

Private Bank Outlook 2020 BARCLAYS

Foreword

It's been a tumultuous year for financial markets in 2019, with geopolitical uncertainties heavily affecting sentiment. That said, the year has seen strong returns across major asset classes.

So what does 2020 have in store? Outlook 2020 shares our thoughts on likely key drivers of financial markets and appropriate investment strategies.

With Brexit unfinished and a US presidential election in November, 2020 is set to see geopolitical uncertainty climax. The end result of these two events will likely affect financial markets for the foreseeable future. While their outcome is highly unpredictable, the path to each should trigger renewed volatility.

Turning to the economy, elevated levels of uncertainty are likely to delay much investment, again, but the risks of a global recession are contained. Indeed, the private sector, and particularly households, still enjoys favourable conditions such as multi-decade lows in the unemployment rate.

Despite a further slowdown in Chinese growth, expansion in emerging markets should slightly accelerate overall, helped by a rebound in places like Brazil, Russia or Turkey.

While a recession should be averted, global growth remains fragile and valuations look stretched across all asset classes. With muted price returns likely, we prefer strategies providing yields to enhance total returns. And with uncertainty rising, tactical hedging and diversifying portfolios with private assets, market neutral strategies or gold seem appropriate.

Finally, with climate change rising up the political and corporate agenda, we examine the investment risks of climate change and how investors can respond to them. Indeed, with more fiscal spending on the cards, this is likely to be tilted, at least in part, to tackling this issue. In a year when uncertainty should reach new highs, climate change is a certainty that deserves all our attention.

Jean-Damien Marie and Andre Portelli, Co-heads of investment, Private Bank



Contents

Macro

- Global outlook: slow but steady 4
- 6 US outlook: consumers to the fore
- 8 European outlook: consumers to the fore
- EM outlook: on the up 10
- 12 China outlook: steadier, slower, surer
- Can the UK avoid a Brexit-induced recession? 14

Investment strategy

17 Navigating uncertainty

Investment themes

- 20 Time for globalization 2.0?
- 21 Yield enhancers
- 22 Passing the baton: from monetary to fiscal
- 23 Tactical hedging and strategic diversifying

Asset classes

- 24 Bond market recap
- 25 Are we in a bond bubble?
- 27 Defying a wall of worry
- 31 Time to be selective in alternatives

Investing sustainably

- 32 Climate change: assessing investment risk
- 34 Climate change: how investors can respond

Key dates 2020 37

- Henk Potts, Senior Investment Strategist henk.potts@barclays.com
- Jai Lakhani, Investment Strategist jai.lakhani@barclays.com
- Maria Vittoria Malavolta, Investment Analyst mariavittoria.malavolta@barclays.com
- Gerald Moser, London UK, Chief Investment Strategist gerald.moser@barclays.com
- · Julien Lafargue, CFA, London UK, Head of Equity Strategy julien.lafargue@barclays.com
- Michel Vernier, CFA, London UK, Head of Fixed Income Strategy michel.vernier@barclays.com
- Damian Payiatakis, Head of Impact Investing, damian.payiatakis@barclays.com



Henk Potts, Senior Investment Strategist – henk.potts@barclays.com

Global outlook: slow but steady

While trade and geopolitical uncertainties are set to buffet the global economy in 2020, is a recession really on the cards?

After years of positive and predictable growth, the outlook for the global economy became far more challenging in 2019 (see chart).

The range of potential culprits for the caution include trade wars, political and social instability in Europe, the structural slowdown in China, rising tensions in the Middle East and Brexit disruption. While recent newsflow suggests the risk of a no-deal Brexit and an escalation of the US-China trade war has diminished, the backdrop remains unstable. A heady mix of uncertainty is likely to persist, maintaining pressure on global growth prospects in 2020.

US-China trade stand-off

Undoubtedly the US-China trade war poses the single biggest risk to the global economy. While the two sides have appeared to edge closer to a mini-pact, we remain circumspect about market expectations of a rapid resolution to the dispute.

A detailed US-China agreement will take years to implement and to monitor compliance levels. America may also turn its attention to other regions. If so, the global economy will have to cope with higher tariffs for longer than was originally envisaged and a more widespread economic impact than first anticipated.

Growth drivers

While plenty of risks face the global economy, there are also a range of key supporting factors. The consumer remains in great shape, helped by historically low unemployment rates; pay growth that is outpacing inflation and tax cuts that have boosted disposable income. The service sector remains resilient and the corporate picture still looks relatively bright.

Central banks have become more accommodative of late and politicians are increasingly considering fiscal support, proving policymakers are willing to act to support growth and extend the cycle. However, policymakers' effectiveness may be infringed upon by the limited amount of ammunition available to them.

"Undoubtedly the US-China trade war poses the single biggest risk to the global economy. While the two sides have appeared to edge closer to a mini-pact, we remain circumspect about market expectations of a rapid resolution..."

Global growth is moderating					
Real GDP, % year-on-year					
	2018	2019	2020		
Global	3.9	3.1	3.2		
Advanced	2.2	1.6	1.1		
Emerging	5.1	4.1	4.5		
United States	2.9	2.2	1.6		
Eurozone	1.9	1.2	0.8		
Japan	0.8	0.8	0.3		
United Kingdom	1.4	1.4	1.6		
China	6.6	6	5.5		
Brazil	1.1	1	2.1		
India	7.4	5.3	7.4		
Russia	2.3	1	2		
Weights used for real GDP are ba	ased on IMF PPP-based GI	OP (5vr centred moving	averages).		

Potential warning signs

There are a number of developments that would encourage us to ring the recession alarm bell. Primarily, a dramatic re-escalation in the trade war developing into further nationalism.

Another warning sign would be if manufacturing and exports weakness filtered through to the services sector and household consumption. An inability to implement a timely resolution to the Brexit debacle would also have negative implications on sentiment and, in turn, growth prospects.

When assessing the risk of a recession in 2020, remember that economic contractions tend to be caused by a range of factors including shocks, structural imbalances, restrictive monetary policy and irrational exuberance. These, by their very nature, are difficult to predict and often don't shine through in economic models. However, we will continue to monitor the forward-looking survey data for signs of deterioration, paying particular attention to business confidence and investment levels.

Dull growth, but expansion

We do not anticipate that the global economy will slump into a recession in the near term. That said, global growth is moderating significantly.

We forecast that global growth will nudge up to 3.2% in 2020 from an estimated 3.1% in 2019. This is clearly slower than the 3.9% seen in 2018 and 20-year average of 4.1%, but not disastrous.

For investors looking to navigate through a period of heightened uncertainty, the most proficient approach is through a globallydiversified portfolio.

"We forecast that global growth will nudge up to 3.2% in 2020 from an estimated 3.1% in 2019. This is clearly slower than the 3.9% seen in 2018 and 20-year average of 4.1%, but not disastrous."



Henk Potts, Senior Investment Strategist – henk.potts@barclays.com

US outlook: consumers to the rescue

While growth is set to slow, healthy consumer spending and a robust labour market mean that a record period of economic expansion is not going to come to a dramatic halt.

The American economy's resilience allows us to maintain a reasonably constructive view of the global economy. A near-term US recession still looks unlikely, although we forecast growth will slow to an uninspiring 1.6% in 2020, from a steady 2.2% in 2019.

Slowing global growth and the uncertain political backdrop will continue to impact manufacturing and exports. Recent data suggests that management teams are more nervous, resulting in more subdued levels of business investment.

In 2020, the US economy will also get less of a boost from the aggressive fiscal stimulus measures put in place in the early years of the Trump administration. Signs of distress in debt (personal and national) and deficit levels could also point to further weakness ahead.

Consumer strength

While pressures have been building, consumers remain the driving force behind the domestic economy, accounting for around 70% of activity. Household demand continues to benefit from solid labour market fundamentals.

The unemployment rate recently fell to 3.5%, the lowest in half a century. We believe that the US economy is robust enough to generate jobs growth of around 125,000 per month in 2020, helping to maintain the multi-decade low in the unemployment rate.

While pay growth has been less than economists would expect at this point in the economic cycle, slowing to 2.9% in September 2019, it's still running comfortably ahead of inflation.

The rise in real incomes has given consumers greater financial firepower, helping to generate robust retail sales.

Trade hopes

October's truce in the trade war with China should help to reduce some of the pressure on the US economy in 2020. Escalating trade tensions would likely have further slowed global growth, thus reducing demand for US products and services.

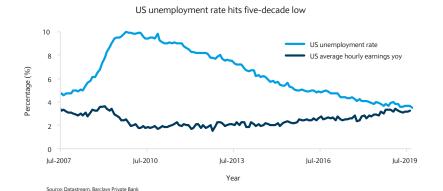
"We believe that the US economy is robust enough to generate jobs growth of around 125,000 per month in 2020, helping to maintain the multi-decade low in the unemployment rate."

Additionally, rising producer and consumer prices could have increased costs for businesses and resulted in a weakening of domestic consumption.

Despite the more positive signs, the risk of a trade war hasn't disappeared overnight and any agreement remains vulnerable to a volatile president.

Presidential election

The outcome of the 2020 presidential election will significantly impact the medium-term outlook for the US economy. While the Democratic candidate is unknown, there are likely to be significant policy differences with President Donald Trump over taxation, climate change, regulation and international relations.



Measured rate cuts

The US Federal Reserve has embarked on "insurance cuts". These measured rate cuts reduce the risk of a policy mistake-induced recession and are expected to support growth prospects. Lower rates cut the cost of financing, create a wealth effect (boost asset prices) and enhance business confidence.

Future cuts are likely to be data dependent, but there's little evidence to suggest that the US central bank will need to rapidly slash rates in 2020. Thus, the US's relatively stronger growth profile and interest rate differential should continue to be a source of dollar strength.

While dark clouds may continue to gather, the fundamentals of the US economy remain healthy. So there is little reason to believe this record period of economic expansion is about to come to a dramatic halt.

"While dark clouds may continue to gather, the fundamentals of the US economy remain healthy."



Henk Potts, Senior Investment Strategist – henk.potts@barclays.com

European outlook: show me the money

Will 2020 at last be the year when eurozone policymakers stop obsessing with balanced budgets and focus more on fiscal reforms to lift the region's lacklustre growth prospects?

The significant deterioration in Europe's growth profile over the past 18 months is sparking fears of a recession in the eurozone in 2020. The single currency bloc's open, and export-oriented, economies are vulnerable to the slowdown in global growth, trade wars, Brexit uncertainty and the manufacturing recession.

Accompanying the weaker external demand, Europe struggles with a broad range of internal disruptions. These include the "yellow-vest" protests in France and turmoil in the Germany auto sector. Meanwhile, Italy's budget battle with Brussels in 2019 resulted in subdued investment and held back hiring.

Growth, not recession

While growth rates are expected to remain under pressure, we are not forecasting contraction in 2020. Financial conditions are loose and consumer confidence

remains resilient, helped by a falling unemployment rate.

Recent data shows that eurozone unemployment fell to 7.4%, from 12.1% in April 2013, which is the lowest unemployment rate since 2008. Additionally, pay growth is running at its fastest pace in a decade, supporting domestic consumption.

While the US-China trade dispute has grabbed the headlines, President Donald Trump has also been reviewing the US's relationship with the European Union (EU). While a full-blown US-EU trade confrontation appears unlikely, we still expect flareups (particularly US auto tariffs).

More dovish policy

The weaker growth backdrop has encouraged the European Central Bank (ECB) to ratchet up its policy response in another effort to stimulate growth, reflate the economy and generate jobs.

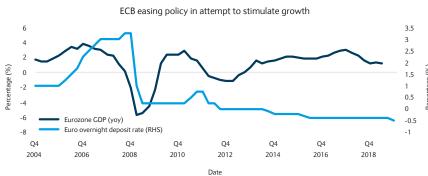
The ECB cut the deposit rate to -0.5% in September (see chart). We anticipate further cuts, with the deposit rate at -0.7% by March.

The central bank restarted its assetpurchase programme and introduced measures to mitigate against the impact of negative rates on the banking system in 2019. Along with these measures, the ECB has offered aggressive forward guidance and promised to keep rates low, or lower, until inflation persistently converges with its 2% target level – an objective that is unlikely to be achieved for the next few years.

The ECB's measures, while supportive, are unlikely to be enough to radically change Europe's lacklustre growth trajectory in 2020. Former ECB president Mario Draghi acknowledged this and encouraged Europe's political leaders to commit to the structural reform agenda and fiscal support.

Fiscal response

A wide-ranging package of structural reforms is required to promote growth and supplement monetary policy. These should include further integration of Europe's budget, fiscal and banking functions. Europe should also focus on increasing the flexibility of the labour market. It needs to create a more competitive environment that drives up productivity.

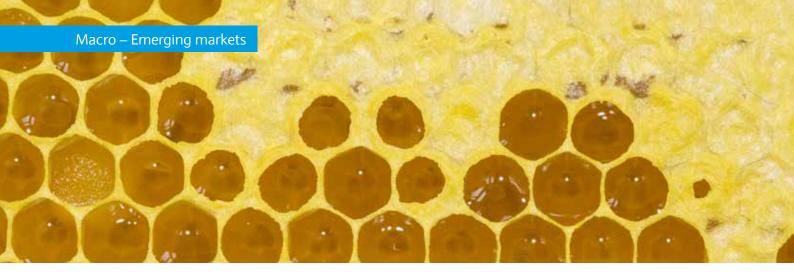


Source: Datastream, Barclays Private Bank

Early signs of possible fiscal support appear encouraging. Germany has announced plans to invest in a new climate change package and the Netherlands has announced tax cuts. However, the lack of coordination or size of proposals is not currently enough to materially improve growth forecasts.

If European governments are determined to generate growth, they need to spend less time obsessing about balancing the books and devote greater effort to the reform schedule.

"While growth rates are expected to remain under pressure, we are not forecasting contraction in 2020."



Henk Potts, Senior Investment Strategist – henk.potts@barclays.com

Emerging markets outlook: on the up

Will easier policy from key central banks help set the scene for more buoyant growth in emerging markets next year?

Emerging markets (EM) in 2020 will remain vulnerable to the vagaries of the global economy. Moderating growth in the US, Europe and China will continue to filter through to reduced demand for EM products and services. The development of trade negotiations, sanctions, energy prices and domestic political conditions will also determine the fate of EM economies over the next year.

Swings and roundabouts

While global growth has suffered from trade wars, certain EM economies have profited by capturing US-China trade flows. Among those often cited as beneficiaries of the trade diversion are Vietnam, Malaysia and Mexico.

Rising tension in the Middle East has led to concerns around the risk of a prolonged period of elevated oil prices. Spikes in energy prices could represent both a risk and an opportunity for EM. EM Asian economies are in aggregate

importers of energy, while a higher oil price would benefit Eastern Europe, the Middle East and Africa.

EM have prospered from the pivot to policy easing from key central banks in 2019, which has improved liquidity conditions. Inflation across most EM countries is low by historical standards and expected to decline further. This provides central banks with more room to ease policy and stimulate growth.

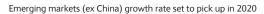
Encouraging prospects

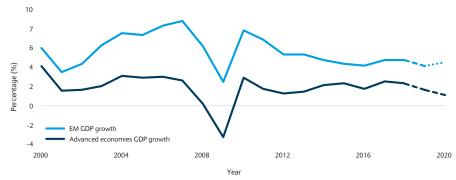
After a specifically disruptive political backdrop for many EM during 2019, hopes of stability in certain key economies should help to provide a more stable backdrop in 2020. A re-acceleration in growth could be on the cards for economies whose fundamentals remain strong and will be supported by fiscal and monetary policy such as India, Brazil and Russia.

"A re-acceleration in growth could be on the cards for economies whose fundamentals remain strong."

India

The estimated 6% growth rate that India achieved in 2019 was the slowest in seven years. Weakness has been driven by lower levels of private consumption, held back by lacklustre income growth. However, the material reduction in policy rates, easier liquidity, reduced corporate taxes and improved weather conditions suggests that growth will recover to 7% in 2020. In order to stimulate long-term growth, the government must implement policy changes aimed at boosting investment, attracting capital and financial reforms.





Source: Datastream, Barclays Private Bank

Russia

Russia benefits from a solid macro framework, with high levels of international reserves and low external debt. Its economic outlook benefits from a conservative fiscal policy and improved tax administration which has generated a budget surplus. Unemployment has improved and real wages are rising. Inflation has surprised to the downside and the central bank has aggressively cut rates, with more expected in 2020.

However, the possibility of US sanctions continues to pose a material risk to Russia's growth prospects.

Brazil

Confidence in Brazil's economic outlook has improved with pension reform and the releasing of funds held by employers in case of unfair dismissal. Recent data shows there has been a positive contribution to growth from both supply and demand. We forecast that Brazilian growth will improve to 2.1% in 2020 from an estimated 1% in 2019.

Be selective

While growth forecasts for advanced economies have been falling, emerging markets, excluding China, should provide a source of improvement in 2020. Investors, as always, will need to be very selective on regions and cognisant of risks.

"While growth forecasts for advanced economies have been falling, emerging markets, excluding China, should provide a source of improvement in 2020."



Henk Potts, Senior Investment Strategist – henk.potts@barclays.com

China outlook: steadier, slower, surer

Will fiscal spending and easier monetary policy be sufficient to support the economy in 2020, as Chinese growth is buffeted by the US trade war?

China is an essential driver of global growth. Its share of worldwide output has risen to 16% in 2018 from 1.9% in 1992, representing a dramatic change in global dynamics.

China is projected to surpass the US as the world's largest economy between 2030 and 2050. So, the country's future growth profile has widespread implications for the global economy (see chart).

Domestic consumption vital

China is an economy in transition. We have previously characterised the Chinese economy as an arena for state investment, a manufacturing powerhouse, but increasingly China should be considered a domestic consumption-led economy.

The National Bureau of Statistics of China estimates that domestic

consumption accounts for 42% of economic activity, up from 15% in 1991. The country is already the largest market for cars, computers and smartphones. Consultancy firm Bain estimates that the Chinese consumer made 33% of luxury purchases in 2018. Domestic consumption will continue to be supported by a growing middle class, higher wages and longer life expectancy.

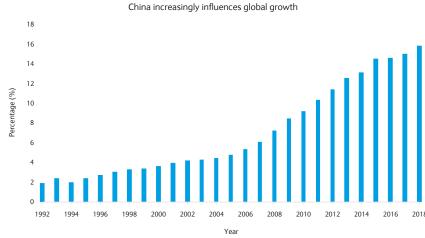
Faster urbanisation will also be a key driver of domestic consumption. The share of China's population living in urban areas has more than tripled since the 1960s, rising from 18% in 1960 to 56% in 2015. Urban households are estimated to spend twice as much as their rural counterparts, according to a paper published by Federal Reserve Bank of Kansas City.

"We estimate that the imposition of tariffs on \$360bn worth of exports to the US has reduced Chinese growth by the equivalent of 30-50 basis points per annum."

Growth drags

Trade wars have clearly infringed on China's growth prospects. We estimate that the imposition of tariffs on \$360bn worth of exports to the US has reduced Chinese growth by the equivalent of 30-50 basis points per annum. The recent detente has provided some respite, but a re-escalation would encourage us to further downgrade China's growth outlook.

A debt deleveraging programme also weighs on China's immediate growth potential. Domestic capital markets are relatively undeveloped; so companies are reliant on indirect financing. Credit growth has risen rapidly in recent years, pushing leverage to all-time highs and leading to concerns about the size of the shadow banking sector. Authorities have been aware of the issue and are reining in borrowing at stateowned enterprises, tightening credit conditions for property developers and introducing financial market reform.



Source: Datastream, Barclays Private Bank

Balancing act

In 2020, we think that Chinese authorities will attempt to maintain a fine balancing act, as they look to mitigate the risks of the trade war, reduce leverage, while promoting a steady, but slower growth profile.

We expect policymakers to continue to use fiscal policy measures (tax cuts and infrastructure investment) to support the economy. Further, monetary easing is anticipated in 2020, but is likely to be moderated by fears of exacerbating a housing bubble, leverage levels and inflation constraints. So anticipated policy response is likely to be restrained compared to previous bouts of economic weakness.

Outlook

We expect Chinese growth of 5.5% in 2020, representing a significant reduction from the estimated 6% in 2019 and 6.6% achieved in 2018.

For the next five-year plan, due to start in 2021, economists project growth of 5-5.5%. These forecasts represent a substantial slowdown from the 10% growth rate of just a few years ago. However, China is a much larger, more mature economy and is still generating an economy the size of Australia each year.

"China is a much larger, more mature economy and is still generating an economy the size of Australia each year."



 ${\it Jai Lakhani, Investment Strategist-jai.lakhani@barclays.com; Maria Vittoria Malavolta, Investment Analyst-mariavittoria.malavolta@barclays.com} \\$

Can the UK avoid a Brexit-induced recession?

As more clarity emerges on Brexit and a resolution edges closer, is it time to invest in UK assets again?

In the aftermath of the 2016 Brexit referendum, economists predicted that the UK economy could be heading for an imminent recession. The Bank of England (BOE) cut interest rates by 25 basis points at its subsequent August meeting, with the reasoning that insulation for businesses was needed against a "Brexit recession".

However, the warnings discounted incorrectly the difference between the beginning of a process to leave the European Union (EU) (one that is still ongoing) and leaving the EU. As a result of this, and a domestic sector which benefited from full employment and steady real wage growth, the UK economy has so far survived the recession scares.

This is not to say that the paradigm of a future relationship without the EU has not come at an economic cost. Moreover, the cost is likely to continue, mitigated (albeit to varying degrees) with clarity on when the UK leaves the bloc and the extent of amendments to the withdrawal agreement bill (WAB), in principle passed through parliament in October.

Difference between no recession and stagnation

While the UK economy is yet to encounter a technical recession (two consecutive quarters of contraction), growth has slowed and lagged the pace of global growth. Furthermore, the economy shrank in the second quarter of 2019 by 0.2%. In the absence of growth in the rest of the year of 0.62%, this will translate to growth below potential in 2019.

"While the UK economy is yet to encounter a technical recession...growth has slowed and lagged the pace of global growth."

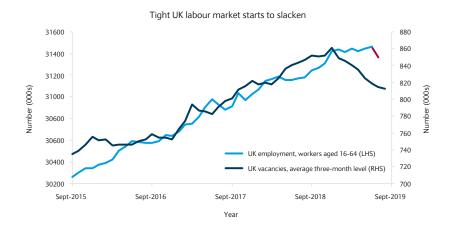
Labour market cracks

The tightness in the labour market can only be partially explained by steady gross domestic product (GDP) growth. Part of the reason behind full employment can be traced to Brexit-driven business uncertainty, resulting in lower fixed capital creation by the corporate sector, with companies having to retain workers as opposed to investing.

A tight labour market without productivity gains will eventually become too high a cost for businesses to bear and evidence of this is starting to appear. The August unemployment rate rose to 3.9%, from 3.8% in July, with employment falling for the first time in just under two years. More concerning was vacancies falling for an eighth consecutive month, to their lowest level since November 2017, with companies reining back hiring plans (see chart).

UK real estate market suffers

Brexit has hit the UK housing market, with overseas investors quick to pull their money from the country and weaken demand for the London



market in particular. Despite the region boasting the highest average asking price, growth has contracted (year on year) in the 18 months to August 2019. There has also been some contagion, with regions such as the south-east and the east also struggling.

UK house price growth grew by 0.1% in 2018, sharply down from the 4.5% experienced in 2016 and dramatically below the 13% growth seen in 2014.

While demand and supply imbalances will help house prices, real estate remains at risk given that a no-deal departure remains a possibility as well as there being a growing case for a resolution. So the real estate market may not generate the same returns over the next ten years as seen in the last decade.

"The real estate market may not generate the same returns over the next ten years as seen in the last decade."

Sterling's volatile ride

In June 2016, the pound sharply declined against all major currencies, with markets ex-ante not pricing in the possibility of the UK departing from the EU. Sterling has stabilised at lower levels over the past couple of years, but never reached its prereferendum highs.

Volatility significantly increased in 2019 as Article 50 deadlines were repeatedly postponed, Theresa May's draft deal was rejected three times and the prime minister eventually resigned, to be replaced by Boris Johnson. Sterling weakness persisted, although it has rallied considerably in October as the likelihood of a deal increased, with the currency up 7%.

Over the medium term, we believe sterling will remain volatile as several outcomes (extension, change of government and potential amendments to the existing bill) remain on the table. However, we expect the currency to eventually strengthen on the back of a positive resolution.

Sterling's depreciation initially drove UK inflation higher, with the consumer price index (CPI) spiking to 2.8% in September 2017, from 0.8% in June 2016. However, inflationary pressures

were temporary and have eased since, on the back of modest GDP growth and weak energy prices. CPI has recovered to healthier levels, at 1.7% and slightly below its 2% target, while inflation expectations have decreased as hopes of a Brexit deal resurface.

Uncertainty or no-deal: what hurts most?

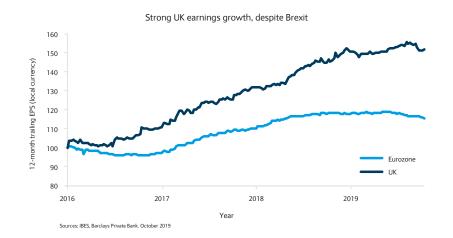
What is widely agreed upon among investors is that an unplanned, and sudden, no-deal departure will impede the supply side of the economy. Businesses would then face trade barriers like new tariffs, additional customs checks and import/export certifications. This in turn would hit demand due to cost pressures being passed to final goods and services.

The UK's future trading relationship with the EU can still take many forms.

Agreeing the withdrawal agreement in principle is a step towards transparency. However, even if the full WAB is ratified in parliament, this is only the beginning of the process and hinges on the outcome of the general election on 12 December 2019.

The transition phase, should we get to this stage, puts the necessary protocols in place to leave the EU in line with the WAB. Failure to do this, and not extend the transition period, would mean a departure without a deal after a prolonged period of uncertainty, something that business would struggle to manage.

The impact of the heightened period of uncertainty so far on UK business has meant lost opportunities to invest. As Bank of England Governor Mark Carney has mentioned, given the EU-UK Brexit agreement, business investment will likely recover but "it won't all come back, obviously, because we don't know the exact nature of the future relationship."



Should further extensions of Article 50 with no end product be the norm, businesses would remain in limbo. Ambiguity hurts is the key takeaway from this. A no-deal scenario would hurt, but if it was known to be the final outcome, at least companies would be able to outline contingency plans and focus on the business more once they get past the initial shock.

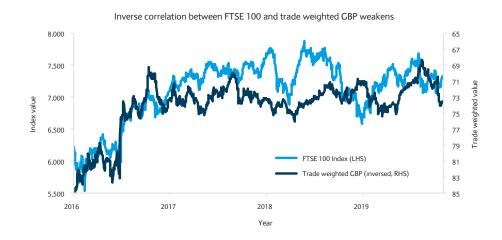
Time to invest in UK assets?

With the withdrawal agreement at the early stages of negotiations, alpha generation through active management for UK assets seems more prudent. A Brexit resolution being more likely than before, we have increased our conviction on UK equities over the medium term.

Following the large post-Brexit capital outflows from the country, we believe it is time to gradually invest in this unloved market. Valuations look undemanding, with UK equities at their largest discount to eurozone ones in 10 years. However, earnings growth in the UK of 50% over the last three years is triple that of European counterparts (see chart on p15).

These anomalies in the past have tended to be short-lived and are likely to be leveraged should more clarity emerge. However, clarity should not be the deciding factor given the resilience of the FTSE 100, which is likely to remain somewhat immune from domestic disruptions given its exposure to international markets, with 80% of sales generated from outside the country.

Although the inverse correlation between a weak pound and the FTSE 100's performance has been weakening (see chart), this could be fortuitous for international businesses. On the one hand, these businesses would suffer less than domesticfocused companies from the impact of a no-deal Brexit due to currency weakness, as sterling depreciation would aid revenues when repatriated back home. On the other hand, should a resolution lead to a strong sterling, this would not drag performance as much, given the positive impact a deal could have.





Gerald Moser, London UK, Chief Investment Strategist – gerald.moser@barclays.com

Navigating uncertainty

If 2019 was a tough year, then 2020 may be an even choppier one. So what investment strategies are worth considering to withstand the potential squalls that lie ahead?

A look back at 2019

The year has been a turbulent one for financial markets. After a strong bounce from risk assets in the early part of 2019, to recover from the growth scare that shook markets in the last three months of 2018, financial markets have been particularly volatile while trending modestly higher.

Geopolitics, rather than fundamentals, has affected markets. While manufacturing has been slowing meaningfully, akin to what has been seen in previous "soft" recessions, this seems to reflect political uncertainty delaying investment rather than a genuine broad economic slowdown.

Growth has been lacklustre but resilient, with consumers' strength offsetting investments' weakness. Although returns have been muted at the index level, widely diverging

returns have been plentiful underneath the surface depending on the endmarket (consumer versus business) and geographical exposure (domestic versus international). The dovish turn from major central banks, notably the US Federal Reserve (Fed), helped fixed income in general to enjoy a doubledigit return in 2019.

Uncertainty levels to climax in 2020

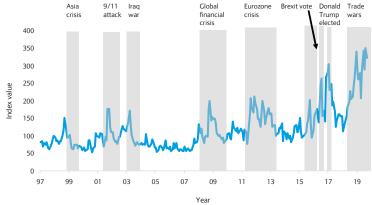
Our expectations for 2020 can be summed up in two words: "more uncertainty". The economic cycle is getting older, a US presidential election is nearing, Brexit continues to linger and central bank heads (Bank of England and European Central Bank) and framework (Fed) are being replaced. So economic policy uncertainty is likely to rise further, after peaking at its highest level in more than 20 years in 2019.

Economic policy is a paramount parameter for investors: it sets the rules of the game. The level of taxation, the ease of doing business, the cost of borrowing, the openness of an economy and the like are factors that affect the value investors assign to a company, even though companies have no control over such factors. Economic policy has typically been relatively stable with only minor changes occurring over the years. But trade tensions, geopolitical sanctions, Brexit and unconventional monetary policy are changing those rules, or expectations of them, much more often than in the past.

And this not only affects investors, but also companies. It is increasingly difficult for companies to know where, and in which area, to invest. As highlighted in the third-quarter reporting season, companies have given little guidance to investors, blaming the "rampant uncertainty" as a reason for their relative silence.

Policy uncertainty also explains why growth in investments almost turned negative. Shifting rules make it almost impossible to take long-term decisions, which is what investments entail. The trend observed in 2019 looks set to continue in 2020, with consumption holding up economic growth while investment continues to be anaemic, except in certain areas such as technology.

Economic policy uncertainty index close to a 20-year high



Source: Datastream, Barclays Private Bank

Still prefer equities, but be select

With a recession still an outside chance but growth remaining lacklustre, we continue to prefer equities over fixed income investments, especially at this late stage of the cycle. But there is a caveat: index level performance is unlikely to diverge meaningfully between the two asset classes given the aforementioned geopolitical and economic backdrop. In both cases, we expect returns to be limited considering stretched valuations, low growth and increasing uncertainties.

Equity selections are likely to be an even more powerful way to add more value in 2020 than they were in 2019.

In commodities, the additional uncertainty should strengthen the benefit of allocating to gold as a diversifier asset in a portfolio context.

In the oil market, supply should outpace demand, but the unpredictable geopolitical landscape is likely to keep the oil price in a range. Other alternative assets, such as private capital and uncorrelated hedge fund strategies, are likely to become even more valuable from a portfolio perspective. With uncertainty on the rise, investing in strategies with less short-term volatility and a focus on

long-term fundamentals would make sense and add value to a portfolio.

"With the uncertainty on the rise, investing in strategies with less short-term volatility and a focus on long-term fundamentals, would make sense and add value to a portfolio."

Volatility as an asset class

So far, uncertainty has been approached with a negative bias in our discussion. But investment opportunities will arise from higher uncertainty. Namely, volatility is likely to increase significantly at times and should be considered as a standalone asset class, particularly as it is negatively correlated with risky assets.

Systematic selling of volatility is a strategy which makes sense in a portfolio context. Indeed, we believe it should be among the main alternative strategies. With uncertainty rising, the risk premia, or the compensation received from selling volatility, increases to compensate for the murkier outlook. On a more opportunistic basis, there are likely to

be occasions to go long volatility to protect the portfolio when volatility levels dip, perhaps after a period of more optimistic news.

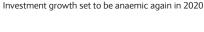
"We believe [that the systematic selling of volatility] should be among the main alternative strategies."

Positioning for four investment themes

We identify four investment themes for 2020 worthy of consideration when looking at what to expect in the markets next year:

1. Looking for yields: We continue to like this investment theme. We expect the main asset classes to only return modest index gains in 2020 (though heightened volatility could lead to large swings during the year). So looking for sustainable yields, either in equities or fixed income - notably emerging market (EM) fixed income - as well as through alternative strategies, is a vital element of our investment strategy.

"We expect the main asset classes to only return modest index gains in 2020."





- 2. Globalisation 2.0: This is set to be a pivotal year for the global setup in which countries interact. The US presidential election, the Brexit outcome and moves towards more or less cooperation in the European Union will affect whether the geopolitical backdrop is market friendly in the medium to longer term. This will create tactical opportunities. However, for the time being we maintain our preference for US and EM consumer exposure and mitigate exposure to trade and supply-chain exposed companies.
- 3. From monetary to fiscal policy: Fiscal policy is unlikely to be accommodative in 2020. This investment theme is not about a strong fiscal incentive, such as that seen in the US in 2017 with a significant tax cut. However, we see potential pockets of fiscal expansion, especially linked to green initiatives in Europe. And once uncertainties surrounding the UK and US political background are lifted, we think that some areas could benefit from fiscal stimulus, through tax cuts and/or additional spending (for instance, infrastructure or environmental transition).
- 4. Time to hedge and diversify: With heightened uncertainty, assets such as gold and volatility should be used in a portfolio context to diversify away from risky assets. Volatility could also be used to hedge opportunistically when the costs/benefits make sense. And other alternative strategies which are market neutral or fundamentally driven, or not being influenced by geopolitical events, should be considered.

Potential major risks

On the downside, we think that the biggest risk in 2020 will come from an unexpected event rather than a severe economic downturn. An event-driven sell-off, such as the EM debt crisis and the collapse of Long-Term Capital Management (1998), the plunge in energy prices and fears regarding China's economy (Q4 2015) or the trade tensions and rates hike from the Fed (Q4 2018), could trigger a market sell-off of 10% or more without the global economy going into recession.

The trigger could be higher yields, an inflation surprise, trade tensions flaring up or additional tensions in the Middle East. In the current environment, there are more candidates than usual that could trigger market disrupting events. That said, it is worth keeping in mind that equity markets regularly see a 10% sell-off at some point in any year outside of a bear-market (when the fall can be larger).

On the positive side, a resolution of US-China trade tensions and, more broadly, market-friendly outcomes to geopolitical tensions could create upside to our base case. Also, a more decisive fiscal stimulus would lead to a better economic outcome than we currently expect.

"We think that the biggest risk in 2020 will come from an unexpected event rather than a severe economic downturn."



 $Gerald\ Moser, London\ UK,\ Chief\ Investment\ Strategist-gerald.moser@barclays.com$

Time for globalisation 2.0?

With the era of collaborative globalisation seemingly ending and risks of trade wars increasing, the outcome of the next US presidential election will be crucial to the shape of globalisation 2.0.

Since the last US presidential election in 2016, globalisation has taken a step back. Trade conflicts, heightened tensions in the Middle East and a general rise in populism have jeopardised the globalisation process seen in recent decades.

While increased globalisation has helped reduce the gap between developed countries and emerging ones, it has triggered more inequality in the developed world.

A shift in the global order

The next twelve months will be pivotal for the global political order. There are a string of events or developments that could tilt globalisation towards an increasingly contentious relationship between countries or towards a more conciliatory framework.

"The next twelve months will be pivotal for the global political order."

In other words, will the rise of populism persist or will the trend peak and even start to reverse? Whatever the outcome, the globalisation process is entering a second stage that still needs to be designed.

The US presidential election race, the final outcome of Brexit and the development towards more or less cooperation in the European Union will be key events for financial markets in 2020. The outcome of each has the potential to support or derail them.

A more fragmented global order, with countries embattled in trade tensions, is one that does not foster confidence and increases uncertainty. We saw this in 2019, resulting in a lack of investment that is usually only seen during periods of global recession.

On the contrary, a more cooperative environment resulting in less friction and uncertainty would likely lift some of the risk premium weighing on the assets most affected by the tensions.

Too much uncertainty for now

Whichever way changes to the global order play out, it will create tactical opportunities across asset classes. But for the time being, the direction of travel remains unclear. So we prefer to err on the side of caution and steer away from areas that are suffering the most and could suffer even more if the world economy becomes more fragmented.

While consumers cannot remain completely insulated from escalating trade tensions, it is nonetheless one area of strength that we prefer. This is particularly true in the US, where the fundamentals remain healthy. It is also the case in emerging markets (EM), where the trend of a growing middle class continues to inexorably materialise. In this context, we like consumer discretionary and communication services.

Another result of the US's more confrontational rhetoric is the slow, but noticeable, shift to gold and away from the dollar, particularly on the part of EM central banks. With real yields close to a record low, there is sense in holding gold as a diversifier in a portfolio, in case globalisation as we know it collapses.

"There is sense in holding gold as a diversifier in a portfolio, in case globalisation as we know it collapses."

Throughout 2020, we will adjust those views depending on the direction that globalisation 2.0 takes.



Gerald Moser, London UK, Chief Investment Strategist – gerald.moser@barclays.com

Yield enhancers

With returns in many asset classes likely to be muted in 2020, adopting strategies aimed at enhancing yields makes much sense.

We have been in favour of strategies that look to improve total return with yields since April 2019. Considering that we expect price returns to be fairly muted in 2020 across major asset classes, we would continue to look for enhancing total returns with yields.

Prefer safer yields over higher ones

There are several options to capture some yields. First of all, in equities, we have a preference for dividend growers. Companies growing their dividends tend to do better than high-dividend companies.

We would be cautious of buying companies based solely on the dividend yield. A disproportionally high dividend yield often reflects the market expecting that the company will cut its dividend at some point. By contrast, we think that either focusing on companies that are growing dividends

or on companies with stable cash flows that have the financial strength to pay their dividends is a better strategy in equities.

In fixed income, we see the best risk/return reward from a yield perspective in emerging market (EM) debt. As with equities, we would not chase the highest yield. Considering the late stage of the economic cycle, we think it is too risky to sacrifice strength to chase higher coupon in the junk bond part of the market. On the corporate side, we see opportunities to pick up yield in BBB-rated bonds, especially when extending duration.

Spreads are already tight in the high yield space and we see little room for improvement. On the contrary, we expect EM economies to improve slightly in 2020 compared with 2019. Furthermore, we see opportunities for EM fixed income to add yields in

a portfolio while mitigating risks of a large increase in spreads.

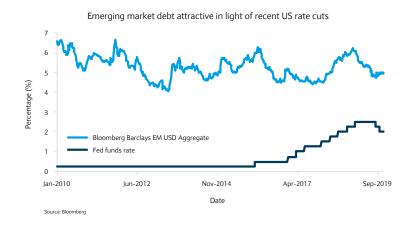
Volatility provides good opportunity for yield enhancement

Volatility is one area where we see good opportunities for total return enhancement. Rising uncertainties are likely to translate to higher premium for insurance against a market sell-off. This is a good time to set up strategies that consistently aim to extract this higher premium from the market.

In order to be effective and relatively safe, strategies collecting premium should be systematic and focused on collecting short-dated premium. A short-term contract provides the opportunity to renegotiate the premiums more frequently, allowing potentially higher premium income.

And doing it systematically can capture spikes in volatility without worrying about timing. It also reduces the risk of being caught wrong-footed with the timing for selling volatility. When done properly, a volatility-selling strategy should add positive performance to a portfolio.

"When done properly, a volatility-selling strategy should add positive performance to a portfolio."





 ${\sf Gerald\ Moser}, {\sf London\ UK,\ Chief\ Investment\ Strategist-gerald.moser@barclays.com}$

Passing the baton: from monetary to fiscal

Central banks can only go so far in sustaining the global economy. The role of governments, via fiscal measures, also matters. Is 2020 the year when governments at last pick up the baton and open the fiscal spending gates?

In the first quarter of 2019, central banks globally, with the US Federal Reserve being the most prominent, reversed course and loosened policy rather than tightening it. The policy shift helped to improve sentiment and bolstered areas sensitive to rates, such as the housing market.

More supportive fiscal policy

Fiscal spending is likely to increase in 2020, at last. But this additional spending is likely to be gradual. We do not expect a game-changing fiscal event to be seen in 2020, such as the significant tax cuts unveiled by President Donald Trump's administration in 2017.

Turning to the US, as 2020 is a presidential election year and with Congress opposing President Trump it is unlikely that we will see much spending in the short term. However, depending on the outcome of

November's election and whether the new Congress is aligned with the president-elect, the market may start to discount any fiscal policy promoted by the new president during their campaign.

In Europe, there is a growing consensus for more fiscal action. But growth may need to decelerate further for some austerity-prone countries, such as Germany, to start opening the spending taps.

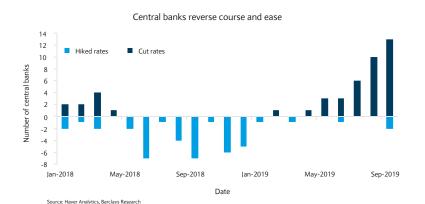
At the European Union level, there could be concerted actions on environmental issues. Christine Lagarde, the new European Central Bank's president, is open to including more "green" bonds in the central bank portfolio. With climate change becoming a pressing topic for politicians, there is potential for more spending aimed at speeding up the energy transition towards less carbon emissions.

In the UK, once the Brexit saga concludes and a new government is in place, fiscal policy looks set to be more accommodative than it was in 2019, as politics returns to a semblance of normality.

Green initiatives to the fore

With fiscal policy likely focusing on infrastructure and environmental transition spending rather than outright tax cuts in 2020, investment opportunities are most likely to arise in targeted pockets rather than across the corporate sector. Industries and companies most exposed to efforts to reduce the impact of climate change, accelerate energy transition and improve infrastructure appear set to profit the most from increased spending in those areas.

For the time being, we would focus on green efforts but would carefully monitor development on the fiscal side to adjust our preferences as initiatives unfold through 2020.





 $Gerald\ Moser, London\ UK,\ Chief\ Investment\ Strategist-gerald.moser@barclays.com$

Tactical hedging and strategic diversifying

With uncertainty set to stay elevated in 2020, adding value through hedging strategies and diversifying away from equities and fixed income seems to make sense.

As highlighted often in our Outlook 2020 report, arguably the main topic for markets is likely to be uncertainty. Although uncertainty is difficult to deal with when making investment decisions, we think that there are solutions that can help investors.

Hedging exposure

As highlighted in the *Yield enhancers* article, volatility can be used to generate a steady stream of returns through systematic selling of volatility. But in periods of uncertainty, there will also be times to use volatility to hedge opportunistically when the cost/benefit of doing so looks sensible.

As the timing of any sell-off or risk-off episode is uncertain, we see more value in staying invested and using cost-efficient hedging, rather than staying on the sideline and losing value to inflation from holding cash.

Ramping up uncorrelated returns

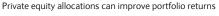
We also see value in increasing exposure to asset classes, or strategies, that are less correlated with equities and fixed income. In this late-cycle environment, and with the additional layer of geopolitical uncertainty, diversifying exposures or adding assets that have more fundamental drivers, and are less sentiment driven, are steps that should add value in portfolios.

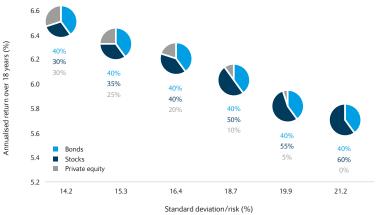
We see several ways to add value. First of all, we continue to like gold as a diversifier in a portfolio. While we do not expect a recession in 2020, risks are increasing and uncertainty is high. Gold has historically been one of the most effective hedges during periods of equity drawdowns.

Second, private markets can be another potent diversifier. Adding private capital to a portfolio has historically decreased risks and improved returns (see chart).

Private capital funds usually focus on particular fundamental drivers: the thorough due diligence advisable before making an investment implies that the value of this investment is primarily derived from a company strategy rather than top-down considerations. The illiquidity nature of the asset class also means that shifts in risk sentiment have less impact on private investments than on public markets.

Finally, we see opportunities to diversify in public markets using alternative strategies, such as market neutral or merger arbitrage. Those strategies should only be partially correlated with markets as they tend to focus on fundamental discrepancies arising from a particular situation, such as takeovers. Over time, there should be a pull to realise fundamentals, with little impact arising from top-down drivers.





Source: Prequin, Bloomberg, Barclays Private Bank



 $\label{lem:michel vernier} \mbox{Michel Vernier}, \mbox{CFA, London UK, Head of Fixed Income Strategy-michel.vernier@barclays.com} \\$

Bond market recap: two contrasting years

While 2018 disappointed bond investors, 2019 delivered exceptional returns across the major bond markets. While this pattern, as well as ultra-low yields, may raise concerns, it is worth a closer look before drawing conclusions for 2020.

2019 goldilocks scenario

Bond returns in 2019 should not be extrapolated when looking forward to 2020, given that the market, across most currencies and segments, started the year at very low entry levels after the sell-off in December 2018. Investment grade bonds, as well as longer dated US treasuries, delivered 13% performance while high yield bonds and emerging market bonds returned around 10% over 2019. This is in stark contrast to 2018, when most bond segments, even taking into account coupon payments, delivered negative returns.

Short-dated bonds offer certainty

Only short-dated government bonds achieved positive returns in each of the two years. Future returns of short-dated bonds, unsurprisingly, are more predictable. At the start of 2018 short-dated treasury bonds yielded 1.6%, on average, delivering a performance of 1.9% while at the start of 2019 the yield was 2.5%, delivering a performance of

3.2%. This may suggest that short-dated bonds are the superior segment in the bond market.

In the long run, short-dated bonds underperform significantly

However, certainty comes at a cost. While in the short and medium term the yield difference seems a small sacrifice, in the long run bond investors are losing out on two additional features: income and a hedge against recession or low growth.

Since 2004, the return of short-dated bonds averaged 2.5% in USD each year. This compares with a 9% average return for longer dated US treasuries, or an 8% average return for investment grade bonds. In the same period, high yield bonds and emerging market bonds returned over 13% on average each year. So short-dated high grade bonds underperformed by 5.5-10.5% each year depending on the respective market.

Which bond assets perform when yields are rising?

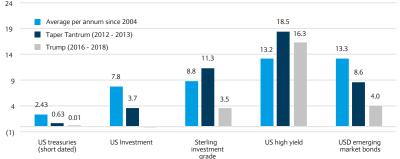
The performance of longer dated bonds has been helped by lower trending rates. So how does this compare when considering periods of increasing rates? A prominent example is the 2012-2013 period when the US Federal Reserve decided to reduce its balance sheet, causing a dramatic surge in bond yields.

EM and HY bonds perform even in rising rate environment

Unsurprisingly, longer dated treasuries lost over 9% within 1.5 years in 2012 and 2013, while returns on short-dated bonds provided a positive return of 0.6%. Investment grade bonds (3.7%), high yield (HY) bonds (18.5%) and emerging market (EM) bonds (8.6%) performed well during that period. The often quoted underperformance of EM and HY assets was only two months, while both segments recovered quickly afterwards. A similar pattern was observed during 2016, when US rates rose on the back of President Donald Trump's fiscal stimulus plans.

It seems that apart from temporary bursts of volatility, most parts of the bond market typically outperform short-dated bonds significantly over the longer term. And this even occurs in periods of rising yields or when short-dated bonds seemed to offer the only safe haven. Losing out by 5.5-8.5% each year seems a big sacrifice in this context.

US short-dated bonds/cash underperformed in most cases



Source: Bloomberg Barclays Indices, Barclay Private Bank, Taper Tantrum and Trump period from lowest to highest level of US 10-year treasury.



Michel Vernier, CFA, London UK, Head of Fixed Income Strategy – michel.vernier@barclays.com

Are we in a bond bubble?

In an era of depressed or negative returns, high leverage and thin liquidity levels, we believe that bond selection will be key in 2020, especially in the high yield sector. While performance is likely to be mixed in bond markets, we prefer investment grade and emerging market bonds.

Central bank accommodation puts a cap on yields in 2020

Yields on the equivalent of \$17bn worth of outstanding bonds were negative in August 2019 (see chart). The fear that liquidity may need to be re-invested at lower or negative yields is one of the main reasons why institutional investors fix coupons with longer maturities even as bond yields reach sub-zero levels. As long as the threat of further policy rate cuts dominates, this trend is likely to persist in 2020.

Real yield should be the benchmark

The benchmark for wealth preservation should be the real yield (nominal yield adjusted for inflation) rather than the nominal yield. While a high nominal yield may look attractive on paper, it may be eroded by high inflation, as seen in 1980 when US 10-year nominal yields hit 13%, while inflation was at similar levels resulting in real yield of close to zero. Since 1980 the real yield has gradually declined on the back of a higher savings rate in emerging markets and a structural

higher demand for safe bonds globally (see chart on p26).

Global investor preference drives the market

We believe that the longer end of the rate curve will be capped for three reasons:

- 1. Investor preference to hold longer dated bonds to mitigate the risk of re-investing at even lower rates in the near future. This preference intensifies the closer yields are to zero (last-chance purchase).
- 2. Increased awareness of "tail risk" (since the credit crisis in 2008) and the subsequent desire to hedge against this risk.
- 3. Expectation that central banks will accommodate through quantitative easing when needed.

Rates volatility likely to increase

Although we believe that the trend of lower yields for longer won't end in 2020, we see several factors which potentially could trigger temporary rate spikes in the near future: a constructive outcome from the US-China trade war negotiations, a positive Brexit outcome and positive economic or inflation surprise. We would see such spikes as an opportunity to enter increase duration.

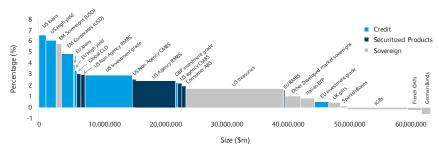
Corporates leverage at elevated levels

Half of the US and European investment grade bond market is now rated BBB, while 13% is represented by the lower quality of BBB-rated bonds (BBB-/Baa3). Meanwhile, net debt in relation to operating earnings stands at 2.3 times, which compares with 1.5 times in 2001. At this point, higher leverage does not seem to be a concern, given low borrowing costs and stable earnings. Interest coverage (the amount available to serve interest rate costs) of 10% appears a comfortable level.

Fallen angel volume at historic lows

We have highlighted in our previous "Market Perspectives" publications that historically, the risk of defaults, even in severe adverse scenarios as seen in the 2008 credit crisis, is contained in the investment grade segment. But what about the downgrade risk? While larger companies, like GE or AB Inbev for example, have been downgraded to BBB, most of the predominantly large issuers used levers like asset sales, scaling back dividend payments or optimising working capital to keep the investment grade rating.

Large part of the bond market yields below 2%



Rating agency Moody's expects "fallen angel" volume (that from issuers downgraded to high yield status) to rise to \$50bn in 2020 in the base case scenario, while the amount could rise to \$164bn, in a recessionary scenario. Still, a relatively low number, considering that BBB-rated bonds now amount to \$2tn, more than double the \$64bn seen in 2007.

The above reflects that downgrade cycles are not highly correlated to economic cycles but are more linked to company or sector-specific trends. As much as significant downgrades due to lower growth seem unlikely in our view, we think that the key to success in 2020 will be selection, while avoiding the most cyclical and leveraged companies within BBB space. Note that leverage in the BBB segment varies substantially: while the 25th percentile leverage ratio averages 1.6 times, the averages 3.6 times.

High yield bonds: default rates at low levels, but cracks are appearing

Even if the European or US economy avoids recession, high yield issuers will be most exposed when growth starts to deteriorate. In Europe, for example, default rates are the lowest observed since 2008 at 1.1%. But trends are deteriorating beneath the surface: leveraged loans trading at distressed levels have doubled from

2% to 4% compared to 2018, while the low level of investor protection in bond documentation is another risk factor.

Only a little "BBit" high yield, please

Buying BB-rated bonds, the highest quality within high yield, was the favourite trade in 2019. This "tourism" flow led to the situation where the high yield market has performed well in a period while the lowest rating bucket, CCC, performed poorly. Such performance differentials are uncommon historically. They demonstrate that inflows are not a result of increased investor confidence in risky assets but a result of higher demand for yielding bonds in a world where yields are depressed. BB-rated bonds are expensive.

The spread differential between BBB and BB-rated bonds reached a two-decade low of 66 basis points while 15% of the overall high yield market trades inside the 80th percentile of BBB at this point. We feel that the vulnerability, combined with overcrowding, makes BB-rated bonds and the high yield market in general unattractive. We only see selective opportunities in 2020.

Emerging market (EM) bonds still offer attractive carry

While EM bonds should receive more support from lower rates globally, we believe that the diversity, combined with still constructive growth prospects, makes EM hard currency bonds an attractive asset class. While lower growth will be a challenge for most EM countries in 2020 we think some countries will cope with lower growth better (Brazil, India, Russia) than others (Turkey, Argentina). We think EM bonds will still offer attractive carry for investors and that they should focus on countries with stable governments that are willing and able to implement necessary reforms in order to navigate through an environment of lower growth.

"We see several factors which potentially could trigger temporary rate spikes in the near future."

The one-year US real rate has hovered around 0% since 1950, bar the early 1980s





Julien Lafargue, CFA, London UK, Head of Equity Strategy – julien.lafargue@barclays.com

Defying a wall of worry

While the spectre of a US presidential election and recessionary fears cloud the outlook for many investors, prospects for a diversified global equity portfolio remain bright.

Going into 2020, fundamentals point to some upside in equities, justifying staying invested. Yet, uncertainty is high and market participants remain torn between fears of recession and hopes that the cycle extends. In what is likely to be another volatile year, it makes sense to focus on ways to diversify and improve the risk/reward profile of portfolios.

Earnings likely to be lowered

After just 1% growth in 2019, bottomup analysts expect global equities to deliver around 10% earnings growth in 2020 and 2021. However, most of the investor community – us included - believes that from a top-down perspective 10% growth is unrealistic. Indeed, we pencil in 6% growth in 2020.

Our cautiousness on earnings is based on the following factors. First, we believe that global economic growth will remain at, or below, trend. After a difficult 2019, growth could reaccelerate modestly, particularly in emerging markets. However, most of the developed world is likely to remain stuck with sub-par growth. This means that top-line growth should not surpass +4% in 2020, only slightly better than 2019's +3.5% growth. Second, from a margins perspective, we see limited scope for expansion given limited slack in labour markets, tougher raw materials comparables and slow productivity growth (see chart).

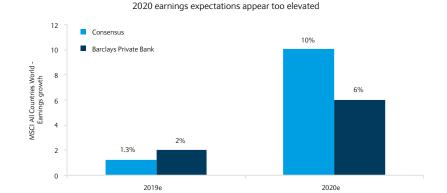
"We see limited scope for [margins] expansion given limited slack in labour markets, tougher comparables on raw materials and slow productivity growth."

Limited room for valuations to expand

In terms of valuations, global equities trade at a price to 2020 earnings multiple of around 15 times, using current consensus figures. This compares to 15 and 5-year averages of 13.8 and 15.2 times, respectively.

Assuming earnings only grow by 6% in 2020 (see chart), valuations appear even more stretched at 15.6 times. Easy monetary policy and low interest rates are likely to support valuations, but further multiple expansion would require investor sentiment to improve substantially. We don't see this happening unless there is a positive shock such as broad-based fiscal stimulus.

While we will certainly see swings in valuations in the next twelve months, on a trend basis we expect multiples to remain unchanged.



Year

Sources: IBES, Barclays Private Bank, October 2019

What could go right?

It is difficult to see how either earnings growth or multiples could go higher. The former would require global growth to pick up or some one-off boosts, such as the tax break US companies received in 2018.

While neither earnings growth nor valuations appear set to rise, pressure has been mounting on governments to take advantage of the low interest rate environment and increase spending. In particular, infrastructure spending, mostly geared toward energy efficiency, has been a popular topic. Should this occur in a meaningful way, we could expect earnings to pick up.

On the valuation side of the equation, we would need to see investors becoming euphoric once again in order for multiples to expand. This could be achieved if both economic and geopolitical risks shrink significantly. This is unlikely but possible assuming that trade discussions move to "phase 2", allowing existing tariffs to be rolled back. In a blue sky scenario, assuming that earnings grow by 10% and that multiples expand further, we believe that global equities could generate mid-teens returns.

What could go wrong?

After the last twelve months, the "wall of worry" is high and the list of things that could hit sentiment is long. Among these, we see two main potential risks.

First, an economic slowdown that is worse than anticipated. While global growth has slowed, an outright recession seems unlikely. Yet, even if the global economy avoids two consecutive quarters of negative growth, or recession, if investors believe a recession is near, equity markets could suffer. This was the case in December 2018 and we can't rule out it won't happen again.

Second, ultra-accommodative central banks, coupled with market expectations for further stimulus, could pose a dual risk to the markets. On one hand, investors could lose faith in central banks' ability to save the day as they run out of effective ammunitions. On the other, markets could be wrongfooted if central banks start tightening monetary policy again, causing another "taper tantrum" episode. While downside risk would be significant, we would expect a quick recovery, as this scenario would only occur if economic activity was gaining momentum.

Equities still attractive

From a fundamental point of view, the risk/reward for investors appears challenging. Yet, in the context of a global economy that is slowing, but growing, with low interest rates and light investor positioning we believe equities offer modest upside and significant relative value.

Volatility on the rise

As relevant as fundamentals may be, they are often overridden by sentiment in the short term. On that front, we expect 2020 to be another volatile year as investors' perception swings between recession fears and recovery hopes. Over each of the past 40 years, global equities have experienced a median annual drawdown of -11.5% (see chart on p29).

We believe 2020 will be more akin to the norm than to 2017, when markets never pulled back more than 2%. As such, investors should be able to take advantage of volatility spikes as the year progresses.

The US is our preferred region

From a regional perspective, the US still seems best positioned owing to its growth-oriented profile. US equities have outperformed strongly over the past five years (+7% annualised excess return compared with non-US equities). We see little reason for this to change.

US valuations aren't particularly appealing, but we believe this can be justified by the market's added visibility. Even if the 2020 presidential election clouds the outlook, we doubt investors will be willing to switch out of US equities to say Europe or emerging markets in periods of uncertainty. This was not the case in 2019 and 2016, the year President Trump was elected, which saw US equities outperform by almost 10%.



Emerging markets require patience

Emerging markets (EM) have generated disappointing returns of late. Slowing growth, a stubbornly strong US dollar and idiosyncratic issues (such as protests in Hong Kong and political instability in Latin America) haven't helped.

Going into 2020, the region's attractive medium-term growth prospects are still not properly reflected in valuations, in our opinion. Yet we believe outperformance may not materialise until it is clear that growth in EM is stabilising. Some green shoots have started to appear, but another quarter or two may be necessary to reassure investors.

"Going into 2020, [EM's] attractive medium-term growth prospects are still not properly reflected in valuations."

Eurozone as a value play

Eurozone equities have performed surprisingly well in the context of slowing global trade and challenged domestic economies. The European Central Bank has played its role in supporting the region. However, for eurozone equities to move higher, we believe that more is needed.

The eurozone remains a value play that investors like to buy as a proxy for an improving macroeconomic backdrop. Next year is set to see large swings in investors' sentiment, creating potential opportunities for eurozone equities to outperform.

But without more profound reforms, fiscal stimulus and structural improvements in the banking sector, we believe the region overall remains a trading market. Instead, for longterm investors, we prefer to focus on specific opportunities at the sector and stock-specific levels.

UK's time to shine

Over three years into the Brexit saga and most investors are significantly underweight UK equities. Assuming clarity finally emerges on whether, how and when the UK leaves the European Union, significant inflows could follow, driving outperformance of the regional indices which remain largely undervalued in light of strong earnings growth.

Hard, soft or no Brexit, UK companies, in particular large capitalisation ones, will be able to adapt in our opinion. As such, once the initial shocks – positive or negative – from both economic and exchange-rate fluctuations have passed, we believe that UK equities' attractiveness will shine again. Timing this opportunity will be difficult, but

investors should put the UK market back on their radar (see chart on p30).

Quality bias

Every year in the past decade, the moment came when "value" stocks were due to finally start outperforming again. The last twelve months were no exception, as the valuation spread between "cheap" and "growth" companies reached unprecedented levels.

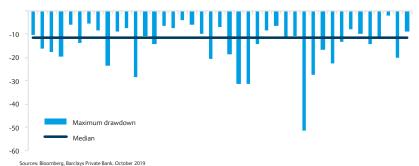
We see limited investment merits in chasing value. We do expect the investment style to be a hot topic in 2020. That said, the style will outperform periodically, but in relatively short bursts and extremely hard to capture. As such, we maintain our preference for "quality" stocks over the medium term.

Maintain a barbell sector allocation

At the sector level, given our topdown view, we maintain a so-called barbell approach between cyclicals and defensives. Within that, we are reluctant to chase expensive bondproxies, like utilities, and we believe that some of the early-cycle industries are unlikely to see a sustained rebound against a highly uncertain backdrop. As a result, consumer discretionary, communication services, industrials and healthcare are our preferred sectors.

"At the sector level, given our top-down view, we maintain a so-called barbell approach between cyclicals and defensives."





Consumption to fare better

Although it would be wrong to assume that consumers can stay insulated indefinitely from an economic slowdown, we think consumption will remain resilient in the medium term. As such, we keep our positive stance on consumer discretionary in all regions. Similarly, we remain constructive on communication services in the US, although we favour content producers versus large-cap internet names.

Industrials as a growth play

While industrials may struggle should economic momentum stall, we believe the sector is gradually becoming less sensitive to the economic cycle, offering attractive long-term growth prospects. Indeed, with the increased use of technology, most industrial companies are morphing into services providers. We believe this will reduce the volatility of earnings and allow for higher valuations as visibility improves.

Healthcare to remain volatile

Investing in the healthcare space ahead of a US election is always a challenge. We believe that 2020 won't be different, with healthcare likely to experience higher-than-usual volatility. Yet, the combination of attractive growth potential and undemanding valuations relative to defensive peers, should not be overlooked. As such, we see any election-related weakness as a possible entry point into a sector that we think could generate outperformance over time.

"We see any election-related weakness as a possible entry point into a [healthcare] sector that we think could generate outperformance over time."





 $Gerald\ Moser, London\ UK,\ Chief\ Investment\ Strategist-gerald.moser@barclays.com$

Time to be selective in alternatives

With periods of heightened uncertainty likely again in 2020 as the global economy slows, gold may have a valuable role to play in diversifying portfolios, defensively.

Oil price set to be range-bound

The oil market is likely to be stuck in a tug of war between less supportive fundamentals and geopolitical events and tensions in the Middle East. The latter should be at least as prevalent as they were in 2019.

Turning to fundamentals, the key supply-side factor is likely to be the growth in shale oil output in the US, as well as non-Organisation of Petroleum Exporting Countries (OPEC) growth in general. Ongoing OPEC cuts are merely compensating for that non-OPEC growth.

On the demand side, the manufacturing slowdown affected oil demand more than the global growth environment would have suggested. Meanwhile, demand in 2020 will likely remain lacklustre. However, inventories declined in the second half of 2019

and the tense geopolitical environment is likely to keep adding a premium on the oil price throughout 2020. For this reason, we think that the oil price will stay in a wide range of around \$60 per barrel in the next twelve months.

Gold starts to shine

One area of the commodity market we like is gold, as it plays a positive role in a portfolio context in the current environment. With uncertainty high and global growth slowing, gold adds defensiveness, and an uncorrelated return, in a diversified portfolio.

Furthermore, central banks' demand for the precious metal continues to grow (see chart), especially in countries with a contentious relationship with the US. The confrontational international policy being conducted by the US is encouraging more countries to find

alternative wealth savings to the US dollar. And gold is the main beneficiary of that diversification away from dollar reserves.

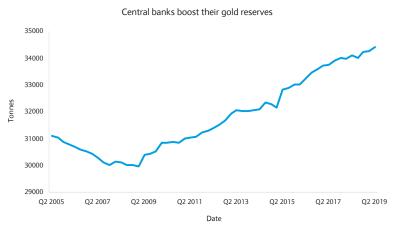
Private assets allocations improve a portfolio's risk-return profile

Most assets, especially growth-driven assets such as equities, are likely to experience periods of heightened volatility in 2020, as additional risk premium is priced in during periods of stress. Illiquid assets focusing on fundamentals, rather than short-term risk aversion, should help improve the risk-return profile of a portfolio.

In addition, as we expect modest price returns at best across most public markets, collecting an illiquidity premium by investing in private assets helps to improve a portfolio's overall returns. As always, manager selection is going to be more important than the strategy pursued.

Low-beta hedging strategies

In the hedge funds space, as highlighted in our "hedging and diversifying" investment theme, we like strategies with low beta and that are fundamentally driven, such as mergers arbitrage and, more broadly, market-neutral funds.



Source: World Gold Council, Barclays Private Bank



Damian Payiatakis, Head of Impact Investing, damian.payiatakis@barclays.com

Climate change: assessing investment risks

Climate change is an inevitable trend in an uncertain world. So what are the implications for investors and what can they do to integrate climate change risk into investment strategy?

Amid the ambiguity faced in 2020 from a geopolitical, economic, and societal perspective, climate change may be the only certainty ahead of us.

During 2019, global attention to the topic was magnified, not least by Greta Thunberg and public marches, attracting the attention of individuals, companies and politicians. Arguably it now moves beyond climate "change" and should be called a climate "emergency, crisis, or breakdown".

Time for action

2020 will be a critical year to see whether the championing of action by key stakeholders, not least investors, to limit climate change occurs. How financial markets allocate capital affects both investment returns and the planet.

For those who haven't assessed the implications of climate change on their investments, it is time to start. To help, we briefly outline the growing climate

challenge and its investment risks. The next article examines investor implications.

The increase in average temperatures is the primary indicator of climate change and driver of many of its effects. Since 1850, 17 of the warmest years on record have occurred in the last 18 years (see chart). The world is now on average one degree Celsius hotter than it was between 1850 and 1900. An increase of one additional degree to average annual temperatures is seen as the threshold to "severe, widespread, and irreversible" effects of a climate breakdown.

Unprecedented threat

In September, 515 institutional investors, managing \$35tn in assets, said that climate change poses an unprecedented threat to the global economy and that much more needs to be done by governments to accelerate the low carbon transition

and to improve the resilience of our economy, society and the financial system to climate risk.

"515 institutional investors, managing \$35tn in assets, said that climate change poses an unprecedented threat to the global economy."

Climate risks need to be considered

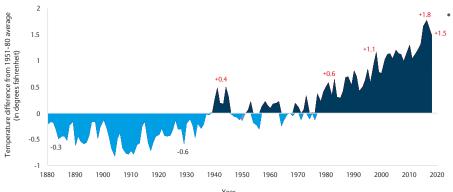
For investors, the question becomes how to identify and consider the climate-related risks in their portfolios. The G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD) has defined four types of climate-related risk.

Transition risk

The first three are broadly seen as transition risks. These result from actions taken to achieve climate targets and transition to a low-carbon economy.

Market and technology risks –
 Market risks include the shifts in
 supply and demand for certain
 commodities, products and services
 as climate change is increasingly a
 purchasing decision for companies
 and consumers. And when new
 technology that supports transition
 to a lower-carbon, energy-efficient
 economic system winners and
 losers will emerge.

Global warming rises to dangerous levels



Source: NAS

- Policy and legal risks Governments enact climate policies to help deliver their Paris Agreement commitments or to adapt to the effects of climate change. Organisations not prepared for the nature or timing of these changes are exposed to policy risk and its financial costs. As the value of loss and damage arising from climate change grows, legal risk will likely increase further.
- Reputational risk Customer or community perception of an organisation's role and contribution to climate change creates a reputational risk for many sectors. Reputational damage can affect a company's license to operate, ability to attract talent, or, most directly, revenues as consumers switch to alternatives.

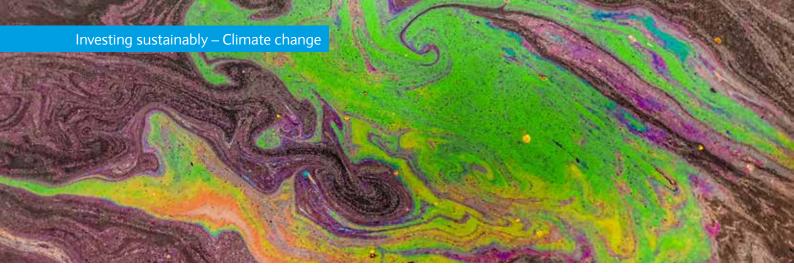
Physical risk

Lastly, climate risk includes two types of physical risks which arise due to the continued increase in temperatures and extreme weather events. Physical risks can be event-driven or long-term shifts in climate patterns.

 Primary physical risks – Climate change will cause direct damage to assets (such as land, buildings, stock and infrastructure) due to the physical effects of climate-related factors like storms, heatwaves, droughts, rising sea levels, flooding or ocean acidification.

• Secondary physical risks – Climate change generates more indirect risks that affect supply chains and extended value chains. For example, availability of key resources, like water, sourcing and quality of raw materials, or rising costs of assets and commodities. Indeed, extended physical damage in a country or region can produce conflict and mass migration due to food and resource scarcity.

We do not suggest that investments are assessed solely through the lens of climate risk. Other risk factors, such as liquidity or inflation, still need to be considered. In some situations, these will outweigh climate risk notably with shorter investment time horizons and, somewhat ironically, in scenarios where global warming is minimised. However, it is important that climate risks are added to the set of risks considered when making investment decisions.



Damian Payiatakis, Head of Impact Investing, damian.payiatakis@barclays.com

Climate change: how investors can respond

With climate change inevitable, what options do investors have to protect their portfolios from its risks and potentially boost returns?

In general, investors want any factor with a material influence on financial returns to be considered in decision-making. Climate change is now a material factor. It presents risks across industries and companies, while offering tremendous opportunities for new investments.

As a starting point on integrating considerations of climate change into portfolios, we look at the impact of climate change, practices to improve decision-making and sectors to explore for investment opportunities.

Exposure to climate change

No company is immune from risks or the impact of climate change. All companies will have some contribution and exposure via their operations, energy needs and supply chain (see chart).

When thinking of companies impacted by climate change, our first thoughts tend to be of carbon-intensive sectors – fossil fuels, utilities, transportation or industrials – predominantly affected by transition risk. That said, physical risks can still impact them depending on the region and the nature of operations.

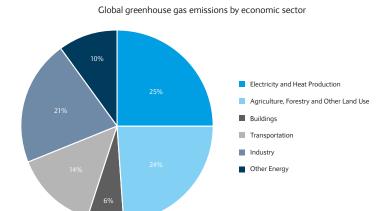
The above industries face a broad range of transition risks from regulatory changes that will drive higher costs, to technology risks as newer, cheaper and less carbonintensive alternatives come to market. Companies in these industries potentially face the most risk of litigation around their role in "climate denial", implying additional costs for legal fees and possibly settlements and awards.

Other industries, such as agriculture, food, construction and insurance are still significantly exposed to climate risks. They face some transition risks, but primarily their exposure is to physical ones. For example, damage to infrastructure or crops due to extreme weather events, costs for repair and insurance payouts after physical damage.

Finally, even industries with low direct climate impact, such as IT, financials or healthcare, may still face material risks in both transition and physicality. For example, energy and waterintensive data centres are exposed to technology risks and the chance of damage due to extreme weather. These sectors also face possible reputational, and revenue, risks given the high carbon-intensive client base some serve.

Assessing the management of risks

Additionally, investors need to assess how well individual organisations and their senior executives are managing climate change risk. This is particularly important if an investor still wants allocations across a wide set of industries, even high carbon-intensive ones. Finding companies that are better prepared than their peers can reduce carbon risk exposure while maintaining industry exposure.



Source: US Environmental Protection Agency

Making better investment selections

We now outline three practices that can improve investment judgement about climate risks and opportunities. Expertise and insight in these areas can potentially generate additional risk-adjusted returns over time.

First, carbon footprinting is the starting point for many investors to understand their exposure to climate risks. The primary approach is to calculate the tonnes of atmospheric carbon dioxide equivalent per million dollars of revenue for a single investment or a portfolio. This provides a view of both the impact made, and when compared to alternatives, relative risk of carbon exposure.

However, carbon footprinting does have limitations. Data on carbon is imperfect in scope and consistency, and disclosure from smaller, private companies is often limited. Furthermore, it is a backwards-looking measure. However, it is increasingly available and reasonably accurate. As such, it can identify relatively carbon-intensive companies and help to facilitate decisions to de-risk and decarbonise a portfolio.

Scenario analysis

Scenario analysis is a newer technique that seeks to forecast the financial impact of different climate scenarios, usually a certain increase in average temperature – for instance, comparing the effect of an increase of a 1.5C scenario to a 2C or 4C one. Scenario analysis can help improve strategic asset allocation to more effectively account for the climate transition over the long term.

It is also possible to model riskreturn outcomes of scenarios on different industries or companies. Understanding the relative implications of different scenarios helps to identify priority risks and opportunities as part of investment decision-making and build more climate-resilient portfolios.

Finally, engagement with investees, or potential investees, on climate-related matters can help identify risks and influence investments. By speaking with management, investors can access and interrogate information beyond published reports and data. Having identified climate-related risks they may question management on their preparedness or plans.

Often engagement aims to encourage data disclosure in line with the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures recommendations to improve future assessment. Together this provides a higher level of qualitative insight to inform an investor's decision-making and judgement about the future value of an investment.

Applying these practices aims to enable a portfolio with lower climate risks, in that it has less exposure to carbon emissions, greater resilience across many potential scenarios and informed by greater insight into an organisation's preparedness for climate change.

Sector opportunities

On the other hand, investors who want to use their capital to make a positive contribution to the transition to a low-carbon economy have a range of investment opportunities. Given the scale of climate change challenges, these tend to also be growth markets for companies with effective solutions. We now highlight five markets which have multiple entry points for investors.

Renewable energy

Given energy production's central role in greenhouse gas emissions, switching to clean energy technologies is critical. While one of the more established markets, considerably more investment is needed. For instance, instance, it is estimated that \$14tn of investment is required over the next 20 years for the energy transition if we aim to stay within the 2C trajectory.

There are various technologies to consider, including solar, wind, hydro, biofuel and geothermal. Opportunities exist across the value chain – large-scale energy storage, creation of smarter grids or even local energy grids.

Electric mobility

Transitioning transportation, including its energy consumption, to lower carbon intensity is critical to achieving climate targets. Electric cars are the most visible opportunity, but are still in the early stage of market growth.

Of the 95m cars sold in 2018, only two million were electric vehicles, bringing total electric cars to 5.1m with China accounting for almost half of the market. Beyond cars, there are also options in light goods transport, scooters, rail, buses, mass-transit or even short-haul planes.

There are also electric vehiclesrelated opportunities in the likes of battery materials, manufacturing assembly and component recycling. Furthermore, to effectively enable electric mobility means improving charging infrastructure for private use and businesses along with the road network.

Energy efficiency

Finding ways to use less energy, or existing energy, more efficiently is key to achieving climate targets.

Construction and heating and cooling buildings accounts for approximately 36% of global final energy usage — which is set to increase with climate change. In green buildings alone, there may be a \$3.4tn opportunity through 2025 from emerging markets.

Beyond upgrading buildings or constructing more efficient ones, there are opportunities to improve energy efficiency in industrial processes or technology companies, as well as providing devices and sensors that enable this change.

Water and waste management

While environmental issues in their own right, water and waste have clear linkages to climate change.

Water forms a critical input across numerous sectors such as industrials, agriculture, food and beverages, and clothing manufacturing. Physical risks to water availability are frequently driven by climate change. Investments needed to ensure water security are estimated to be up to \$22.6tn by 2050. This includes addressing a range of challenges from water conservation, filtration, waste water treatment, desalination and water recovery.

Waste not only pollutes the environment, but produces various greenhouse gases as it breaks down or is incinerated, or in the energy to collect, transport and process wastes. For emerging markets alone, there may be a \$115bn market for waste management solutions.

Agriculture

Lastly, one of the industries that is most affected by climate change is agriculture – though the nature and extent will vary considerably by region.

Land use, including agriculture, forestry and land clearing, is one of the largest contributors to greenhouse gases, at 22%. When extended to include the entire food chain (including fertiliser, transport, processing, and sales) this rises to 29%. At the same time, it forms a critical carbon sink absorbing up to 20% of carbon emissions.

The result is that agriculture is exposed to both physical and transition risks as well as being open to investment opportunities to help adapt to and mitigate the climate change. For investors, the industry will be reshaped under any climate scenario – and across the value chain including alternative proteins, food waste, farm machinery, precision water and nutrient provision.

Market opportunities

Investors can find options in both public and private markets. As well as by considering wider concepts such as circular economy, smart cities, and green infrastructure, cut across multiple sectors.

Numerous publically-listed companies are generating revenue from goods and services that solve specific climate-related issues. For instance, the fast-growing green and sustainable bond markets offer corporate, national and supranational debt specifically issued to support climate mitigation and adaption activities.

Private markets provide more access to organisations with new, disruptive technologies that tend to be earlier stage and not public. Meanwhile, infrastructure can provide opportunities in public works that tend to have more stable returns with low correlation to other investments. These private options can also provide better illiquidity premium and yield enhancement, respectively, for investors.

"The opportunity to protect and grow your assets, and make a positive contribution to our world, should be attractive to every investor."

Next steps

With the world seeking to transition to a low-carbon economy, the organisations prepared for this, or offering solutions to deliver this, are more likely to be successful both financially and environmentally.

For investors, any investment or portfolio needs to consider its effects and forthcoming risks. To adjust portfolios and investment strategy for climate change requires two broad mindset shifts – how to preserve value by assessing implications of climate change and how to identify the opportunities to promote this change.

As a starting point, its useful to articulate your beliefs around climate change so that these can be included alongside other investment considerations. Thereafter, this can serve as a basis to review your existing portfolio, and future investments.

In the end, the opportunity to protect and grow your assets, and make a positive contribution to our world, should be attractive to every investor.



2020 k	ey dates	5	O Central banks	 Geopolitical meeti 	ngs O Internation	nal bodies O US 2	2020 election schedule
January	21-24th 2020 World Economic Annual Forum, Switzerland	23rd European Central Bank meeting	29th US Federal Reserve meeting	31st BOE Governor, Mark Carney, stands down			
February	3rd First of US caucuses, lowa	11th First US primaries, New Hampshire					
March	3rd Super Tuesday US presidential primaries	12th European Central Bank meeting	US Federal Reserve meeting	26th BOE meeting	China National People's Congress	UK spring statement	Organization of the Petroleum Exporting Countries and oil producer allies production cuts due to end
April	Spring meeting of International Monetary Fund and World Bank, Washington DC	US Federal Reserve meeting	30th European Central Bank meeting				
May	Oth BOE meeting and inflation report						
June	4th European Central Bank meeting	US Federal Reserve meeting	10-12th G7 meeting, US				
July	Democratic National Convention; unveiling of Democratic presidential candidate, Wisconsin						
August	6th BOE meeting and inflation report	Republican National Convention, Charlotte	Jackson Hole Economic Policy Symposium				
September	10th European Central Bank meeting	US Federal Reserve meeting	17th BOE meeting				
October	29th European Central Bank meeting						
November	US presidential election	US Federal Reserve meeting, BOE meeting and inflation report	9-19th UN climate change conference, Glasgow	G20 Riyadh summit			
December	European Central Bank meeting	US Federal Reserve meeting	17th BOE meeting				

Investments can fall as well as rise in value. Your capital or the income generated from your investment may be at risk.

This document has been issued by the Investments division at Barclays Private Banking and Overseas Services ("PBOS") division and is not a product of the Barclays Research department. Any views expressed may differ from those of Barclays Research. All opinions and estimates included in this document constitute our judgment as of the date of the document and may be subject to change without notice. No representation is made as to the accuracy of the assumptions made within, or completeness of, any modeling, scenario analysis or back-testing. Barclays is not responsible for information stated to be obtained or derived from third party sources or statistical services, and we do not guarantee the information's accuracy which may be incomplete or condensed.

This document has been prepared for information purposes only and does not constitute a prospectus, an offer, invitation or solicitation to buy or sell securities and is not intended to provide the sole basis for any evaluation of the securities or any other instrument, which may be discussed in it. Any offer or entry into any transaction requires Barclays' subsequent formal agreement which will be subject to internal approvals and execution of binding transaction documents. Any past or simulated past performance including back-testing, modeling or scenario analysis contained herein does not predict and is no indication as to future performance. The value of any investment may also fluctuate as a result of market changes.

Neither Barclays, its affiliates nor any of its directors, officers, employees, representatives or agents, accepts any liability whatsoever for any direct, indirect or consequential losses (in contract, tort or otherwise) arising from the use of this communication or its contents or reliance on the information contained herein, except to the extent this would be prohibited by law or regulation.

This document and the information contained herein may only be distributed and published in jurisdictions in which such distribution and publication is permitted. You may not distribute this document, in whole or part, without our prior, express written permission. Law or regulation in certain countries may restrict the manner of distribution of this document and persons who come into possession of this document are required to inform themselves of and observe such restrictions.

The contents herein do not constitute investment, legal, tax, accounting or other advice. You should consider your own financial situation, objectives and needs, and conduct your own independent investigation and assessment of the contents of this document, including obtaining investment, legal, tax, accounting and such other advice as you consider necessary or appropriate, before making any investment or other decision.

Barclays offers private and overseas banking, credit and investment solutions to its clients through Barclays Bank PLC and its subsidiary companies. Barclays Bank PLC is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority (Financial Services Register No.122702) and is a member of the London Stock Exchange and NEX. Registered in England. Registered No. 1026167. Registered Office: 1 Churchill Place, London E14 5HP.

Barclays Bank Ireland PLC, trading as Barclays Private Bank, is regulated by the Central Bank of Ireland. Registered in Ireland. Registered Office: One Molesworth Street, Dublin 2, Ireland, D02 RF29. Registered Number: 396330. VAT Number: IE4524196D. Calls are recorded in line with our legal and regulatory obligations, and for quality and monitoring purposes.

Barclays Bank PLC Monaco is licensed to operate its activities in Monaco and falls under the dual supervision of the Monegasque regulator 'Commission de Contrôle des Activités Financières' (with regards to investment services) and the French regulator 'Autorité de Contrôle Prudentiel et de Résolution' (in respect of banking services). The registered office of Barclays Bank PLC Monaco is located at 31 avenue de La Costa, MC98000 Monaco – Tel. +377 93 153535. Barclays Bank PLC Monaco is also registered with the Monaco Trade and Industry Registry under No. 68 S 01191. VAT N° FR40 00002674 9.

Barclays Bank PLC Monaco is a branch of Barclays Bank PLC which is registered in England under No. 1026167, authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. The registered offices of Barclays Bank PLC are located at 1 Churchill Place, London E14 5HP.

Barclays Private Asset Management (Monaco) SAM – 31 Avenue de la Costa, B.P. 4 – MC 98001 Monaco Cedex is registered in Monaco. Tel. +377 93 10 51 51. S.S.E.E. N° 671C06692 – R.C.I. N° 94 S 03039 – Registered VAT No° FR 00 00003617 7.

Barclays Bank (Suisse) SA is a Bank registered in Switzerland and regulated and supervised by FINMA. Registered No. CH-660.0.118.986-6. Registered Office: Chemin de Grange-Canal 18-20, P.O. Box 3941, 1211 Geneva 3, Switzerland. Registered branch: Beethovenstrasse 19, P.O. Box, 8027 Zurich. Registered VAT No. CHE-106.002.386. Barclays Bank (Suisse) SA is a subsidiary of Barclays Bank PLC registered in England, authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. It is registered under No. 1026167 and its registered office is 1 Churchill Place, London E14 5HP.

Barclays Bank PLC (DIFC Branch) (Registered No. 0060) is regulated by the Dubai Financial Services Authority. Barclays Bank PLC (DIFC Branch) may only undertake the financial services activities that fall within the scope of its existing DFSA licence. Principal place of business: Private Bank, Dubai International Financial Centre, The Gate Village Building No. 10, Level 6, PO Box 506674, Dubai, UAE. This information has been distributed by Barclays Bank PLC (DIFC Branch). Certain products and services are only available to Professional Clients as defined by the DFSA.

Barclays Bank PLC. Registered in England. Registered No: 1026167. Registered Office: 1 Churchill Place, London, E14 5HP. Registered Office in India: 801/808 Ceejay House, Shivsagar Estate, Dr Annie Besant Road, Worli Mumbai 400 018. Barclays Bank PLC is a member of Banking Codes and Standards Board of India.

privatebank.barclays.com