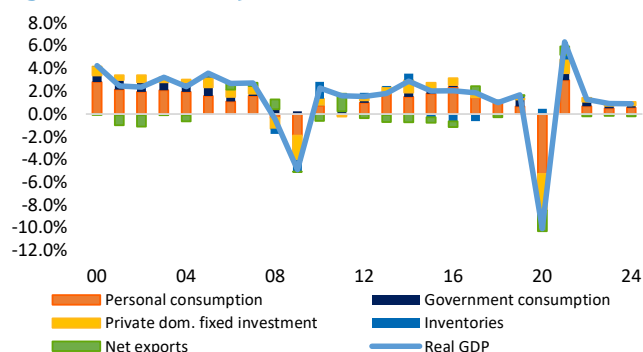
Growth going forward

The outlook for UK growth is likely to be driven by two factors. Firstly, there is the shorter-term effect of a recovery from the Covid-19 crisis and secondly, the longer-lasting effect of leaving the European Union.

The fall in UK GDP in 2020 is expected to be larger than those of the Eurozone and the US. Despite that, we expect the recovery to be shallower due to Brexit-induced uncertainty.

The rebound will depend on, among other things, the success of the furlough schemes in limiting job losses. At their peak, these job retention schemes covered 30% of all workers but employers will increasingly have to bear a larger share of wages. If employment support is withdrawn too quickly (ie, before demand has rebounded), it is likely to result in a sharp increase in permanent job losses. In any case, a further rise in unemployment is unavoidable; many sectors have been hit hard and a significant share of the labour market is self-employed with little job security.

Figure 1: UK GDP composition



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management as of August 2020

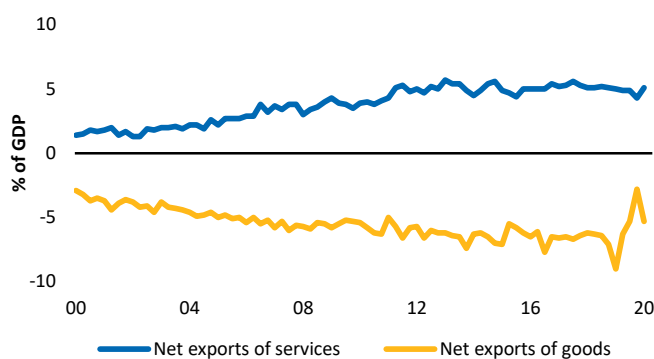
Brexit deal expected

Since the Brexit referendum, the EU and the UK have been locked in negotiations. Initially, the discussions involved the separation agreement, followed by the transitions period and finally the shape of the future arrangement. The UK officially exited the EU on 31 January 2020, ending its 47-year membership of the European Union. The withdrawal agreement leaves most EU rules in force during the 'implementation period' which lasts until 31 December 2020. The agreement stipulated that an extension of the implementation period could have been requested before 1 July 2020, but this option was not taken by the UK government. As such, the EU and the UK will need to find a new arrangement. If they fail to agree a deal, the UK will be categorised as a 'third country' according to EU rules, which would imply that it is no longer part of the single European market or many other EU arrangements.

There remains a small probability that the UK will request an extension during the transition period, however we believe it will exit with a deal. A 'no-deal' scenario is in no one's interest and we have already seen both sides move from the 'red' lines of negotiations. In terms of trade, we expect the deal to focus on arrangements surrounding trade in goods and less so for trade in services. By their nature, services are more complex to negotiate; a smooth trade in services requires regulatory alignment, which is clearly a sticking point.

This is a risk to the UK economy, as it is more service dependent. This can be seen, for instance, in the trade balance (see graph below). The UK's balance in goods is strongly negative at around 5% of GDP, while the balance in services is positive at 4% of GDP.

Figure 2: Net exports of goods and services



Source: Bloomberg, Aegon Asset Management

The EU remains the UK's largest export market, so any increase in restrictiveness will have implications. After Brexit – whether there is a deal or no deal – there will be a fundamental shift in the trading relationship with Europe and it will not be a smooth one. Other countries' trade deals with the UK appear non-urgent from their perspective; a trade deal with Japan seems to be gaining little traction, while the US will begin talks after its presidential election.

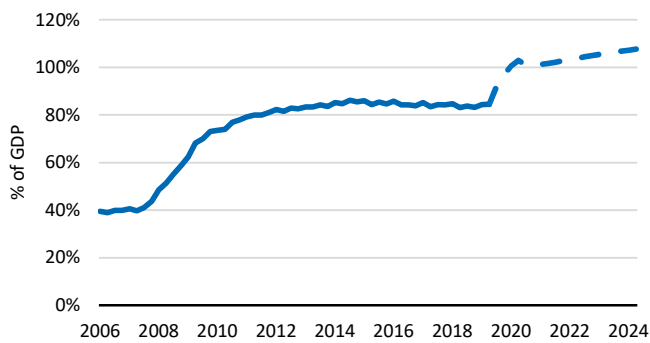
Overall, most economic studies estimate that the longer-term economic cost of Brexit, assuming a Free Trade Arrangement, is between -8 to -3% of GDP, while a 'no deal' Brexit would result in an estimated -9 to -4% impact relative to staying inside the EU.

We estimate that the impact on the UK economy has already been around 2% of GDP, leaving a further impact in the range of -7 to -1%. This impact is likely to be spread out over several years. It may not be immediately evident in annual GDP figures, given there are many other factors impacting GDP changes. Most likely, the actual full impact can only be estimated with a reasonable level of confidence in one or two decades from now, particularly after the fall-out from the coronavirus pandemic.

Fiscal stimulus to cushion the fall

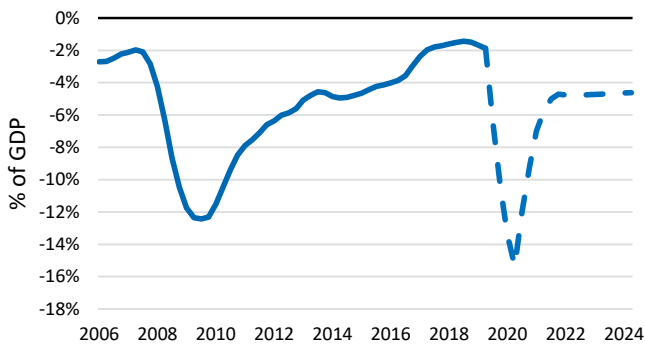
The UK government has implemented many measures to cushion the lockdown-induced blow to the economy. These include job retention schemes, VAT cuts, stamp duty cuts and loan guarantees. At the height of the crisis, around 30% of all workers were covered by a job retention scheme. As a result, the fiscal deficit is projected to increase to around 15% of GDP in 2020 and to remain high in later years. Debt-to-GDP will rise above 100%. This is high, but still manageable due to low borrowing costs. The high debt level and relatively high deficits in later years, make it less likely that government rates can be persistently positive going forward.

Figure 3: UK Government debt to GDP



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management

Figure 4: UK budget balance



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management

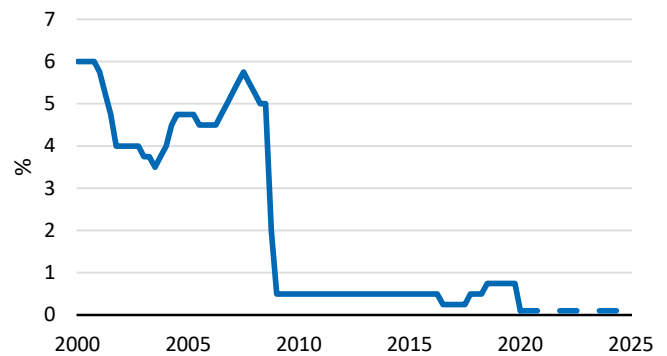
Short-term disinflationary pressure

Elevated unemployment, spare capacity and VAT cuts are reasons to expect inflation to decline initially. We expect sterling to depreciate due to the impact of Brexit, which is likely to lead to a small pick-up in (imported) inflation in later years. Overall, we expect inflation to remain below the Bank of England (BoE) target.

Bank of England: Accommodative while avoiding negative rates

Our expected tepid recovery in growth and sub-target inflation outlook would imply that the BoE will stay highly accommodative, and therefore we expect it to keep rates at current levels. The perceived negative consequences of cutting rates into negative territory would imply no further cuts. We do expect, however, a top-up of the QE programme as the current size is insufficient to absorb the new supply of government debt. The BoE will want to avoid a significant rise in longer-term yields as a consequence of increasing supply.

Figure 5: UK BOE Bank Rate (dotted line is forecast)



Source: Aegon Asset Management, Refinitiv 2020-2024 Projections provided by Aegon Asset Management

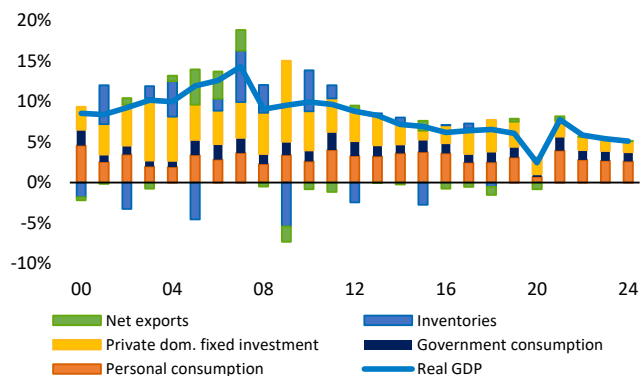
China: The elephant in the room

The Chinese economy has experienced astonishing growth since the introduction of economic reforms in 1978. It has become the second largest economy in the world, the largest in terms of manufacturing and its exports now account for around 12% of global exports. The country's economic growth has lifted hundreds of millions out of poverty and has led to unprecedented growth of the world's middle class.

The success of the Chinese economy has been built upon a command and control economic model, which started with stimulating low added-value manufacturing and has steadily moved up the value chain. After the financial crisis, it stimulated tertiary sectors and internal demand, as the marginal return on investment and export-led growth steadily decreased.

In the absence of a second COVID-19 wave and widespread lockdown, the Chinese economy is likely to pick up strongly in the second half of 2020. The economy will be supported by a heavy dose of fiscal easing, especially through infrastructure investment, and monetary policy is being eased through multiple channels. While the rest of the world recovers gradually, growth in China will mainly depend on the recovery of domestic as well as external demand.

Figure 1: China GDP composition

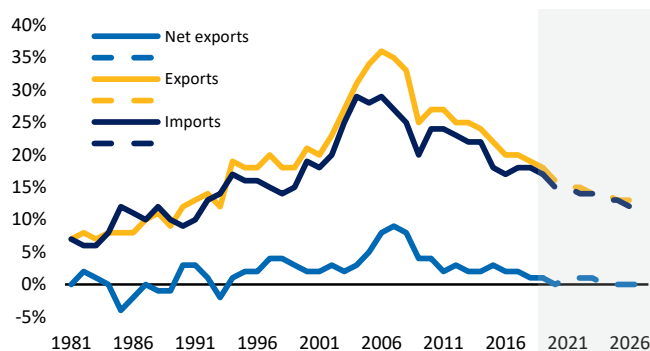


Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management, as of August 2020

Trade, decoupling or recoupling

Before it was admitted into the World Trade Organisation (WTO) in 2001, Chinese trade had already been growing rapidly. As highlighted in Figure 2, gaining entry to the WTO further boosted the share of trade relative to GDP. During the financial crisis, China implemented a large stimulus programme to cushion the fall in external demand. In absolute terms exports kept growing, but relative to GDP they started to fall. We expect this decline to continue, which will have profound implications for the world economy and for the Chinese economic outlook. There are two main reasons for this: firstly, China will become less dependent on the outside world, which is one reason why it can likely cope with a further escalation of the trade dispute with the US. Secondly, China can become more assertive as it decreases foreign dependencies.

Figure 2: Chinese imports and exports as a % of GDP

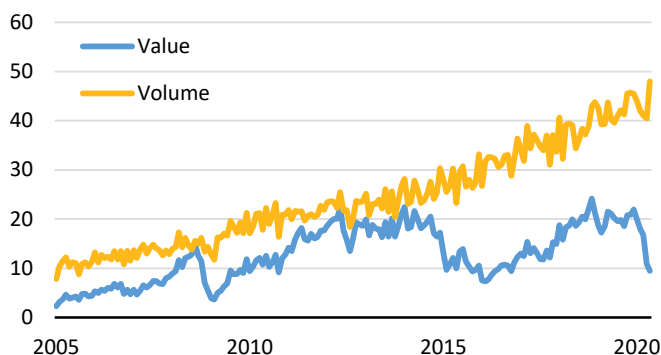


Source: Aegon Asset Management, Bloomberg Projections provided by Aegon Asset Management (As of Jul-20)

Looking at recent data, trade has clearly fallen as the world continues to struggle with the Covid-19 pandemic. Chinese domestic demand still seems relatively robust as can be seen in Figure 3. This shows that the volume of oil imported is actually still rising steadily, which suggests the economy is still growing. However, the value of these imports has fallen as prices of energy have declined. As China is a net importer of energy, this will benefit its current account and growth.

China's economic recovery is boosting export and import growth. The demand for general consumer goods has narrowed, especially with exports to the ASEAN region. China's imports in US dollar terms have also turned positive and accelerated among trading partners. One area that has positive benefits is in commodity-exporters to China. The recent resumption of refining has driven up domestic demand for crude oil. The recent OPEC+ agreement between Russia and Saudi Arabia has also helped energy technicals and support the recovery in crude oil prices. Despite the ongoing trade and national security tensions between the US and China, recent trade data demonstrates that China's imports from the US have jumped, as the implementation of the phase-one trade agreement may have accelerated.

Figure 3: Chinese import of crude oil in value and volume



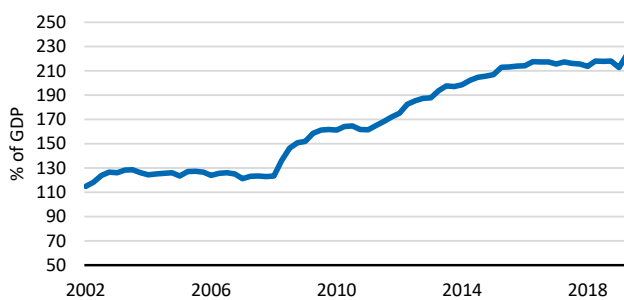
Source: Aegon Asset Management, Bloomberg as of May 2020

The trade dispute with the US has led to the transfer of some low-cost production to developing Asian countries. However, the scale and breadth of the Chinese manufacturing base will be very hard to replicate. Chinese supply chains serve a large part of domestic and non-US foreign demand. Exports to the US account for around one-fifth of total exports. This is certainly not negligible, but it is unlikely to be sufficient to drastically alter higher added-value supply chains. Also, due to the rise of wages within China, it is already outsourcing lower-cost production to other countries for its internal demand. China is still dependent on US technology in some specific sectors – for example advanced semiconductors. It is trying to address this by investing heavily in R&D, but it is likely that further trade spats will involve these products.

Debt – the Chinese Achilles heel?

China weathered the financial crisis much better than many other economies. It achieved this by investing heavily to counter the fall in external demand. The result has been a sharp rise in debt levels in the corporate state-owned enterprises (SOE) and government sector. The Covid-19 pandemic will further increase debt levels.

Figure 4: China credit as percentage of GDP



Source: Bloomberg, Aegon Asset Management as of July 2020

Many economists have therefore predicted China will suffer a credit crunch. So far, this has not happened. The main reason for this is that in a command and control economy the government can prevent a credit crunch by steering bank lending. However, as China is moving fast to a market-led economy, this will be increasingly difficult to maintain. If private markets assume responsibility for credit supply, it might entail a more efficient allocation of capital, but it comes at the cost of the occasional credit contraction. We therefore expect that Chinese policy makers will only gradually open up financial markets, in order to gauge its impact.

Opening the capital account

The Chinese yuan (CNY) remains regulated under the capital account. This basically means that Chinese domestic investors are not allowed to freely purchase foreign assets, while non-Chinese investors cannot invest in Chinese assets. In recent years, the policy has been to open up the capital account in small steps. For instance, several 'stock connect' programmes have been set up, which allow some foreign participation in Chinese domestic markets. Similarly, 'bond connect' programmes are in operation, which do the same for the fixed income market. China's aim is for the yuan to become

an international reserve currency. To achieve this, it will need to open the capital account further such that foreigners can hold their assets in domestic CNY-denominated assets.

International use of CNY remains low as the US dollar remains the dominant currency in international trades, cross-border payments, and international reserves. On October 1, 2016, the IMF officially included the CNY in its special drawing right (SDR) basket as a fifth currency, with a weight of 10.92%. However, the economic slowdown since 2017 and tightened restrictions on capital outflows has slowed the pace of internationalization of the CNY. To encourage the use of CNY globally, China has announced further opening of its financial markets and reduced control on capital accounts. The removal of ownership restrictions of foreign capital on financial institutions is a promising step, which will lead to strengthening confidence in the CNY.

Investment implication

The gradual opening of the capital account implies that investors will have more opportunities to invest in China. Inclusion of Chinese equities and bonds in benchmarks is likely to drive more foreign participation.

Apart from being able to invest domestically, the expected economic growth will support companies exposed to China. A further increase of the middle class will boost demand for travel, leisure and luxury products.

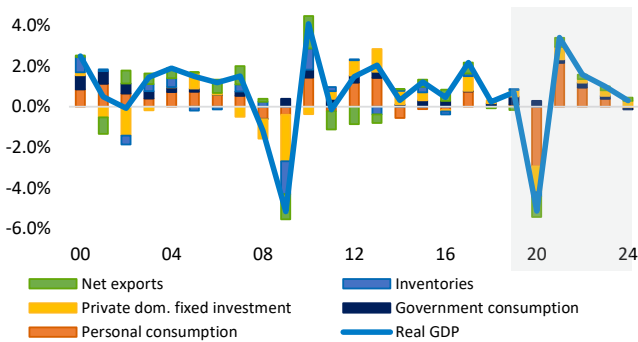
Marginal economic growth will become less capital and commodity-intensive. Demand for oil, iron ore and copper, which are China's most important commodities, is likely to grow slightly slower. Growth in capital goods imports is also likely to be softer.

We believe that sectoral divergence will be a significant investment theme. The government's fiscal stimulus - as well as strengthening global demand – offers support to the manufacturing sector. Domestic demand patterns will also change as consumer spending on pent-up demand for automobiles, domestic tourism, and smartphones provide additional upside. The current macro-environment in China points to slowing, below-trend GDP growth over time, large fiscal and accommodative monetary policy stimulus, and high credit growth. This backdrop could lead to an overheating in the real estate sector.

Japan

We expect real GDP growth in Japan to be only marginally positive from the start of 2020 to 2024. Japan has handled the Covid-19 pandemic relatively well, resulting in a shallower fall in activity in 2020. As is well known, ageing is a headwind for the Japanese economy. Working age population is set to shrink by almost 1% per year. Japan has been quite successful in offsetting this decline by increasing productivity and by drawing more people into the labour force. This has also been driven by reforms implemented under Prime Minister Abe, also known as 'Abenomics'.

Figure 1: Japan GDP Composition



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management as of August 2020

Abenomics: partly effective, but what's next?

Since taking office in 2012, Abe has become the longest serving prime minister in Japanese history. He has tried to transform the Japanese economy as it has struggled with low growth and deflation. So what is the net effect of these reforms so far? And what can we expect going forward?

The results of Abenomics have been a mixed bag. Aggressive monetary easing by the Bank of Japan (BoJ) under governor Kuroda hasn't resulted in inflation reaching its target of 2% (it was increased from 1% in 2013). On the fiscal side, Abe raised the relatively low VAT level in two steps from 5% to 10% currently. As a result, government receipts have been on a steadily rising trend.

Abenomics has been successful in increasing the labor force. Female participation has increased markedly while the participation of older people has also risen. On the last point, it is hard to verify whether this is due to Abenomics or economic necessity.

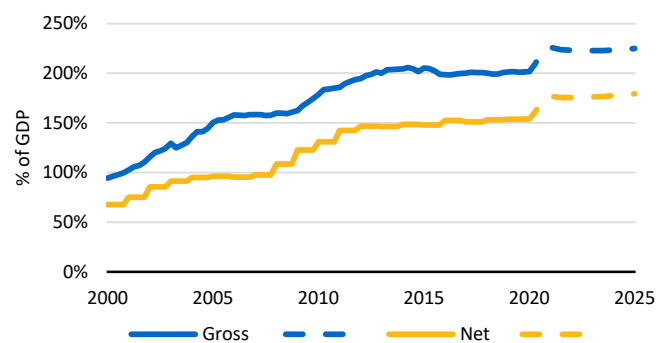
Going forward more will need to be done to compensate for the declining workforce and ageing population. In particular, reforming the pension and healthcare system is required to ensure longer-term sustainability. Raising retirement ages and encouraging higher labor participation by elderly people, will also be needed. Boosting immigration could be another solution. It has already increased slightly but it remains low compared to many other developed countries. Apart from increasing the supply of labor, reforms focusing on productivity enhancements will be key. One of the challenges is to reform Japan's rigid labor market to allow for a better allocation of human capital.

Japanese policymakers are well aware of the challenges ahead. We expect that they will be able to reform enough to offset the effect of ageing. Japan's percentage share in the world economy is, however, set to continue its declining path from 18% in the early 90s to only 3.5% in 2024.

Bank of Japan 'pushed' into a corner

Japan's debt-to-GDP level has hovered around 200% of GDP since 2014 but it is now set to increase by another 25% due to the Covid-19-induced spending spree. Subtracting financial assets, primarily Japanese government bonds, held by local governments would give a better picture of the actual debt load. But this still amounts to an impressive 155% of GDP, which will rise to almost 180% in 2024. So far, inflation has not responded significantly to either a very tight labor market or the very accommodative stance of the BoJ. If that remains the case, it is very unlikely that interest rates can rise without jeopardizing debt sustainability, and therefore economic prospects. We firmly believe, interest rates will remain low and the BoJ will continue its policy of controlling the yield curve. It is likely that QE purchases will be substantially reduced into 2021, as government funding needs normalize, and therefore Japanese government bond markets will require less support from the BoJ to maintain 10-year rates around zero.

Figure 2: Japan Net and Gross Government Debt



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management, as of December 2019

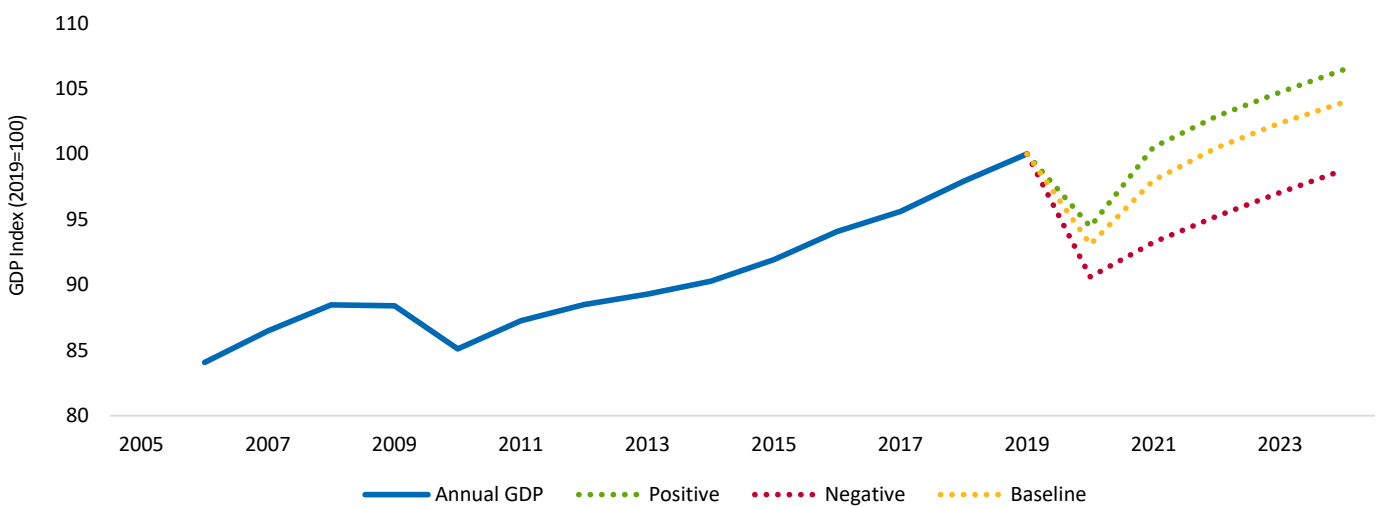
Japan is often used as a precursor for Western economies. We don't fully agree with that thesis, but in terms of central bank policy and government debt it seems a fate which is increasingly hard to avoid.

Risks to our baseline scenario

“Forecasting is very difficult, especially if it’s about the future”. This quote from physicist Niels Bohr applies at all times, but it is especially relevant this year.

Clearly, the economic impact of the Covid-19 pandemic will depend on medical solutions and how quickly these can be employed. At the same time, the responses of governments are vitally important in containing the spread and in limiting more permanent economic damage. How households and businesses respond is also key to the future growth path. Will they quickly resume consumption and investment patterns, or will they delay action due to uncertainty about their economic prospects?

Figure 1: Economic scenarios



Source: Aegon Asset Management, Bloomberg, IMF, Refinitiv. Footnote: Based on our outlook for developed markets. 2020-2024 Projections provided by Aegon Asset Management as of August 2020



Negative scenario

In the negative scenario shown in the graph above, growth could easily surprise on the downside in the short term if new and stricter containment measures are again needed. If vaccine deployment is postponed it could also lead to a second hit to the economy. Fiscal and monetary support is already at its maximum capacity, so a second blow will be harder to cushion with support mechanisms.

In the medium to longer term, the rebound will more depend on the level of scarring the economy has suffered. It will also depend on whether the sharp rise in unemployment proves to be longer lasting and if consumers and businesses are unwilling to spend.

Furthermore, the premature withdrawal of government support could have adverse economic effects. If that was the case, a retrenchment in income transfers would reduce the ability and willingness of the private sector to support the economy. Data from previous crises shows that the shift in household attitudes and their levels of uncertainty can endure for quite some time.

In a negative scenario we mainly expect the rebound to be much shallower compared to our baseline scenario (also shown in the graph above). It is likely the economy will recover from the trough seen in the second quarter of 2020, simply because economic activity was much more restricted by the lockdowns. In a negative scenario, we expect the level of GDP to remain well below the pre-Covid-19 levels and not to return to these levels before 2025.

In this scenario, central banks will be forced to provide even more stimulus by increasing their purchase programs. It is likely that some central banks will introduce measures that were deemed impossible only a few years ago - like negative rates and purchases of equities.

Lessons from the 2008 financial crisis have shown policy makers that a deep recession requires a very accommodative monetary policy stance for a long period. Basically, the interest rate at which monetary policy is neither accommodative nor contractionary (the neutral interest rate) will be much lower after a deep recession. In the current scenario, many central banks already operate at their lower bound. Real interest rates therefore can't be made sufficiently low, requiring instead more non-conventional measures and a more prolonged period of low rates to achieve the desired accommodative effect.

As a result, sovereign yields will decline even further, but spreads and defaults would be materially higher. In the event the economy suffers for an extended period, it seems likely that corporate profits will be lower than expected, causing equity markets to fall significantly from current levels.

Given we expect a relatively speedy recovery in our baseline scenario, the risks are more skewed to the downside. We therefore attach a relatively high probability of 30% to the negative scenario materializing.

Positive scenario

A speedier global implementation of a medical solution to the Covid-19 pandemic would clearly be the main driver of the more positive scenario highlighted in the graph.

The speed and size of fiscal and monetary response to the pandemic has also been one of the key differentiators in this crisis compared to others. And the effect of this response could surprise on the upside. This has prevented a sharper fall in output, but the exact effects are still unknown. If it proves to have prevented a structural fall in spending and confidence, then it could result in a more positive scenario as the private sector quickly resumes its previous patterns.

In the longer-term, the crisis could drive a productivity boost. Many companies and employees have been forced to adopt new technologies to work remotely effectively. This could lead to a rise in productivity as time is being spent more efficiently by not commuting or conducting business travel. Moreover, labour resources could be used more efficiently as the location of the employee's home is less of a restriction. The same goes for capital, which can be spent more productively as it will be used less for offices, roads and cars.

In this scenario, we foresee a strong and swift economic recovery. On that basis, the adverse economic effects are likely to be limited and little structural damage will remain. Sovereign yields could start to rise, while spreads and defaults decline, resulting in a decent return on credits. Equity markets in particular will thrive in such a scenario.

Overall, a productivity boost in the long run is a possible consequence. However, we believe a more positive outcome compared to our baseline scenario is less likely, and consequently we only assign a 10% probability to the positive scenario. The natural reaction of the private sector to any crisis would be to retrench. Also, the spread of the virus and the resulting implication for economic activity have taken most of the year. Many companies and households will, despite government support, not have enough of a financial buffer to maintain spending or even to remain in operation. So some level of scarring is likely, which will prevent a quick recovery. We therefore attach a low probability of 10% to this scenario.

Chapter 3

Financial markets

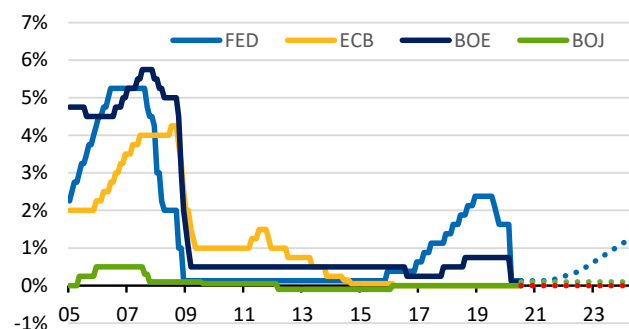
Government bonds

At a speech in London on 26 July, 2012, Mario Draghi – at that time the president of the ECB – gave an overview of the eurozone economy. The eurozone was in the midst of a sovereign debt crisis and interest rates on lower-rated European sovereign debt had reached alarming levels, threatening the stability of the region. In an attempt to restore confidence Draghi addressed a group of international investors. He then made the momentous remark “Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.”

That statement was a true game changer. From that moment onwards the eurozone bond market stabilized. More importantly, the statement was an assurance of central bank intervention when financial market stability was at risk. Since then, the “whatever it takes” mentality has been adopted by many central banks. This year, when markets are facing many uncertainties, central banks are again doing whatever it takes and are fulfilling their function as lender of last resort. All over the world, central banks have taken a highly accommodative monetary policy stance through policy rate cuts, asset buying programs and other measures to facilitate liquidity in financial markets. This “whatever it takes” mentality has resulted in synchronized accommodative monetary policy and has many implications for sovereign bond markets.

Our outlook for government bond markets is relatively straightforward. We expect interest rates to remain low and therefore returns will also be very low in the coming years. This stems primarily from the policies from global central banks as mentioned above. We believe that central banks will remain in the “whatever it takes” mode in the coming period, which is needed because governments and companies need low interest rates to finance their high debt levels. At the same time, we expect it will take several years for the economy to recover and inflation expectations to pick up. In the meantime, we foresee little incentives for central banks to normalize their stance.

Figure 1: Monetary policy



Source: Bloomberg, Aegon Asset Management 2020-2024 Projections provided by Aegon Asset Management as of August 2020

Other considerations that are at the basis of our outlook are the continuous appetite for safe assets from the investment community. We believe demand for safe assets will remain, given the uncertain economic outlook. At the same time, regulations require some investors to hold assets of the highest quality. Other considerations are the expected level of issuance and inflation; both of these factors could put upward pressure on interest rates, but we expect these effects to be limited. We expect a period marked by an abnormally high amount of new bonds issued but there should be sufficient demand to absorb the issuance without much impact.

Inflationary pressures, therefore, should remain subdued as long as economic slack persists whilst the economy is in recovery mode. The low inflation environment allows central banks to keep doing “whatever it takes”.

In our basis scenario we foresee the US Fed maintaining the policy rate near zero in the near future, and a gradual lift thereafter. Any increase in the rate, however, will be very much a removal of the “emergency cuts” implemented during the coronavirus crisis, and not based on inflation or growth overheating. Our expectations for the 10-year US government bond yield is around 2% by the end of 2024, which means a gradual increase in US bond yields. On this basis, for the coming years we expect relatively low Treasury yields and returns by historical standards.

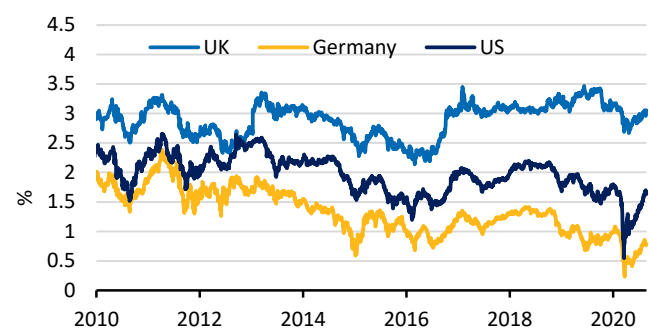
For the eurozone, we expect very accommodative monetary conditions for the coming period. We think the economic uncertainty and the need for structural convergence across eurozone countries requires a sustained period of low interest rates. The weaker and more indebted Eurozone members cannot cope with higher rates. Specifically, we anticipate policy rates in the eurozone to remain unchanged for the full forecast period that ends in 2024. With short-end rates strongly anchored in negative territory, it leaves little room for longer-term interest rates to rise. In our basis scenario the 10-year German sovereign bond yield will remain negative in the forecast period.

Our outlook for the United Kingdom is roughly similar. Financial markets indicate that the policy rate is expected to remain near the zero bound for years to come. We have a similar view, as we believe the Bank of England will pursue a supportive monetary policy and keep policy rates unchanged. This will keep interest rates across the yield curve relatively low.

In Japan too, it seems that there is little incentive for the Bank of Japan (BoJ) to change its policy. Price pressure will remain weak in our forecast. Regular market interventions by the BoJ and the yield curve control policy effectively sets the 10-year government yield at approximately 0%. We expect the BoJ to continue this policy to support economic growth and restore inflation. Our view on rates in Japan, therefore, is that short-term levels will remain anchored just below zero and that long-term levels will be only marginally higher than they are today.

Our return expectations for government bonds are relatively low compared to historical standards. We believe the return prospects for sovereign bonds – via income or capital return – will likely be low in the coming years. There are other important factors that should also be considered. We believe that sovereign bonds still have favourable diversification benefits in long-term investment portfolios. Government bonds still have the ability to outperform risk assets in times of economic headwinds, despite the lower interest rates. Another important factor is the level of volatility within sovereign bonds. Due to low yields, governments tend to issue low coupon bonds with long maturities. This results in a higher level of duration on a typical government bond, making these assets more sensitive to interest rate changes. That said, we expect this effect to be dampened by central bank intervention in the market, which in turn has a strong dampening effect on volatility.

Figure 2: 10 year breakeven inflation rates



Source: Bloomberg, Aegon Asset Management as of August 2020

From the pricing of inflation protected bonds relative to standard sovereign bonds, the breakeven level of inflation can be calculated. Especially in the US, but also Germany, these levels dropped quickly in March, but have since been recovering. The German levels are however still materially lower than the ECB inflation target. Although pricing is influenced by market liquidity, it signals lower average inflation expectations for the coming years in the Eurozone, or, put another way, it does not take much inflation to have German inflation protected bonds outperform regular, nominal bonds. In the UK, regulations create more demand for inflation linked investments and a much higher inflation rate is needed for inflation protected bonds to outperform.

Corporate Credits: Liquidity solved; all eyes on solvency

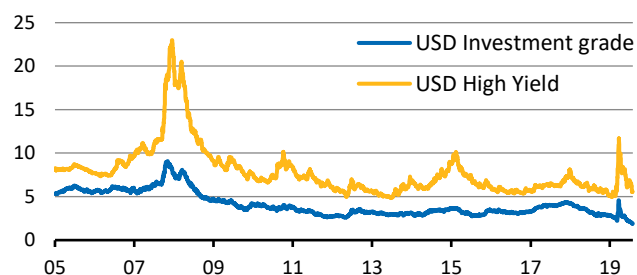
Yield spreads on corporate bonds (the additional yield offered by corporate debt compared to government debt) rose sharply at the start of 2020, as the coronavirus pandemic took hold. Since the peak in spreads in March, the improvement in credit markets has been just as staggering.

The improvement is partly due to sizeable central bank intervention; both the ECB and the FED are buying large quantities of corporate debt. The lack of liquidity experienced in the initial phase of the crisis, is therefore less likely to return. However, that does not imply that credit markets are completely out of the woods. The Covid-19-induced hit to earnings comes at a moment when corporates already have elevated leverage metrics. Leverage will increase sharply as many companies need additional funding to bridge the recessionary period. We believe the primary risk for corporates is therefore not a lack of liquidity but a solvency issue.

Another feature of this crisis has been the sharp fall in US Treasury yields. As a result, yields on US investment grade corporate debt are at historical lows despite decent spread levels. Similarly, yields on high yield debt are close to historical lows. All-in-all, this implies lower return potential in the future compared to history, despite a decent pick-up versus government debt.

Figure 1: Yield in USD corporate bond markets

In percent



Source: Aegon Asset Management, Bloomberg Indices: Bloomberg Barclays US Agg. Corporate and Bloomberg Barclays US Corporate High Yield as of August 2020

Investment Grade

We expect the ECB to keep buying corporate bonds for its Pandemic Emergency Purchase Programme (PEPP) and Corporate Sector Purchase Programme (CSPP), which will take the bank's holding up to around €300bn - an incredible 30% of the eligible universe. Similarly, the US FED is buying corporate debt as part of its \$750bn emergency lending program.

Central banks have significantly intervened in government bond markets via their QE programmes, which has made government bonds more a policy tool than a freely functioning market. This dynamic increasingly applies to the investment grade corporate bond market as well. In our view, this is likely to cap spread widening in the near future.

Companies have used the first half of 2020 to issue bonds to help ensure they have sufficient liquidity to weather the Covid-19 fallout. Going forward we expect issuance to slowdown as this immediate need dissipates.

Corporate liquidity is therefore no longer as much of a concern as solvency is. Leverage metrics on both sides of the Atlantic have increased steadily during the past years. The Covid-19-induced hit to revenue has resulted in a further spike in leverage metrics, especially in the more cyclical sectors such as industrials and oil & gas. In response, rating agencies have increasingly downgraded companies. We believe this is likely to continue as downgrades tend to lag the economic cycle.

As all eyes are on solvency, the market is generally rewarding those companies that can weather the crisis. The bifurcation within credit is therefore large. Travel and leisure sectors are typically still exhibiting wide spreads, while sectors like utilities or tech-related areas are closer to historical tight spreads.

From a return perspective we are mildly constructive on investment grade. We think the current spread compensates investors sufficiently for downgrades, which we expect in our baseline economic scenario. Total returns will clearly be lower in future than historical averages, as sovereign yields have plummeted to new lows.

High Yield

High yield is in the middle of the third major default cycle since the start of the millennium. Despite some support from central banks, the overall demand picture for high yield is much less rosy than for investment grade. That said, the yield spread compression in investment grade due to central bank policy invariably also pushes down the credit curves in the high yield part of the index.

Issuance in the US has been much higher than in Europe. This is partly a result of the support of the FED, which has made investors more willing to finance this issuance. Also, companies in Europe have drawn down RCF (Revolving Credit Facilities), increased bank loans and benefited from various government schemes to a greater extent.

Going forward, issuance might pick up as it is currently cheaper to issue bonds compared to loans, due to the sharp repricing in the CLO market. On the other hand, merger and acquisition activity is likely to remain suppressed, removing one source of supply.

In our baseline scenario we expect the speculative grade default rate to peak at around 9% in 2020. However, around half of these defaults have already taken place in the first part of the year. The default experience between the US and Europe is likely to be different. The US index (Bloomberg Barclays US High Yield) tends to be more heavily exposed to the energy sector, which partly accounts for its elevated default rate of over 6% (As of Aug-20), while defaults in Europe have been around 2% to-date. Looking ahead, we expect the gap to narrow, but to remain in favour of European high yield.

In keeping with other asset classes, the high yield market is bifurcated into two parts. One part is fairly resilient to the Covid-19-induced crisis and is trading at historical tight spreads. The other part is primarily made up of sectors more directly impacted by the crisis, which are trading significantly wider in spread terms. When there is a medical solution or when normal economic activity resumes, this troubled part of the market should rally back to more normal levels. We expect this outcome will result in attractive total returns in the coming year.

Typically, US high yield investors have been unwilling to push yields much below the 5% handle. We think US high yield is likely to remain around that level in the coming years. However, as we expect Treasury yields to rise, we think spreads have the potential to tighten further.

Going forward we expect very similar returns in both euro and US dollar high yield markets overall. Spreads should tighten gradually, while defaults will be concentrated in 2020 and 2021. Typically, the default experience following a crisis is low compared to averages, resulting in decent returns in later years.

Corporate credit issuance

Coming into 2020, most expected IG corporate bond supply to be flat to down 10% versus 2019. That thinking changed abruptly as coronavirus fears spread. Many companies drew down their revolvers and pulled cash from money market funds as a precautionary measure, then out of necessity as the economy shut down and capital markets fell into disarray. The Fed's foray into credit markets was the turning point that opened the flood gates for corporate issuers. What first started with higher rated blue-chip companies, was shortly followed by BBB issuers looking to shore up liquidity and repay revolving credit facilities that were drawn down in March. Although mutual fund outflows reached record levels of their own, recessionary spread levels not seen since the Financial crisis drew insatiable demand both domestically and from overseas. Syndicate desks were able to build massive orderbooks, which lead to significant spread tightening and gave issuers the confidence to come to market. Many companies issued multiple times. In the heart of the crisis, the IG credit market was printing what was typically a monthly amount in a single week. Records were set for most issuance in a day, week, month, and quarter. Industrial companies looked to raise cash to offset EBITDA declines and fund operations, while Banks issued to fund balance sheet growth.

- 1H20 IG corporate bond issuance broke records with \$1.18trln of issuance, ~2x the amount issued in 1h19 and more than full year 2019.
- Non-financial issuance was up 109% vs the same period last year, while financials issuance was up 69%
- In the heart of the crisis (Mar-May) the IG credit market printed \$769bln vs \$265bln over the same period the prior year
- Drastically lower rates also played a part in the surge of issuance, which lead to a larger percentage of issuance out the curve. JPM data has the average maturity at 12.8yrs vs 11.8yrs last year. Duration of the BBG Barclays credit index has extended from 7.7yrs to 8.3yrs in 1H20.
- BBBs made up a similar percentage of issuance as 2019. The largest increase came from the A- cohort. Single A portion of the index went up from 36.15% to 38.59% from YE 2019 to 1H 2020 while the BBB portion went down from 46.58% to 44.89%

What does this mean for the remainder of the year? Many believe a lack of issuance the balance of the year will be a nice tailwind for the market. We agree that issuance trends will help market technicals the balance of the year, but we still believe the primary calendar will remain active. With cash needs already at comfortable levels, many companies will shift their focus to capitalizing on record low yields. We believe the remainder of the year will be filled with issuance related to tender offers that will be leverage neutral while at the same time lowering coupons and extending maturities. So, while gross issuance will continue to ramp up, net issuance will fall off dramatically.



Green bonds

Green bonds finance projects that combat climate change and improve the quality of the environment. They tend not only to cover wind and solar parks, but also projects aimed at improving water quality, countering the effects of global warming, and making cities more sustainable. Green bonds are a relatively new product in financial markets with several organizations continuing to work on defining the criteria that qualify bonds as green. In our opinion, The 'Green Bond Principles' are currently the most important standard. We believe that green bonds represent an interesting investment solution for institutional investors who have embraced climate change goals and sustainability.

Within an institutional investor's portfolio, green bonds can serve as part of the matching portfolio for helping to reduce interest rate risk – an important benefit. However, there isn't an agreement yet among investors about potential returns from this category compared to traditional bonds. Some investors still question why companies and governments would issue green bonds if this does not, in general, represent a cheaper source of financing. We think that by issuing green bonds a company shows an explicit commitment to the environmental projects that are financed by these securities. The fact that green bonds also support the company's image may also play a role to some extent. A careful selection process is essential for an investor. It is only possible to form an opinion about the quality and green character of a bond when you have a good overview of a company's corporate social responsibility credentials. But even this offers no guarantees. This is why setting clearly defined conditions for portfolio inclusion are so important. It helps decrease the chance that a green bond will turn out to be less green than expected with the associated negative publicity.

We have observed that, on average, green bonds can offer as good a return as traditional bonds with a comparable risk profile. When looking closer at yields and spreads, we conclude that there is almost no difference between green bonds and other corporate bonds with similar characteristics. In our view, returns should not, therefore, be a reason to avoid investing in green bonds. One downside is that the market for these bonds is not yet very broad. This is developing rapidly, however. In fact, there are currently enough interesting green bonds available to build a well-diversified green bonds portfolio next to a traditional corporate investment grade portfolio. One of the actions coming from the European Green Deal is to make it easier for investors to identify sustainable investments and ensuring that they are credible, potentially giving a further boost to green bonds issuance. Opportunities could arise for investors to invest in green bonds of companies in currently under-represented sectors as well.



Emerging Market Debt

We remain mildly constructive on emerging market debt in the near-term. However, the strong spread tightening since the peak in March 2020 brings the balance of risks to a more even position. While China seems to have contained the coronavirus, the rise in infections in several emerging markets could force the resumption of widespread lockdowns and restrictions, placing the prospects of economic recovery in jeopardy.

Emerging market investors are entering the second half of the year with a significant retracement in spreads and positive momentum despite the twin uncertainties of the Covid-19 pandemic and global growth outlook. In the near-term, the severity of the health crisis, offset by “whatever it takes” monetary and fiscal stimulus in developed economies (with additional support from the IMF and China’s V-shaped economic recovery), will likely determine the performance of emerging markets assets. After posting a sharp decline of 6.8% in the first quarter of 2020, China’s economy expanded 3.2% in the second quarter, which was better than expected (consensus 2.4%). Despite this positive outcome, private consumption and business investments have remained weak during this sharp V-shaped quarterly recovery in China. Nevertheless, Asian-linked economies and commodity producers stand to benefit in the near-term from a resumption in China imports. China’s PMI is solidly above 50 and manufacturing activity appears to have continued its steady recovery. However, deflationary pressures have not abated and point to continued monetary policy easing by the PBoC. The Chinese central bank is expected to cut the reserve requirement ratio (RRR) by 50 basis points and an additional 30 basis points reduction in the one-year loan prime rate (LPR) during the rest of the year.

In a low, core yield environment and lighter investor positioning, we believe emerging market debt can continue to recover from the sell-off experienced in the first quarter of this year. Despite the strong performance in the second quarter, we see reasonable valuations and supportive technicals within the speculative-grade segment of hard currency emerging market debt. The resumption in global economic activity will support further compression in emerging market sovereign and corporate credit spreads. Local currency bonds will likely remain sensitive to the movements in foreign exchange rates, which have depreciated as emerging market central banks have rapidly eased policy rates domestically. More recently, emerging market currencies have stabilized and could benefit in a weaker dollar scenario. Policy support to assist the global economic recovery, and promising treatment and vaccine developments will support global macro sentiment and emerging market assets. As we approach the US presidential election later this year, escalating tensions between US and China could weigh on emerging markets.



Alternative Fixed Income

What is alternative investing?

Many investors think of alternatives or alternative investing as a single asset class or strategy. However, this is certainly not true. There are many different characteristics and features which distinguish different asset classes or strategies within the alternatives space. And of course there are some features which they all share. They can provide access to additional sources of return, broaden diversification opportunities, and provide risk exposures that have a lower correlation to an existing investment portfolio. As such, they can be used as complements or substitutes.

There are, however, common misconceptions about risk within alternatives. This can be mainly attributed to hedge funds, which have often been seen as an alternative asset class. Hedge funds have been perceived as an investment with fixed income risks and equity-like returns, but this did not hold true during the credit crisis. At the same time, a single definition of alternatives is difficult to make. We specifically want to explore the role of alternative fixed income in portfolios and the show different examples of the unique characteristics that this asset class can provide.

Diversification and portfolio construction

Prior to the financial crisis of 2008, diversification was often achieved by, for example, simply adding high yield bonds and commodities to an equity portfolio. However, when volatility in the market increased, these asset classes became more correlated, exposing an investor to a much lower amount of downside protection than anticipated. Correlations across traditional asset classes have increased during times of bull markets and ordinary markets. One reason is that investors' reaction to volatility in itself has changed. While volatility has been tapered by the flood of liquidity provided by central banks across the globe, the occurrence of extreme moves has increased. Asset price inflation and the low yield environment have resulted in investors tending to have a higher sensitivity to market volatility. With interest rates yielding near, or even below, zero the benefit of a more stable source of return has somewhat disappeared. It is clear to us that portfolio construction will be challenging and will be even harder during times of crisis.

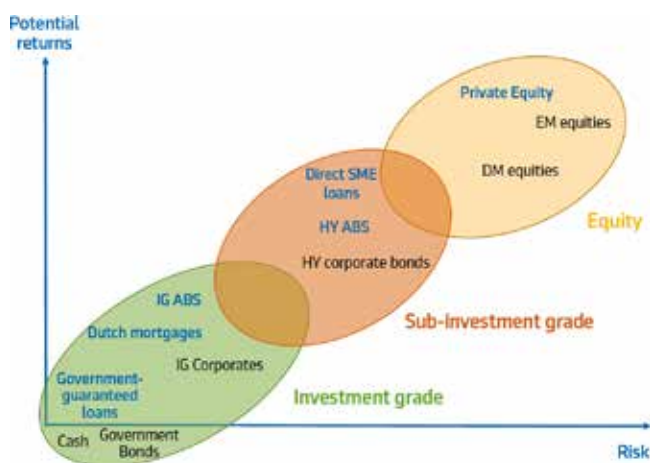
Alternative asset classes can offer diversification benefits, while having the potential for decent returns. Alternatives do not replicate traditional asset classes, instead they offer exposure to differentiated sources of risk. As a result, investors have increasingly added alternatives to their portfolios in an effort to reach their target return while still remaining focused on their investment objectives and beliefs, and staying within their risk tolerance.

It is true that not all alternative investments fit all investors portfolios. Some alternatives can be less liquid, have investment horizons that are too long or do not address the risks investors want to limit. Or these assets might not fit with their view on the impact they want them to have in their investments, or the influence they have on the environment, social or governance structures (ESG).

The role of alternative fixed income in portfolio construction

We set out some of the typical risks and characteristics of certain asset classes within the alternative fixed income space. Figure 1 illustrates how these alternatives may stack up against traditional fixed income in terms of risk versus potential returns.

Figure 1: Schematic overview of estimated risk and return for some major traditional asset classes and a number of alternative investments



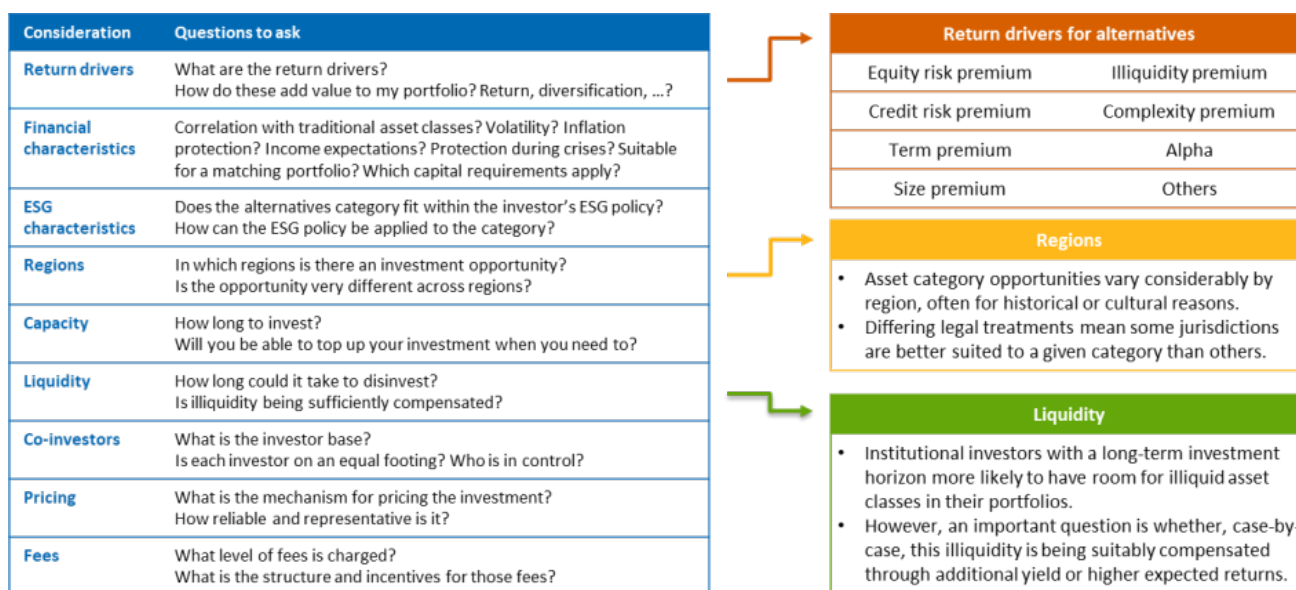
For illustrative purposes only. Note that alternative investments (in bold) often add potential return, even for a similar risk budget. Source: Aegon Asset Management, as of July 2020.

Before an investment category is added to an investor's portfolio, it is important to evaluate if the specific category adds potential value to that portfolio. Figure 2 schematically outlines the possible benefits certain asset classes may add to an existing portfolio.

Figure 2: Benefits of investing in alternative fixed income

Additional sources of return	Risk reduction benefits
Illiquidity premium	Contractual cash flows
Size premium	(Government) Guarantee
Complexity premium	Backed by real assets
Alpha	Lower volatility
Credit risk premium	Lower correlation

Figure 3: Setting up an investment case for a new asset category. On the left we find the main questions and considerations. Some examples of a more in-depth analysis of specific topics can be found on the right.



Source: Aegon Asset Management, as of July 2020.

Using these guidelines, we can address the main considerations and questions. After that, a deeper dive becomes possible for specific areas. For example, we can determine which return drivers may be important for a specific strategy, which regions provide most opportunities, and what might be the impact of an investment on the liquidity profile? Below, we provide a few examples of alternative fixed income asset classes with some of their respective unique characteristics.

Asset-Backed Securities

The European ABS market is large and diverse and offers a broad range of potential allocations across countries and underlying sectors. ABS are bonds secured by reserved asset pools, such as residential mortgages, consumer loans (credit card and auto), commercial mortgages and loans to corporations. Most of the collateral consists of loans to consumers.

ABS securities offer investors the potential for a structural spread-premium relative to traditional fixed income assets, with comparable levels of credit risk. ABS also offer the opportunity to create portfolios for a wide range of risk appetites given ABS is available from AAA-rated senior bonds, down to unrated first loss pieces. One of the reasons for the yield premium within European ABS is the ECB's presence in the sector - it is much lower compared to other fixed income assets and as such, yields on ABS bonds have been much less affected. Furthermore, certain institutional investors are not typically present in this space due to regulatory capital requirements, while this is not the case for traditional fixed income.

ABS have provided low, or even negative, correlation with many traditional asset classes. ABS benefit from a pool of collateral securing the bond. The cash-flows of the collateral often depend on consumers paying their mortgages, car loans and credit cards. These tend to follow a different cycle and hence

have a different risk profile compared to the sovereign and corporate markets. This low correlation also comes from the fact that the interest rate risk in European ABS bonds is limited as the majority is floating rate, in contrast to the US, where most ABS bonds have fixed-rate coupons. This makes European ABS particularly attractive to clients who do not want to take on additional interest-rate risk or use it as a hedge against volatility in interest rates.

The collateral and sectors underlying ABS also make the sector a robust proposition for an economy that might structurally change because of Covid-19. The largest type of collateral securing European ABS are residential mortgages. These benefit from recourse to both the house and the borrower. Even if the proceeds from selling the house would be insufficient to pay down the loan, the borrower would remain liable to cover the difference. We believe this is a very stable asset class, even if Covid-19 changes demand for offices, leisure, restaurants and travel for years to come, people will still need a place to live.

Losses on ABS bonds in the financial crisis were very limited. While losses occur in the collateral pool, structural elements like subordination and payment triggers provide sufficient protection for the ABS bonds. As such, in our view losses due to a severe economic fallout are likely to be limited for rated ABS bonds.

Dutch Mortgages

Direct investments in Dutch mortgages have attracted a lot of interest over the past years

Dutch mortgages can help diversify into loans and gain exposure to consumer risk. They can offer an attractive yield with a low risk profile. Excess return above government debt is expected to be slightly below 2%.

The outstanding market size of Dutch mortgage debt is currently about €725 billion (As of Dec-19) and consists predominantly of prime owner-occupied mortgages.¹ Dutch households generally had a good track record in paying off their debts. This is due to employment protection and strong unemployment benefits, strict underwriting rules and the strong legal position of lenders. In addition to the value of the house, there is full recourse to the borrower. In case of default, lenders can repossess and sell properties by public auction without a court order. Further recourse is available to other personal wealth, including salary. Any remaining debt remains enforceable until discharged in full. This contributes to historically low losses on Dutch mortgage securities.

Mortgage loans are provided predominantly based on income. The legally binding code of conduct sets the maximum loan-to-value (LTV) and debt-to-income ratio. LTVs are less of an issue in the Netherlands due to tax incentives that make Dutch mortgages much more affordable than in other countries. The average LTV at origination has come down from 96% in 2010 to 89% in 2013 and has been stable since. The average debt service-to-income ratio of mortgages in the Netherlands has been around 15-20% (As of 2019).²

Many mortgages benefit from an NHG guarantee. The NHG program is the public mortgage loan guarantee scheme supporting home ownership in the Netherlands. An NHG guarantee can be obtained for an amortizing mortgage loan up to an amount of €310,000. The mortgage lender receives 90% compensation from the NHG program in case of a loss on an NHG mortgage. The borrower pays a one-off fee of 0.7%. This is compensated by lower interest rate payments due to the government backup of NHG loans.³

Due to the Covid-19 pandemic, we expect arrears to increase over the next few months. Depending on the severity of the economic fallout, we expect them to rise to approximately 0.5-1.5%. In a worst-case scenario, defaults could potentially reach 2014 levels (the period with the highest number of defaults in the wake of the financial crisis).

As we generally expect losses in mortgages to remain low, large movements in the credit spread seem unlikely.

Guaranteed SME Direct Lending

Another example in the alternative fixed income category are subordinated loans to (Small and Medium-Enterprises) SMEs and small mid-cap companies. These loans are for 50%, 70% or 80% and guaranteed by the European Investment Fund (Aaa/AAA/AAA ratings (Moody's/S&P/Fitch), "EIF"). The guarantee percentage depends on the matching loan guarantee program

The loans are originated in collaboration with large corporate banks and private equity firms and are often used by SMEs to finance their growth plans or company-takeovers to secure business continuity.

Direct lending to SMEs by way of subordinated loans is a market with few players. The entrance barrier is high. There are only few parties in Europe that have a guarantee agreement with the EIF to provide subordinated loans. The default rate of Dutch SMEs have been relatively low in Europe; typically remaining below 1.5% in times of economic downturn and below 0.5% in times of economic upturn.⁴

We believe SME subordinated loans can contribute directly to economic growth, job creation and business continuity by providing financing to small companies that do not have quick access to the capital market due to their size.

Government guaranteed loans

Government guaranteed loans are loans that are backed by a full, unconditional and irrevocable government guarantee. They provide an attractive alternative for investors who are looking to optimise and diversify their government bond portfolios in the current low interest rate environment. The loans, which can often be found in global export or development finance markets, offer an attractive risk-return proposition for those who can accept a degree of illiquidity and complexity versus liquid government debt. The risk-return proposition is underpinned by:

- An attractive and stable illiquidity premium: Investors may be compensated for illiquidity with an attractive spread pick-up with similar duration.
- Limited additional credit risk and low capital requirements: government guaranteed loans are investments that are covered by highly-rated sovereigns and supranational agencies.

Another benefit is that it can help provide a meaningful positive impact on society. The investment universe for government guaranteed loans contains a diverse opportunity set of impact investments. This consists of, among other things, renewable energy projects, loans to the social housing sector, health care or infrastructure development in emerging market countries or projects aimed towards Covid-19 aid. The projects in emerging markets are typically supported by developed countries, for instance through the guarantee of an officially supported export credit agency (ECA), or a multilateral development bank.

In the wake of the Covid-19 outbreak, new investment opportunities arose. Numerous governments and some multilateral development banks were eager to announce support packages to stimulate the economy and to slow down a potential recession. The World Bank is at the forefront of the fight against the impact of the Covid-19 pandemic. They have launched a massive support package to tackle the economic fallout due to the pandemic in low and middle-income countries. Guarantees form part of this package, leaving the opportunity for private sector investors and lenders to provide further funding.

For the coming years, we expect plenty of interesting investment opportunities, especially on the back of these large Covid-19 support schemes, but also from the re-initialisation of projects which are now being delayed due to the pandemic.

1 Source: Aegon Asset Management, Kadaster

2 Source: CBS, Rabobank

3 Source: NHG.NL/English-summary20

4 Source: Aegon Asset Management, CBS MKB Statline



Impact investing

Impact investing seeks to generate positive impact on society alongside delivering financial return. An impact lens could, for instance, potentially disqualify securities traded on the secondary-market, where no capital flows to the company. Although impact investing has experienced enormous growth over the past several years, at this moment there are no clearly defined market standards when it comes to classifying an investment as an impact investment. This does not come as a surprise, given the number and the complexity of social issues on the one hand and the diversity of initiatives to address them on the other. As such, we believe a rigorous project selection process is essential. Investment managers increasingly work on developing frameworks to assess the eligibility of projects based on market, financial and ESG criteria. With an increased focus of investors on contributing to society while seeking to maintain their financial health there is a growing need to standardize the selection and reporting processes. With cooperation between finance industry and independent experts, the expectation is that in the coming years a consensus will emerge concerning a set of standards regarding impact investing.

Equities

World equity markets fell sharply in February and March of 2020, due to the global spread of the coronavirus and the government-imposed lockdowns. World equities lost one-third of their value between the peak in February through to the end of March. The subsequent rebound has been just as spectacular, with large parts of the equity market recouping most of the lost ground. This is particularly remarkable as the global economy is experiencing one of the deepest recessions in recorded history.

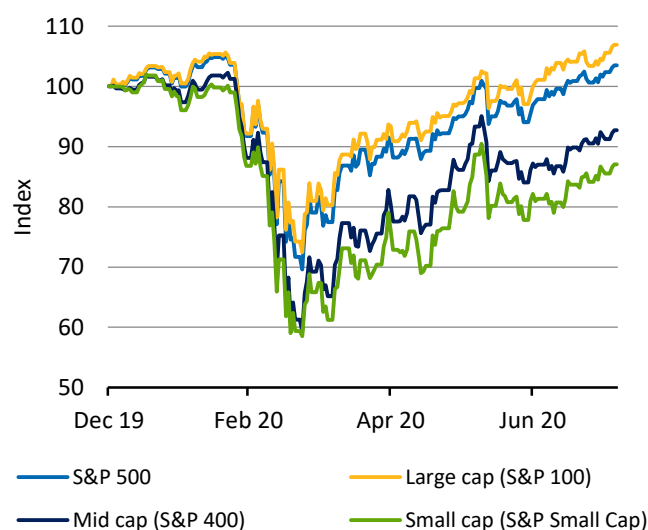
So, are equity markets getting ahead of themselves? Or is there simply no alternative for investors seeking a positive real return?

Tech sector: shooting the lights out?

Many of the large tech companies have posted double digit returns this year. The pandemic has accelerated the trends towards online shopping and the further adoption of technology. This has benefited these companies specifically. The weight of the five largest tech companies is now around 20% of the S&P 500 index and as a result they influence returns significantly.

As the chart below highlights, the rebound in equity markets in itself cannot therefore be viewed as a sign that investors expect a limited economic impact from the pandemic. It has been mainly the large-cap companies that have performed well, and especially the well-known tech companies. In contrast, mid-cap and small-cap companies have been more severely impacted.

Figure 1: Large cap equities have outperformed



Source: Aegon Asset Management, Bloomberg as of August 2020

Furthermore, non-US indices, which typically have much lower weightings in the tech sector, have also been severely impacted. The decent returns on the US market are therefore, to some extent, a reflection of the accelerated adoption of technology rather than simply a reflection of domestic economic growth.

In the longer term small cap companies are expected to show higher earnings per share growth than large cap companies and can be a good addition to global large cap equity portfolios. Smaller companies have however shared less in the returns of dominant tech companies in the last couple of years and due to their higher exposure to economic growth have on average been hit harder by Covid 19. The previous time global small caps have underperformed large caps was in the years 2007 – 2009 with outperformance following in the years thereafter. The future relative performance on a shorter timescale will be dependent on the speed of the economic recovery and the fate of big tech earnings expectations. Well managed small caps are positioned to be a good diversifier versus large cap equity holdings more and more dominated by big tech names.

Cheap? Expensive? Or both?

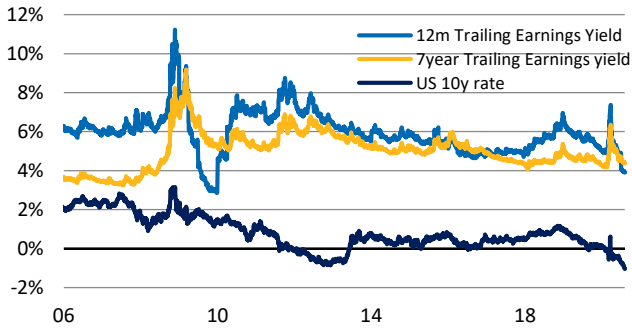
Are equities still attractive or have they run too far already? We still view equities as moderately attractive.

One way to value equities, is to divide the yearly earnings by their market capitalization, which gives the earnings yield. Often, investors use the inverse, which is the price-earnings ratio. It doesn't matter too much which is used but the earnings yield makes it a bit easier to compare equities with other asset classes.

Clearly there is some uncertainty about what earnings will be in the future. Generally, either a trailing measure is used, or the average forecast of equity analysis. In the chart, below we have plotted the earnings yield based on 12-month trailing earnings for world equities. As the current crisis has led to a sharp fall in earnings, the 12-month trailing figure might not be the most representative. We therefore also took a longer-term average of the past seven years, which filters out the cyclical fluctuations in earnings.

As can be seen from figure 2 opposite the earnings yield spiked during the height of the Covid-19 crisis as equity markets fell sharply. Subsequently, equity markets rose just as sharply, which has resulted in an earnings yield based on seven-year trailing earnings of around 4.5%. At the start of the year, equities were a bit more expensive at 4.2%. However, at that moment most of the world was blissfully unaware of the pending pandemic. Therefore it seems equities are relatively expensive on this basis.

Figure 2: Earnings yields on world equities



Source: Aegon Asset Management, Bloomberg as of August 2020

Is there any alternative to equities?

Other changes have taken place since the start of the year, including the level of yield available in global markets. In particular, the yield on US Treasuries has sharply declined, which is partly the result of the US Fed cutting rates and implementing QE programs. The return that can be expected going forward on fixed income portfolios is, as a result, also depressed. Investors therefore have fewer alternatives. The real yield on US Treasuries is now sharply negative, which makes equities a lot more attractive on a relative basis. This dynamic has likely contributed to the sharp rebound in equity markets witnessed this year.

Listed equities capturing a larger share of a smaller pie?

The acceleration in ecommerce and other technologies has greatly benefited technology companies. Their increase in revenue comes partly at the expense of physical retail shops, landlords and transport companies. The net effect is that the listed equity sector has been able to capture a larger share of the economic pie.

Taxation a risk

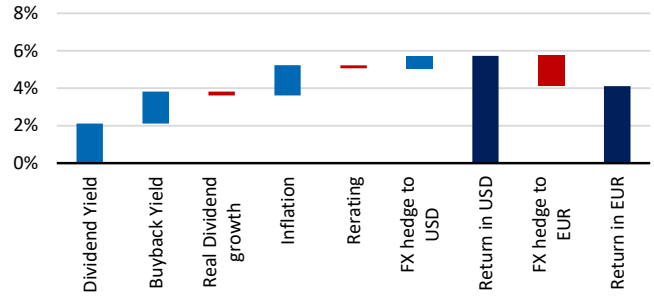
In the past few decades the average global corporate tax rate has been steadily declining. A couple of years ago, the US also lowered its corporate rate significantly from 35% to 21%, resulting in a boost to post-tax earnings.

The pandemic has blown a large hole in government budgets, making it more likely that corporate rates will be used to fund deficits. A Democrat sweep in the US presidential election might result in a US tax hike, while in Europe, governments are considering new taxation on tech-related revenue. Overall, we think it is likely that taxation will increase resulting in an earnings drag.

Putting it all together

In making our earnings forecast, we decompose each component of equity return in order to assess important factors driving returns (see chart...)

Figure 3: Breakdown of equity returns



Source: Aegon Asset Management, Bloomberg, Refinitiv 2020-2024 Projections provided by Aegon Asset Management as of August 2020

First of all, equities may pay dividends to their shareholders. Furthermore, many companies buyback their shares, which is also a form of shareholder remuneration. Both dividends and buybacks have been cut in 2020 due to the effects of the pandemic. Overall, we expect that dividend and buybacks will recover to 2019 levels, but differences between countries and sectors are likely to be large. In particular, we believe the hard-hit financial and energy sectors will unlikely be able to resume distributions at their pre-covid-19 level. For European and emerging market equities, we expect a more pronounced return contribution from dividends than from buybacks. For US equities, we expect a higher return from buybacks than from dividends, which is typical for the US market. For world equities as a whole, we expect dividends to contribute around 2% and buybacks 1.7%.

Growth in distributions relative to pre-Covid-19 levels, is likely to be low. As described above, it is likely that the tax burden will rise and some sectors are unlikely to recover earnings fully in the next couple of years. Growth on developed market equities in real terms is therefore expected to be close to zero. For emerging markets, we foresee dividend growth to be somewhat positive. Overall, distributions should grow in line with inflation levels.

In the medium and long-term, it is corporate earnings that typically drives equity returns. In the short-term, expectations change which can result in wild gyrations within equity markets. We capture this volatility with the 'rerating' component. We expect that the rerating component will be close to zero over the four-year period. This is the case for developed and emerging markets. Although equity valuations are elevated, we expect this to remain as low yields on other financial assets should keep the multiple high.

Hedging equity returns to the US dollar results is currently a small positive benefit as, on average, non-US yields are slightly lower compared to US short-term rates. When hedging returns to the euro, this foreign exchange hedging produces a negative effect as Euro yields are significantly lower.

Overall, we expect a total return for world equities of almost 5.7% in US dollar terms, which is equivalent to a return of 4.1% in euro terms. The expectations across countries and regions are relatively similar.



Private equity

The global M&A market was impacted significantly by the outbreak of COVID-19, with a global monthly deal volume decrease of 45% from December 2019 till June 2020. Deals are less easy to conclude for example due to restrictions on in person meetings. Surprisingly, price levels have remained stable during H1 2020, which could be explained by the relatively long lead time of 3 - 6 months before a transaction is executed and announced. We are mindful of the risks that arise from high valuations and debt levels in private equity buyout. Against these risks and uncertainty, there is a record amount of liquidity in the system, which has supported private and public equity valuations so far.

Banks played a positive role in making sure most existing companies continued to run smoothly by accepting deferrals on interest- and repayment obligations. Banks however also became more reluctant to provide funds for new deals. The short-term valuation and hence performance of private equity companies is connected to the performance of public equity, with returns linked through valuation multiples derived from listed markets, but with a quarter delay. Private equity valuations saw declines in the second quarter, but showed broad recovery in the beginning of the third quarter.

Contrary to the overall M&A market and despite COVID-19, the number of telecom deals has significantly increased during the outbreak, which might be a reflection of the accelerated embracement of telecom and IT solutions (cloud, gaming, communication). On the other hand deal volumes and valuations are on a downward trend in the leisure sector and consumer retail companies. Private equity firms in general supported their portfolio companies from the beginning of the Covid crisis, both operationally and with liquidity injections. This support can give private equity owned companies an advantage over listed companies.

Private equity plays and will likely continue to play a significant role in global capital markets and as a growth-seeking investment in institutional portfolios. After playing defense for two quarters, by supporting their portfolio companies, private equity managers are now shifting their focus towards playing offense. This could mean a variety of things, doing add-ons at attractive price levels, to further strengthen and grow their existing companies. For firms specialized in finding value in distressed companies, the next period could be interesting for them to put money to work to help turn some of these companies around. For the foreseeable future we expectd that more money will continue to flow to the resilient sectors with strong growth prospects, like healthcare and technology.

The future of the 2017 Tax Cuts & Jobs Act is uncertain

In December 2017, Donald Trump signed the Tax Cuts & Jobs Act (TC&JA). This resulted in a significant change to personal and corporate tax rates in the US. In particular, the cut in the corporate tax rate from 35% to 21% had a significant impact on after-tax earnings. With the presidential election approaching, the continuity of the TC&JA is uncertain for two specific reasons. Firstly, some of the act is of a temporary nature and will be phased out by 2025. Secondly, the outcome of the 2020 election will likely direct the path of future tax legislation. With that in mind, here is a brief overview of how the possible outcomes of the 2020 election might affect the TC&JA.

A divided congress

Either Trump or Biden wins the presidency, but with a divided congress. This outcome means neither the Republicans nor the Democrats gain a majority in both the House of Representatives and the Senate. This scenario is currently a likely outcome. Material policy changes are difficult to pass through congress without a majority in both houses, and therefore it is likely that tax policies will remain unchanged in the near-term. In the longer-term, the TC&JA might be subject to compromised extensions. In this scenario, pharmaceutical companies are most at risk, while some potential upside exists for alternative energy.

A Democrat Clean Sweep

We can expect the greatest rate of change if the Democrats manage to win the presidential election and gain a majority in both houses. Given that the Democrats have been campaigning on raising government revenues by increasing taxes on wealthy individuals and corporations, significant changes to the TC&JA can be expected in this scenario.

At the time of writing, election polls suggest that President Trump has some serious catching up to do in order to prevent a Democrat clean sweep from happening. As such, U.S. corporations and investors might consider that significant shifts in the U.S. tax landscape are likely to occur in the near-term. The most likely changes to corporate tax policies should the Democrats win include:

- Corporate tax rate to be increased from 21% to 25%-28% range
- Doubling of the tax rate on foreign income made by U.S. multinationals
- Implementation of a minimum tax to be paid based on GAAP financial statement profitability

In effect, the tax rate in this scenario could climb by up to 10%. Industries that are most vulnerable from a tax and earnings perspective in this scenario include pharmaceuticals, big tech, and healthcare. The net effect on earnings-per-share on the S&P 500 is estimated to be around 8%. If enacted, this would likely mean that after-tax earnings growth is likely close to zero for the next couple of years.

Trump wins second term and gains majority in both houses

Additional tax cuts can be expected if the Republicans win the election and gain a majority in congress. President Donald Trump has been highlighting the economic merits of the TC&JA ever since it was introduced. As such, the Republicans are currently campaigning on offering further tax relief to spur economic recovery from the coronavirus crisis. It is more likely, however, that further tax relief for households will be prioritised over further reductions in corporate taxes. Given the sharp rise in government debt and the exceptionally large fiscal deficits, it is likely that further tax reductions will face some opposition. At the moment, a scenario in which the Republicans gain a majority in both houses looks unlikely.

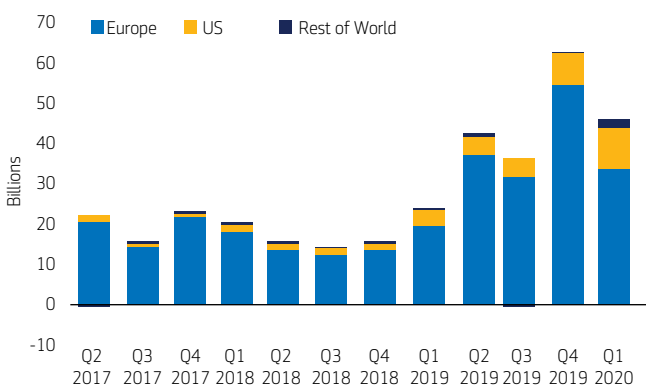
The exact impact on corporate profitability of the above-mentioned scenarios is hard to estimate. Overall, it is more likely that corporate taxes will be raised in the future.

Why we believe ESG investing is here to stay

The spectacular rise in assets under management of ESG-focused investment strategies in recent years has been widely reported. We believe this is still the early stages of a justified long-term trend, rather than a short-term bubble. That said, simply looking at the overall numbers risks missing important nuances that may be key to understanding the trend. Firstly, some stats:

- AUM of ESG strategies worldwide has more than doubled from \$13.3tn in 2012 to \$30.7tn in 2018 (and has further accelerated since then).
- Although active equity strategies have been under pressure in recent years, active ESG equity strategies have bucked this trend with strong inflows.
- Flows have remained extremely strong even in the face of the exceptionally challenging market environment caused by the COVID-19 crisis, with \$45.6bn of inflows in Q1 2020.

Figure 1: Inflows into ESG strategies



Source: Morningstar Direct, Manager Research as of March 2020

What also seems clear from the chart above is that we have only seen the tip of the iceberg so far in the US, and that exponential growth in ESG AUM may be expected in that region in the coming years.

The nuance in the numbers

As mentioned above, it is important to look under the bonnet of these overall figures and consider the nuances involved. Perhaps most importantly, we need to ask what is actually included in “ESG strategies”? Some strategies “integrate” ESG factors into their investment process. While other strategies are dedicated sustainable or impact strategies. Therefore, it is important for investors to fully understand what they are actually investing in when looking for an ESG solution.

Trend drivers

We believe strongly that this trend is here to stay and is backed by solid fundamental drivers, the most tangible of which is regulation. Not only are corporates being compelled to disclose more ESG data to investors, regulation is increasingly requiring fund managers to explain how ESG factors are built into their investment process (see, for example, France’s Article 173).

More intangible, but every bit as important, is client demand. Society is increasingly aware of the huge sustainability challenges the world faces and the role the investment community can play in helping to promote solutions to these challenges. This is, in part, driven by demographics as more environmentally and socially conscious ‘Millennials’ and ‘Generation Z’ begin to constitute a larger proportion of the client base. The result, according to data from BNP Paribas, is that the percentage of investors that applied ESG principles to at least one quarter of their portfolios jumped from 48% to 75% in just two years between 2017 and 2019.

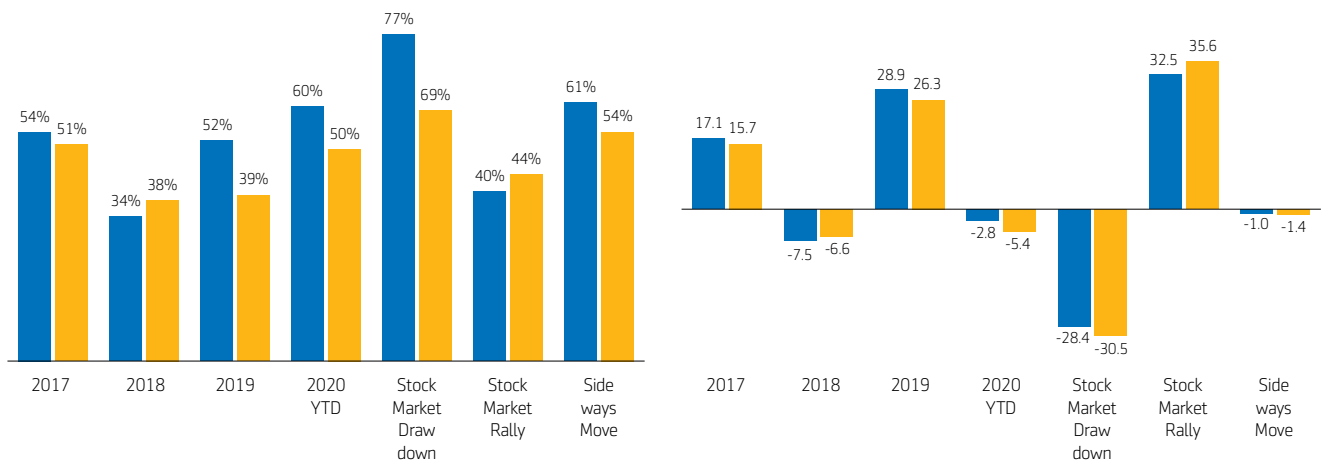
A possible knock-on consequence of this is that the trend becomes self-fulfilling and has the potential to influence the performance of stocks, both positively and negatively. The oil and gas sector is a prime example. We have seen huge institutional investors, such as the Government Pension Fund of Norway, the world’s largest pension fund, announce they are divesting from part, or all, of the oil and gas sector. Such moves create selling pressure on stocks in the affected sectors, forming a natural headwind for asset prices.

Consigning the performance cost fallacy to the bin

One of the main barriers to ESG adoption in its early years was the belief that strategies had to compromise on returns because of ESG criteria. This belief was widely held until very recently, despite very little evidence to back it up. In fact, a growing body of evidence suggests the opposite is true – ESG strategies can actually outperform their non-ESG counterparts. Importantly for active managers, it has also rejuvenated demand for active equity strategies, which had been under pressure from passive alternatives. The data from RBC below shows a fairly consistent picture of actively managed sustainable equity funds outperforming traditional equity funds over the past 4 years.



Figure 2: Performance of sustainable managed funds vs traditional funds (As of Q1 20)



Past performance is not indicative of future results. There is no guarantee that sustainable or responsible investing products or strategies will produce returns similar to traditional investments.

Source: RBC as of March 2020

If anything, the recent market sell-off has accelerated this trend as well as an acceptance of the capability for ESG strategies to add value. It seems that investors are coming to appreciate the many links between sustainability and resilience when it comes to companies planning for the future and being run with a long-term, shareholder-friendly mind-set.

An ESG bubble?

Developing the point on buying and selling pressure described above, there is evidence of positive buying pressure on companies with favourable ESG characteristics, which some sceptics point to as proof of an ESG bubble. Indeed, whilst ESG will always be a subjective matter, there is evidence of a good deal of overlap between many ESG funds in the market.

The importance of improvement

The empirical research presented in the chart to the right shows that ESG 'Momentum' (improvement) outperformed ESG 'Tilt' (leaders) over the research period.

Figure 3: Absolute and Improvement sustainable equity strategies



Source: "Can ESG add alpha? An analysis of ESG Tilt and Momentum Strategies", Zoltan Nagy, Altaf Kass and Linda-Eling Lee, June 2017

The research attributes this outperformance to the fact that improvement signals that a company may be better equipped to avoid ESG-related issues, which in turn is reflected positively in the share price. And within the companies that were demonstrating the highest levels of improvement, the greatest returns were generated by those that had mid-level absolute ESG scores. To us, this makes perfect sense and it sits well with our philosophy –the potential for further improvement can help drive the market to increase the value attached to the company.

In practice, we find that these 'improvers' are typically disruptive and innovative companies, many of which are in the hugely diverse healthcare, technology and industrial sectors. Most of these are using the rapid pace of technological change to address sustainability issues and are likely to be younger and smaller companies than the incumbents they challenge. We believe these companies are likely to be not just the sustainability leaders but the market leaders of the future. stage of their development and engage with them as they grow, helping to instil a sustainable mind-set into this growth. We believe these companies are likely to be not just the sustainability leaders but the market leaders of the future.

Commodities

In the past few years commodity prices have experienced significant volatility as global growth expectations trended lower and geopolitical developments put trade relations under pressure. Volatility moved to exceptional levels in 2020, due to the spread of the coronavirus. Out of all asset classes, commodities were probably hit most severely due to the general collapse in global economic activity.

Crude oil volatility

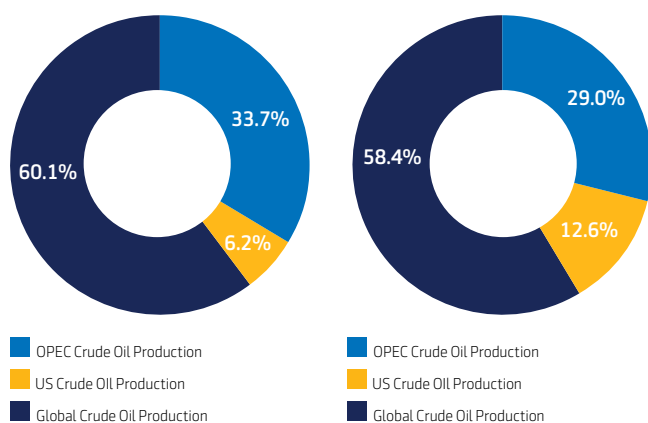
The most important component of the commodity universe, crude oil, has grabbed the headlines as a dispute between OPEC and Russia exacerbated the oversupply situation in the oil market. This led to the greatest oil panic in history. The West Texas Intermediate (WTI) crude oil futures price for May delivery experienced a historic collapse on 20 April and closed at an extraordinary price of -\$37.63 per barrel. This was due to oil storage inventories at Cushing, Oklahoma (the pricing point for WTI crude oil), reaching close to its maximum capacity, forcing out investors with no storage capacity at any price.

OPEC+ realized it needed to support the oil market and agreed upon a historic production cut of 9.7 million barrels per day (bpd), close to 10% of global supply. The OPEC+ actions, together with an unprecedented drop in the number of active oil rigs across the US, managed to stabilize crude oil markets towards the end of the second quarter of 2020.

Oil longer-term trends and perspective

During the last decade, the oil sector was mainly shaped by the rise of US shale oil production at the expense of OPEC market share. The market share of US crude oil production rose from 6.2% to 12.6% in the 2010s, while OPEC saw its market share drop by 4.7% (Figure 1).

Figure 1: Global market share crude oil production split between OPEC, US and other producers.



Source: Aegon Asset Management, International Energy Agency, Bloomberg, as at December 2019

The regional shift in market share of crude oil production has changed the geopolitical landscape significantly. The US has become energy independent, while for Saudi Arabia, Russia and other oil dependent countries across the Middle East and Latin America it has resulted in a constant pressure on income and government budgets.

However, the recent turmoil engulfing the oil markets will likely not lead to new long-term structural changes. US producers are flexible and they will likely continue to act as marginal supplier and dampen any strong price upside, but they will also most assuredly reduce production rapidly when prices fall below \$30-\$35 per barrel.

Oil also has to cope with the existing global megatrends. The world is transitioning to renewable energy sources, which should simultaneously lead to a gradual reduction in demand for oil in the coming decades. However, the International Energy Agency expects that world oil demand will rise for at least the next 20 years, heading towards 125 million bpd in around 2050 if we continue on our current path. Of the almost 100 million barrels of oil currently consumed on a daily basis, more than 60% is used for transportation.

According to the Edison Electric Institute, battery-powered electric cars currently only have a 1.8% global market share. But the rising share of electric vehicles is the biggest contender to bend the long-term demand curve for oil downwards. We expect the shift from fossil to renewable sources of energy to be gradual for the following reasons. Firstly, the whole economic system must adapt to new technologies for producing renewable energy, which in turn needs to become economically competitive compared to fossil fuel energy. Secondly, infrastructure needs to be adjusted to support new sources of energy in all their facets. And finally, storage of renewable energy must be upgraded to align demand and supply. As renewable energy becomes more mainstream, we expect more standardized contracts going forward which in itself could result in a more liquid futures market.

Gold: the ultimate safe haven?

Within precious metals, gold has benefited from the uncertainty sparked by the coronavirus. Gold has been used as a currency and later as a store of value for over 3,000 years. It has served as the traditional “safe-haven” asset*, especially in times when trust in fiat currency is fading. Gold is often considered the ultimate inflation-linked instrument, but as it does not pay any interest, it carries a zero coupon. Investors also have to account for ongoing storage costs which, over time, reduces potential returns slightly. Gold is denominated in US dollars and therefore when real yields on US government bonds drop below zero, gold typically becomes relatively attractive. The current historically low US central bank rates should, on the margin, help demand for gold as yields on short and long-term government bonds are significantly lower than at the beginning of 2020. On top of that, it is difficult to determine the fundamental value of gold. This causes a degree of price uncertainty and therefore elevated price volatility, which has been significantly higher compared to, for example, two-year US Treasuries. Together with the negative carry from the storage cost (Figure 2), we would need to see real interest rates turn negative by a significant margin before gold becomes really attractive.

*All investments contain risk and may lose value

Real Estate

Covid-19 and real estate

This year the world was confronted by the Covid-19 pandemic, which caused economies to be locked down and resulted in an unprecedented sell-off within markets. The subsequent measures taken by central banks and governments to support economies helped markets to recover some of the lost ground. Nevertheless, the otherwise defensive nature of the real estate sector has been turned upside down in the current crisis. Despite a modest rebound from the lows, the market is still pricing in substantial risks within the sector, as reflected by the above-average valuation discount of the listed real estate market versus equity markets. At the same time, real estate lending spreads are elevated. Although the sector will continue to see consequences from the pandemic, we are more positive on the longer-term outlook.

The real estate sector has proved to be sensitive to the Covid-19-driven crisis in a number of ways:

- Firstly, financing costs have increased versus the start of the year. This in turn impacts future earnings potential for a capital and debt-intensive sector like real estate.
- Secondly, the cost structure for the real estate sector is rigid. Other industries are able to furlough personnel and make other adjustments to their cost base in order to offset top-line revenue declines. Real estate companies cannot 'furlough' debt payments; the sector has been confronted by a large group of tenants that cannot, or do not, intend to pay their rent.
- Thirdly, the pandemic has accelerated existing trends regarding the way we work and shop, impacting demand for real estate. Some sectors are benefiting from increased demand (logistics) and others are suffering from elements of obsolescence (retail).
- Lastly, the longer-term economic growth outlook has become more uncertain due to the pandemic as well as other factors such as the worsening of US/China relations and an increasing risk of a hard Brexit. Given demand for real estate is closely tied to economic growth, this impacts rental and value growth.

As a result of the above sensitivities, we have witnessed the following implications for real estate companies during the first half of the year:

- Sector focus: pricing within the hotel and retail sector was most impacted due to travel restrictions and lockdown measures. The logistics sector saw increased demand as e-commerce activity picked up. The residential sector proved its value as a defensive asset class, while uncertainty in the office sector increased due to the deteriorating economic outlook and the widespread adoption of 'working from home'. The best performing sector has been data-centres as the value of good internet connectivity increased.
- Portfolios and tenants: companies with exposure to better quality assets within a sector, benefiting from relative scarcity due to location or with more solvent tenants, proved to be more resilient. The smaller players with smaller portfolios, which were often more exposed to SMEs, showed relative weakness.
- Balance sheets: real estate companies with sufficient liquidity and conservative balance sheets were less impacted as they would be able to sustain a higher shock to income and asset values. These companies are also generally in a better position to benefit from the opportunities that arise once markets recover.

This initial market response reflects risks that could be transitional (financing) but it also captures consequences (e.g. increased working from home) that have a longer-term impact. Given the strong sector trends, the current market conditions make a sound case for active management. We believe value can be added throughout the cycle by taking into account real estate trends in building portfolios. We would like to share our more detailed thoughts about the specific longer term impact on real estate sectors due to Covid 19 below.

Covid-19 impact on real estate sectors

For offices, the virus will bring together a number of factors. Globally, many companies and workers have quickly become familiar with working from home, with improved technical infrastructure put in place. Therefore in the future, offices could increasingly become places for meetings and interactions, with work that requires more secluded concentration done from home. We believe the central business districts (CBD) will continue to be the main office location given its representative value and centrality. These - preferably low-rise central buildings - would, however, be supplemented with flexible office space and smaller satellite offices in adjacent cities. Similarly, we see increased demand for shorter, flexible office leases.

The expected decline in required office desks as a result of working from home would be partially offset by a reversal of the densification that we have seen over recent decades. The pre-Covid-19 trend of cramming workers closer together in open floor office plans was already increasingly criticised as it did not stimulate interaction and led to more distraction at work. The renewed competition from the home office approach and an increasing awareness of health risks, could result in this set-up losing appeal to a greater extent. We may see changes



like an increase in the personal space per employee, broader pathways, larger meeting rooms etc. In turn this could lead to increasing depreciation charges for less flexible buildings and an increase in capex requirements for office landlords and users.

Total demand for office space is, however, still expected to be negatively affected. We believe centrally located, recently built, spacious low-rise offices would be best positioned in this respect.

We likewise expect longer-lasting effects on retail markets. The pandemic will accelerate the already present trend of physical retail sales migrating online. According to surveys, roughly 10% of consumers will not return to their normal pre-crisis habit of visiting physical stores after the lockdown resides. They will continue their elevated online shopping behaviour for the longer-term. Meanwhile, we expect a potential increase in consumer saving ratios to repair household finances and build higher financial reserves for the future. This move will, in turn, moderate retail spending by consumers that do return to physical stores. Only quality and highly-visited locations, or close-proximity convenience retail locations, have some chance to withstand the longer-lasting decline in consumer spending in our view.

Logistics real estate has moved from strength-to-strength, benefiting from demand generated by the continued move to online retailing. A decline in global trade and lower economic growth – which historically are very correlated to industrial rental growth – could, however, make certain parts of the market more vulnerable i.e. shipping and airport locations. A differentiation in performance between different types of logistics is therefore expected.

Lastly, urbanisation has been a major structural driver for all types of real estate demand in both developed and developing economies with two-third of the population expected to live in cities by 2050 (from roughly half a few years ago). Urban living has, however, lost some of its appeal given the lack of space both indoor and outdoor. Working from home in a 60 square meter apartment downtown has its shortcomings. Meanwhile, a reduction (or removal) of weekly commuting time as working from home becomes more accepted (and supporting technology is improved), allows people to live further out. We therefore expect the urbanisation trend for residential property could slow in favour of a renewed appreciation of more spacious environments outside crowded city centres, impacting residential first but also retail to some extent.

Alternative real estate includes a broad range of sectors including hotels, student accommodation, parking garages, healthcare real estate, data centers, self-storage and medical offices. The market cap and liquidity of alternative real estate sectors is smaller compared to traditional sectors like offices, retail, residential and logistics.

The future returns of hotels will depend heavily on developments around Covid-19, impacting business travel and tourism. Leverage and the amount of operational risk that the lessee carries are important determinants for risks and potential returns. Student housing generally benefits from lower correlations with economic developments.

The average age of people is still increasing and in most countries the percentage of elderly people continues to increase, benefitting healthcare investments. However, Covid-19 has had some impact on the cash flows for operators impacting discount rates for healthcare investments. Longer term we believe, investments in healthcare complexes may continue to be a good diversifier in investors' portfolios.

Longer-term financial return potential remains strong

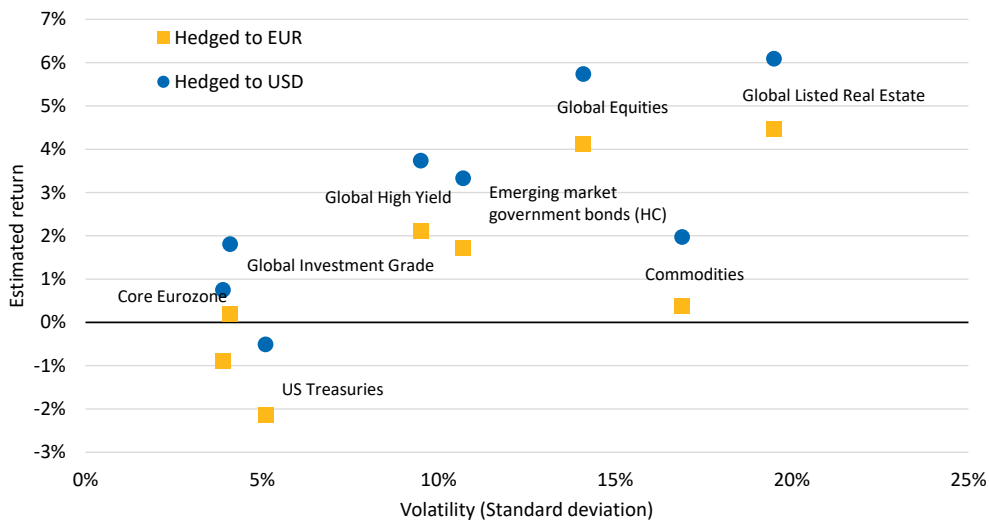
Although the short-term outlook for listed and non-listed real estate is challenged, we are more optimistic on the longer-term outlook for the sector. Our central economic scenario is based on a gradual, protracted recovery and not a detrimental deflationary or stagflationary environment. This main scenario will result in a continuation of the 'lower-for-longer' interest rate environment as seen following the Great Financial Crisis (GFC) period, which proved very supportive for financial assets like (prime) real estate. Once Covid-19 risks decline and the industry adapts, we believe the sector will again benefit from its secure income profile on the longer-term.

In this respect, we also believe the real estate sector has improved itself over the last decade. Management teams seemed to have learned from the GFC with balance sheets looking much more solid than before the GFC. Moreover, the average portfolio quality within the listed sector has improved as companies have taken advantage of a liquid investment market in the past years to recycle assets. Meanwhile, as indicated, valuations for listed real estate are attractive in historical terms and in relation to other asset classes, providing a decent starting position for longer-term upside potential.

Although we are cautious on the sector in the short-term, we see a decent return outlook longer-term given the current discount to underlying real estate values. For all sectors, a broad-based recovery still depends on two big unknowns: how long will the Covid-19 disruption last and how intense will potential flare-ups be until a solution is found? Both would largely depend on a treatment and vaccine becoming available.

Conclusion

The figure below shows estimated 4 year risk and return of a number of large asset classes.



Source: Aegon Asset Management. **Hypothetical forecast for illustrative purposes only.** Projections provided by Aegon Asset Management¹

The estimated 4 yr return on US Treasuries is negative. This is due to the expected rise in yields as we progress through the four-year period. Given this view, it is interesting to note that Core Eurozone bonds appear more attractive despite their negative yields.

The potential improvement in return from investment grade corporates versus sovereigns is significant. It is interesting, however, that the estimated volatility of sovereigns and investment grade is very similar. This is due to two effects. Firstly, the duration of investment grade is generally shorter, resulting in less volatility and secondly, the changes in the spread on corporates is typically negatively correlated with the yield change on sovereigns. Although, we are relatively constructive on investment grade, we have to adjust for these factors in an effort to gain a better understanding of the true risks involved.

Further along the yield curve, there is a further possible enhancement in returns available in high yield bonds, although this does also come with an increase in risk. The same applies to global equities, which offer a potential added value versus the fixed income categories but with increase in volatility.

Commodities did not score well on this basis. The correlation of commodities with other asset classes is, however, generally very low and is not captured in this graph. As a result, commodities do tend to offer diversification benefits.

Alternative fixed income asset classes, such as mortgages and consumer loans, are expected to deliver a stronger risk-adjusted return than the plain vanilla asset classes shown in the chart above. Typically, these asset classes can offer a pick-up in spread and diversification benefits as they focus on different sectors.

As always, the asset allocation implications of this outlook depend on the specific mandate and investment goals.

¹ Return and volatility estimates are based on economic and market outlook, which combines quantitative and qualitative factors. Inputs are amongst others expected fiscal and monetary policy, economic growth, central bank policy, interest rates, spread, default expectations, recoveries, rating migrations, dividends, buybacks, earnings growth, multiple changes, interest rate differentials, basis spread, supply and demand factors and curve shapes. These estimates are inherently highly uncertain and should not be directly relied upon.

Abbreviations

Central banks and economic institutions

BIS	Bank for International Settlements
BOE	Bank of England
BOJ	Bank of Japan
ECB	European Central Bank
Fed	Federal Reserve
IMF	International Monetary Fund
NBER	National Bureau of Economic Research
OECD	Organisation for Economic Co-operation and Development
PBoC	Peoples Bank of China

Countries and Regions

AU	Australia
BE	Belgium
BR	Brazil
CN	Peoples Republic of China
DE	Germany
EM	Emerging markets
EMU	European Monetary Union
ES	Spain
EU	European Union
FI	Finland
FR	France
GR	Greece
HK	Hong Kong
IE	Ireland
IN	India
IT	Italy
JP	Japan
KR	South-Korea
LU	Luxembourg
LV	Latvia
MX	Mexico
NL	Netherlands
RU	Russia
TW	Taiwan
UK	United Kingdom
US	United States
ZA	South Africa

Eurozone countries include Austria (1999), Belgium (1999), Cyprus (2008), Estonia (2011), Finland (1999), France (1999), Germany (1999), Greece (2001), Ireland (1999), Italy (1999), Latvia (2014), Lithuania (2015), Luxembourg (1999), Malta (2008), Netherlands (1999), Portugal (1999), Slovakia (2009), Slovenia (2007), Spain (1999)

OECD countries include Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States

BRIC countries include Brazil, Russia, India and China

G7 countries include Canada, France, Germany, Italy, Japan, United Kingdom and United States

Currencies

CNY	Chinese renminbi (onshore)
CNH	Chinese renminbi (offshore)
EUR	Euro
GBP	Pound sterling
JPY	Japanese yen
USD	United States dollar

Miscellaneous

ABS	Asset-Backed Securities
ABSPP	Asset-Backed Securities Purchase Programme
ACWI	All Country World Index
CSPP	Corporate Sector Purchase Programme
EDIS	European Deposit Insurance Scheme
EMD	Emerging Market Debt
ESG	Environmental Social and Governance
FTE	Full-time employees
FX	Foreign exchange
GDP	Gross Domestic Product
J-REITs	Japanese Real Estate Investment Trusts
NFP	Non-Farm Payrolls
NSA	Non-Seasonally Adjusted
OPEC	Organization of the Petroleum Exporting Countries
REITs	Real Estate Investment Trusts
S&P	Standard & Poor's



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About Aegon Asset Management

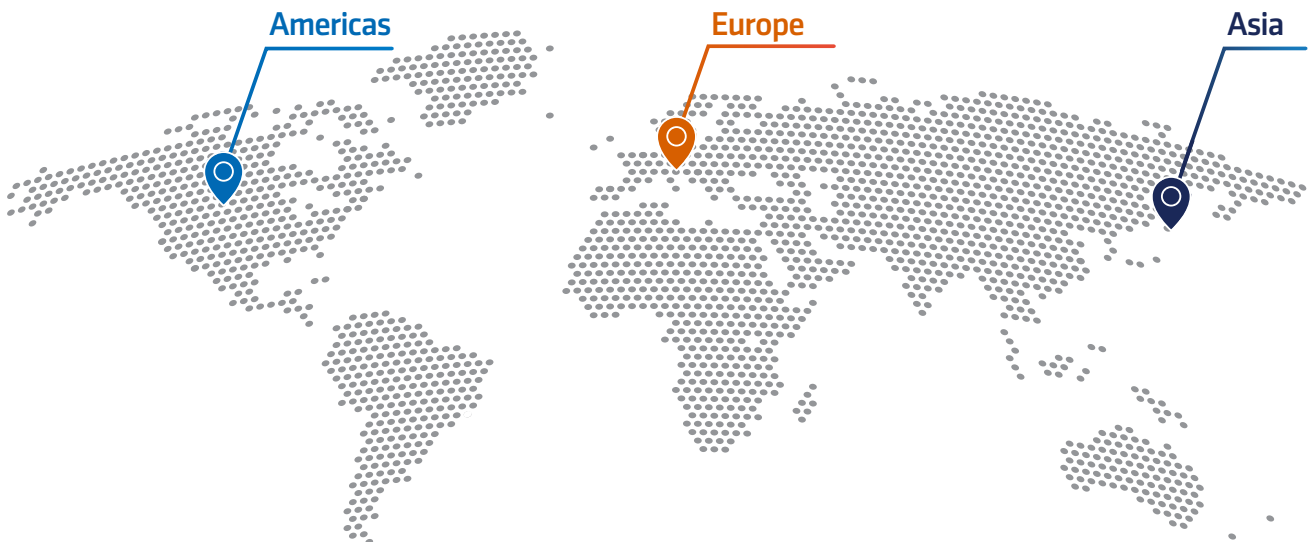
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We organize our investment capabilities around four focused platforms where we have deep asset-class expertise: fixed income, real assets, equities, and multi-asset & solutions. Each platform has dedicated teams, organized globally and committed to maximizing client benefit from their specialist areas.

By organizing our investment teams globally across four investment platforms we harness our expertise and research resources across regional boundaries. We believe this enhances our performance potential and generates better investment outcomes for clients.

We share a common belief in fundamental, research-driven active management, underpinned by effective risk management and a commitment to responsible investment. Our investment platforms have the flexibility to organize their resources and processes to best suit their area of focus.

We are an international business: Our 1,200 employees work from 17 locations across Europe, the Americas and Asia. We invest globally and serve clients globally.



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We organize our capabilities around four global investment platforms, each in areas where we have deep asset-class expertise: fixed income, real assets, equities and multi-asset & solutions. By organizing our investment teams on a global basis we can harness our expertise and research resources across regional boundaries, which we believe enhances our performance potential and generates better investment outcomes for clients.

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