Deutsche Bank
PCB International

Q4 2019

CIO Insights

Stay prepared

Investment themes and forecasts update

Letter to Investors

Christian Nolting
Global CIO

Stay prepared

There is a risk, in a time of prolonged economic uncertainty, that you become blinded to the pitfalls ahead. U.S./China trade tensions have now been ramping up for over a year, and other geopolitical tensions for even longer (Brexit for over three). But while we have suffered bouts of volatility, markets have not fallen into a more prolonged period of gloom. To a great extent, this has been due to continued efforts of central banks, with the Fed, ECB and Bank of Japan recently loosening policy in anticipation of further economic weakness. As a result, economic growth and financial markets have been supported, even though these are not the primary goals of central banks.

Even though times have changed since the beginning of the year, we still feel comfortable with the six themes that we highlighted in January.

01 Our first theme "Economy – growth deceleration" has already been borne out by events, with slower growth in most of the world's major regions and a few individual economies possibly in recession. The key issue now is whether the U.S. economic growth engine will not start to stutter, in the face of trade and other pressures. But, as we argue on page 4, a recession – in the U.S. or globally – is not an imminent threat. At a more micro level, an immediate issue is whether manufacturing's woes spread into services, as the consumer catches a cold.

02 "Capital markets – vigilant on volatility", our second theme, stays relevant. In 2019 financial markets have not yet had a bout of equity market volatility as severe as in late 2018. But one cannot be ruled out. To the contributing factors of trade and other geopolitics, noted above, must be added the more usual late cycle problems – and a growing realization that markets are far from weaned from central bank support. Remember, too, that the VIX is not the only measure of volatility. Other asset classes could also experience spikes in volatility.

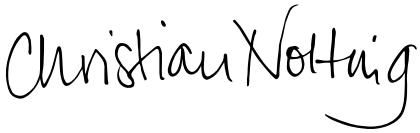
03 Fixed income must remain a particular concern. Our third theme is "Fixed income – U.S. yields on the return" and, while core government yields have declined much more than expected, our advocacy at the start of the year of a selective approach remains valid. In the continuing hunt for yield – in a world increasingly dominated by negative-yielding debt – some fixed income segments (for example some emerging markets debt or high yield) may still appeal.

04 The current environment also has implications for our fourth theme "Equities – earnings ease". Actual corporate earnings – and expectations around future profitability – have been easing down, although we think that market estimates for Q4 2019 could still be unrealistically optimistic. So despite continued central bank policy support, we think that equities may provide only modest gains over a 12-month horizon: the "there is no alternative" (TINA) argument for investing in them needs bolstering.

05 FX issues in a global portfolio can often be under-appreciated. The expectation in our fifth theme "U.S. dollar and oil centre-stage" that the U.S. dollar would not backtrack significantly against the euro has proved broadly correct: the main point now is to what extent trade-related issues will create political headwinds for the greenback. The Japanese yen and Swiss franc could remain reluctant beneficiaries. In the case of oil, recent events have reminded us that uninterrupted supply should not be taken for granted, but demand concerns may provide a longer-term drag on prices.

06 Our sixth theme **"Long-term investment – tech transition"** remains very relevant. Reversals in some individual technology stocks should not blind us to tech's role in the many exciting structural changes in the global economy. Investor interest in ESG – environmental, social and governance-based investment – continues to increase, as do structural changes in the economy that favour sustainable investments. Fiscal spending is returning as a policy issue and this will have implications for the other structural theme that we added in 2019, enhanced infrastructure.

What should an investor do? The answer must be to continue to recalibrate portfolios and stay prepared for any potential issues ahead. We do not expect a global downturn, but greater market volatility is likely and portfolio construction should anticipate this. With equity market gains likely to be small over a 12-month horizon, avoid any excess equity positions and be clear about regional and sector preferences. Within fixed income, remember that core government bonds are not necessarily "safe": there may however be opportunities elsewhere, for example in investment grade corporate bonds or emerging markets. Pay attention to FX and how it could affect portfolio returns. Portfolio management and construction reviews are key: this is not an environment where you can stand still.



Christian Nolting
Global CIO

Instant Insights

2019 Themes

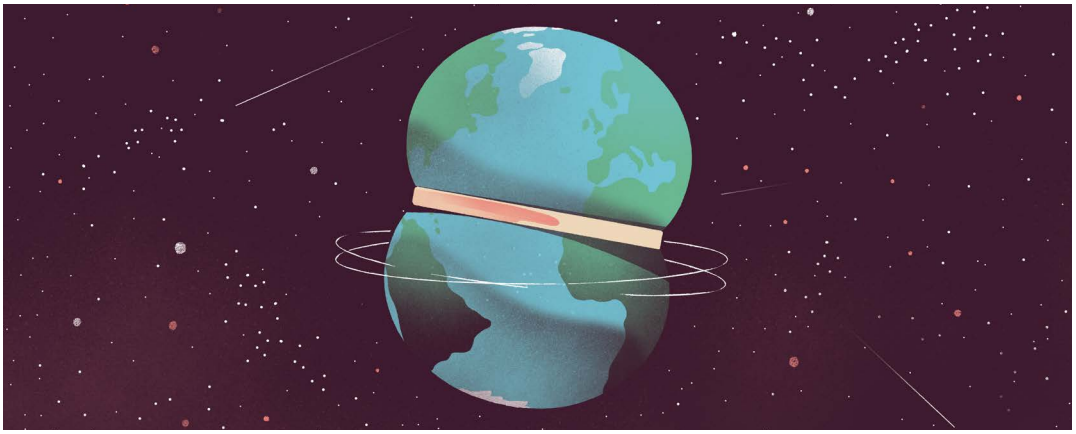
- Economic growth deceleration as expected, but no recession.
- Watch volatility, as yields might remain lower for even longer and equities earnings ease.
- Continue to recalibrate portfolios: focus on long-term themes.

Contents

Theme 1 update
Economy – Growth deceleration

The consumer as the last man standing

Central banks stand ready to support economic growth when needed. We do not expect a recession. But keep an eye on consumers: their confidence could be challenged by the impact of negative economic news.



Recession still appears unlikely

Growth deceleration remains the name of the game, not recession. The markets' unease about U.S. yield curve inversion over the summer mistook a possible harbinger for evidence of a crunch. History tells us that not all yield curve inversions lead to a recession and also that the lag between inversion and contraction tends to be between one and three years. It is also clear that much of the decline in 10-year yields is not the result of changed Fed expectations or expectations around the Fed outlook, but rather the result of rapidly falling expectations of future inflation.

The U.S. economy remains strong and has so far demonstrated remarkable resilience to an evolving trade war and associated growth slowdown. This may be due to its diversification and the relatively low share of exports and imports in its GDP. But the continued enthusiasm of the U.S. consumer is also key to the economy's continued success and this shows few signs of diminishing. We forecast 2.3% U.S. growth in 2019 after 2.9% in 2018 and expect only a slight further slowdown to 2.0% in 2020 (calendar year forecasts).

Manufacturing's woes could impact consumer sentiment

This will keep the U.S. well ahead of the developed markets pack. Eurozone growth is forecast at 1.2% in 2019 and 1.1% in 2020. The German economy, the region's "locomotive", is struggling and its problems may not be that easy to solve. Manufacturing has a large share of German GDP (around 20%, vs. 10% in France) and this is vulnerable to reduced trade demand from China or elsewhere. So far, German manufacturing's woes have not yet dragged down consumer sentiment, but an increase in unemployment might do this, spreading the pressure from the manufacturing to the services sector. We have already seen the first signs of this development being underway, and although particularly important in Germany, this issue is not unique to it. A weak German economy would have implications for the rest of the Eurozone, possibly already struggling with the impact of Brexit – either negotiated or in a potentially more damaging "no deal" scenario.

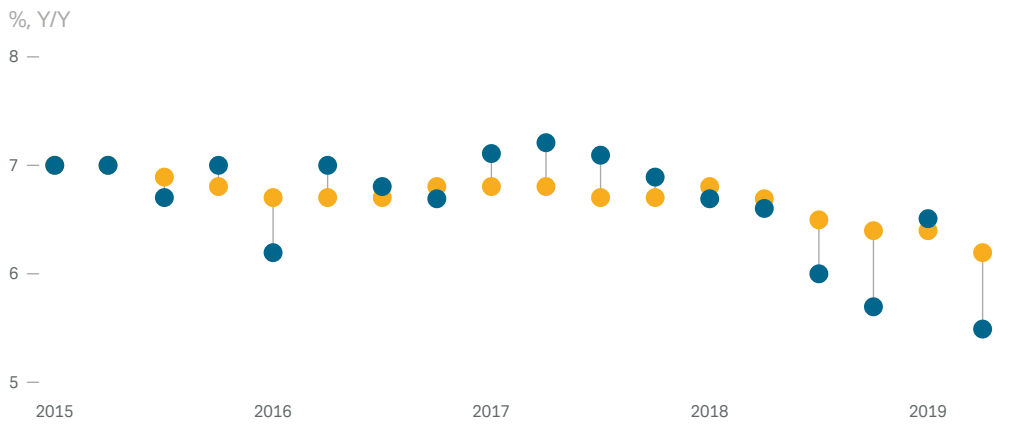
Chinese soft landing still expected but other EM problems remain

In the emerging markets (EM), the key question remains China. Stimulus measures continue on multiple fronts – fiscal and monetary. So far, the data suggests that a sharp slowdown has been avoided, although manufacturing purchasing manager indices (PMI) have gone below the 50 threshold. There is more in the Chinese policymakers' arsenal and we do not expect a hard slowdown, forecasting GDP growth of 6.2% in 2019 after 6.6% in 2018: we expect growth to remain modest (by Chinese standards) in 2020 too, at 6.0%. But here, too, given that exports make up nearly one-fifth of China's GDP, and that the trade dispute is unlikely to go away soon, the ultimate question remains the willingness of the Chinese consumer to keep spending. In India, economic growth seems to be chugging along reasonably well, aided by rate cuts by the Reserve Bank of India.

Elsewhere in the emerging markets, growth pressure may well be policy-related. They are probably not faced with a repeat of the 2013 taper tantrum, where U.S. policy action threatens to dry up liquidity. But a number of historical problems may come home to roost in economies that have dared to challenge the current policy orthodoxy – for example, Argentina. Elsewhere in Latin America, in Brazil economic growth appears to be picking up and interest rates are likely to be reduced. In spite of this, inflation, for the moment, appears dead in the water in almost all global economies, and it is difficult to identify particularly severe asset class bubbles that could cause an imminent upset. At the moment, therefore, a sudden involuntary tightening of monetary policy by central banks looks unlikely: this also supports the case that global growth will decelerate but not collapse.

Figure 1: Manufacturing leads Chinese GDP growth down

Source: DWS, Deutsche Bank AG. Data as of August 2019.



Manufacturing growth GDP growth

Instant Insights

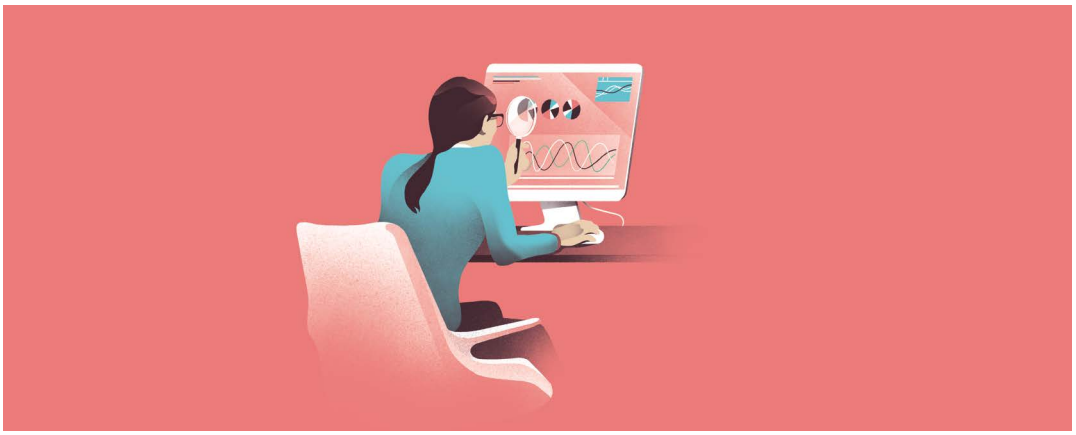
Economy

- Growth in all major economies slowing, but recession not expected in 2019 or 2020.
- Consumers' enthusiasm could be challenged if employment situation worsens.
- Chinese growth slowdown controllable, but idiosyncratic EM risks remain.

Theme 2 update
Capital markets – Vigilant on volatility

Not a time to drop your guard

Geopolitical risks and other factors could prove less important triggers of volatility than central bank policy change and the potential for miscommunication.



The VIX is not the whole story

Volatility – as measured by the VIX (the so-called "fear index") – hit a recent high at the end of last year before falling back to more historically normal levels in 2019. It has been easing back upwards in recent weeks.

Investors pay attention to the VIX because it shows a certain set of market opinions about the future (via the prices for S&P500 index options). This forward-looking approach is currently more popular than the essentially backward-looking value-at-risk (VaR) models favored by many before the 2008 crisis. Currently the VIX index stands at just over 15 points, marginally lower than the 200-day moving average of 16.69, in a sign that volatility remains in check, for now.

But the VIX can provide us with only one small snapshot on volatility. It looks only at market expectations within a particular market area (S&P 500 index options). Moreover, it is important to remember that volatility is not just variance. In plain English, we are not just interested in the extent to which market prices move, but also the speed and sharpness of these moves – and, ultimately, their disruptiveness to portfolios and their reversibility. VIX-type measures do not provide insight here.

Multiple potential volatility causes

Volatility may be driven by specific or general factors. It can be linked to geopolitical factors (where we may indulge in speculative forecasts) or it may be linked to policy shifts – for example, a possible scaling back of quantitative easing. These policy shifts can be "macro" or very "micro" – e.g. detailed regulatory change. So some disruptive forces may be identifiable in advance; others will be very new.

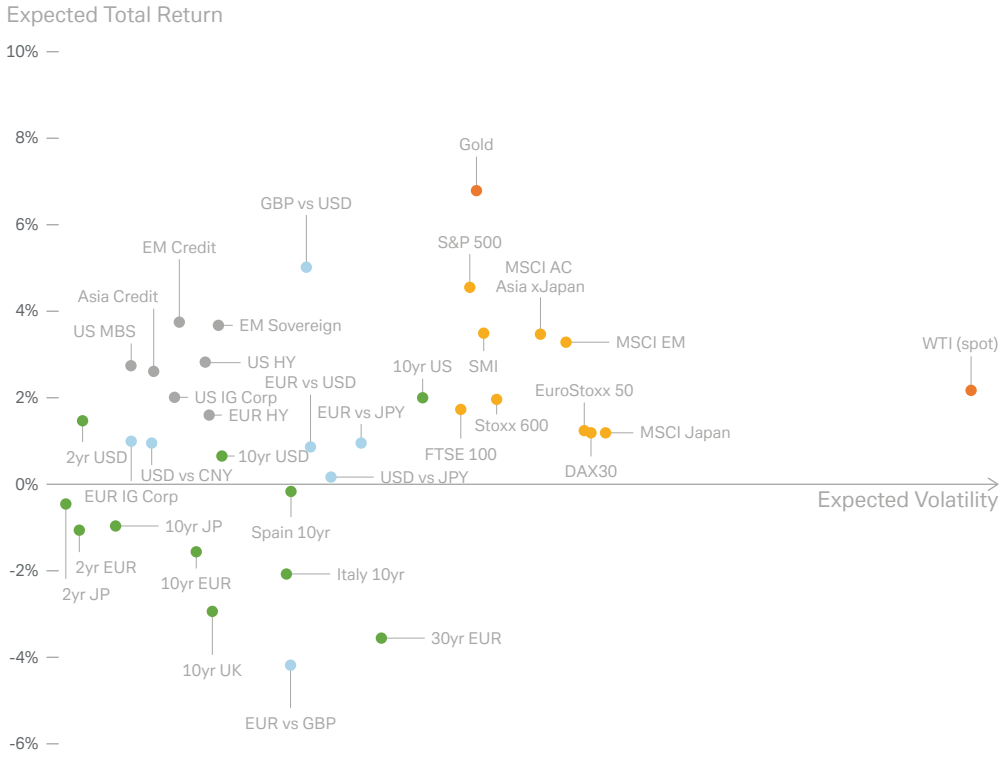
Among the potential causes of volatility that we see in our current uncertain environment are the trade dispute and disappointments in corporate earnings. But there are also potential specific causes associated with central banks' pivot towards dovishness and the potential communications mistakes that could to be associated with this. Seen against the background of an unusually extended economic cycle, with growing fears about when the next recession will hit, this seems a recipe for a rebound in volatility (even excluding the potential impact of any "unknown unknowns").

Prepare portfolios in anticipation

There are multiple ways to prepare portfolios for higher volatility – either in the construction, or in the strategies used. At the underlying strategic asset allocation level, it remains important to distinguish between the relationships we can (with reasonable certainty) predict and those where we can have only a broader level understanding. Individual asset class and index forecasts are accompanied by different levels of forecast volatility (Figure 2 below). Strategies can be chosen to guard against volatility or specific instruments chosen with built-in safeguards. Excess levels of cash are not the answer here: instead, the broad message remains "stay invested, but hedge", using "hedge" in the broadest sense, and "recalibrate your portfolio" in order to make it more robust.

Figure 2: Asset class and index 12-month forecasts: returns vs. volatility

Source: Deutsche Bank AG. Data as of August 15, 2019 with returns/volatility to end-September 2020.



Rates · Equities · Currencies · Commodities · Spreads

Instant Insights

Capital markets

- Relatively low current levels of volatility are unlikely to be sustained.
- Take a broad view on volatility measures/causes; don't over-focus on the VIX.
- There are multiple ways to prepare portfolios. Don't simply boost cash holdings.

Theme 3 update
Fixed Income – (U.S.) yields on the return

As yields drop, the importance of selectivity goes up

As the hunt for yield intensifies again, in developed markets we prefer IG credit to sovereigns and HY and have a constructive view on EM hard currency bonds.

The fixed income market has continued to defy historical trends. In the U.S., 10-year U.S. Treasury yields have fallen by over 118 basis points between the beginning of the year and the end of August, and are currently still nearly 100 bps down YTD, touching the lowest level since July 2016. Many of the developed world's government bonds are trading at negative yields. The yield on Italian 10-year BTPs has fallen below 1% for the first time in history and very low yields have boosted demand for such esoterica as the Austrian 100-year bond issued two years ago - which has the appeal of a yield of 2.1%, unremarkable at issue but remarkable now. Given widespread expectations for further monetary easing both in the U.S. and possibly even in the Eurozone, this trend is likely to continue. Spreads have been compressed to the point where even the heightened uncertainty surrounding Brexit has failed to cause a spike in gilt yields.

Government bond yield targets are revised down

Generally speaking, geopolitical tensions and expectations of an economic slowdown should support investor interest in government bonds – and thus downwards pressure on yields – even if inflation edges up in the U.S.

Our 12-month target for 2-year Treasury yields has been lowered to 1.50%, for 10-year yields to 1.75%, and for the 30-year maturity to 2.10%. In Germany, we see the 2-year Schatz yield at -0.80% at end-September 2020 and the 10-year Bund at -0.50%, while our yield target for the 30-year Bund is 0%. The global hunt for yield is complicating matters for the Bank of Japan, forcing it to allow for temporary deviations from the +/- 10 basis point range of its 10-year bond yield target of 0%. Because there is little scope for the BoJ to cut rates further, we don't see significant upside potential for Japanese bonds. 2-year Japanese government bond yields are forecast at -0.20% over a 12-month horizon, with 10-year yields at -0.10%.

Corporate debt opportunities continue

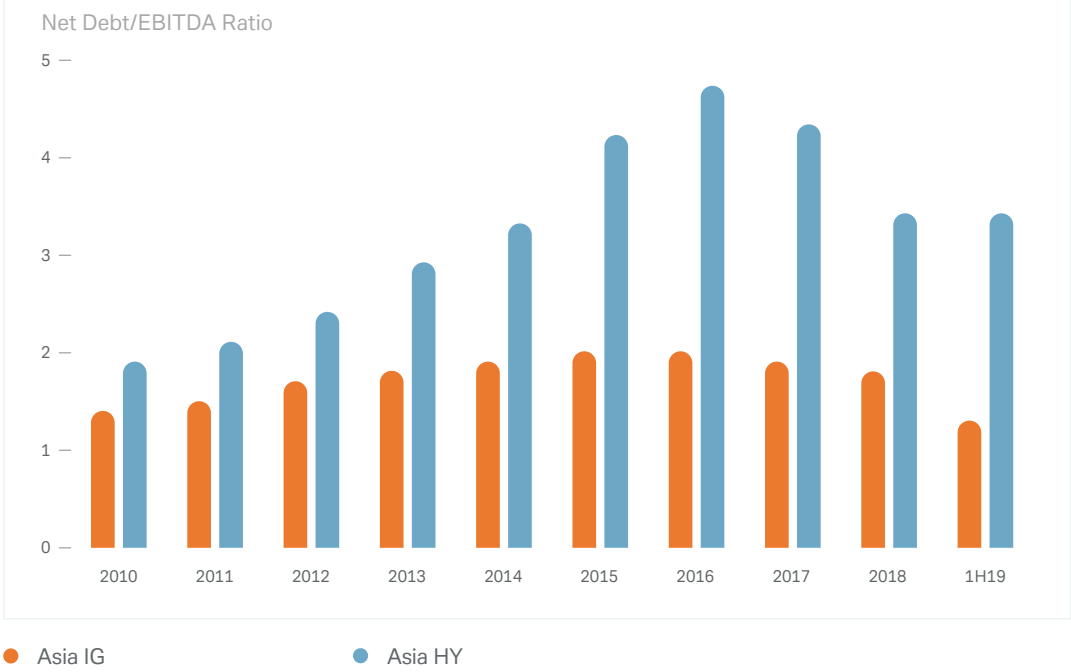
The outlook for corporate debt is nuanced, with a number of areas of opportunity. We believe that the monetary stimulus by the ECB should support the European investment grade (IG) market, as does a sheer lack of investment alternatives. The U.S. IG market still looks attractive because of the relatively higher yields, but we see limited potential for further spread compression.

We remain constructive on emerging market bonds in hard currency. EM corporates are supported by robust fundamentals such as low leverage and ample liquidity cushions and therefore offer an attractive risk/reward ratio. Many issuers benefit from prudent risk management amid moderate capital expenditure. In fact, the debt levels of Asian IG and HY corporates are at the lowest levels in nearly six years. Inflation remains muted both in Asia and most of Latam, prompting several central banks to start cutting interest rates. For these reasons, we expect EM credit to offer higher returns than can be found in developed markets, namely in the low to mid-single-digits. Across regions, we prefer investment grade credit to HY in spite of low default rates because we believe that the risk premium of HY does not justify the additional risk. In the long term, we also keep a constructive view on sovereign bonds in emerging markets, but the recent escalation in trade tensions represents a downside risk.

Asian governments are actively using economic stimulus measures, especially in China, Indonesia and India. In particular, China's PBoC has recently lowered the Reserve Requirement Ratio and the lending rates for smaller companies, which could be supportive for credit.

Figure 3: Credit metrics may support Asia IG and HY debt

Source: JP Morgan Research, Deutsche Bank AG. Data as of August 28, 2019.



Instant Insights

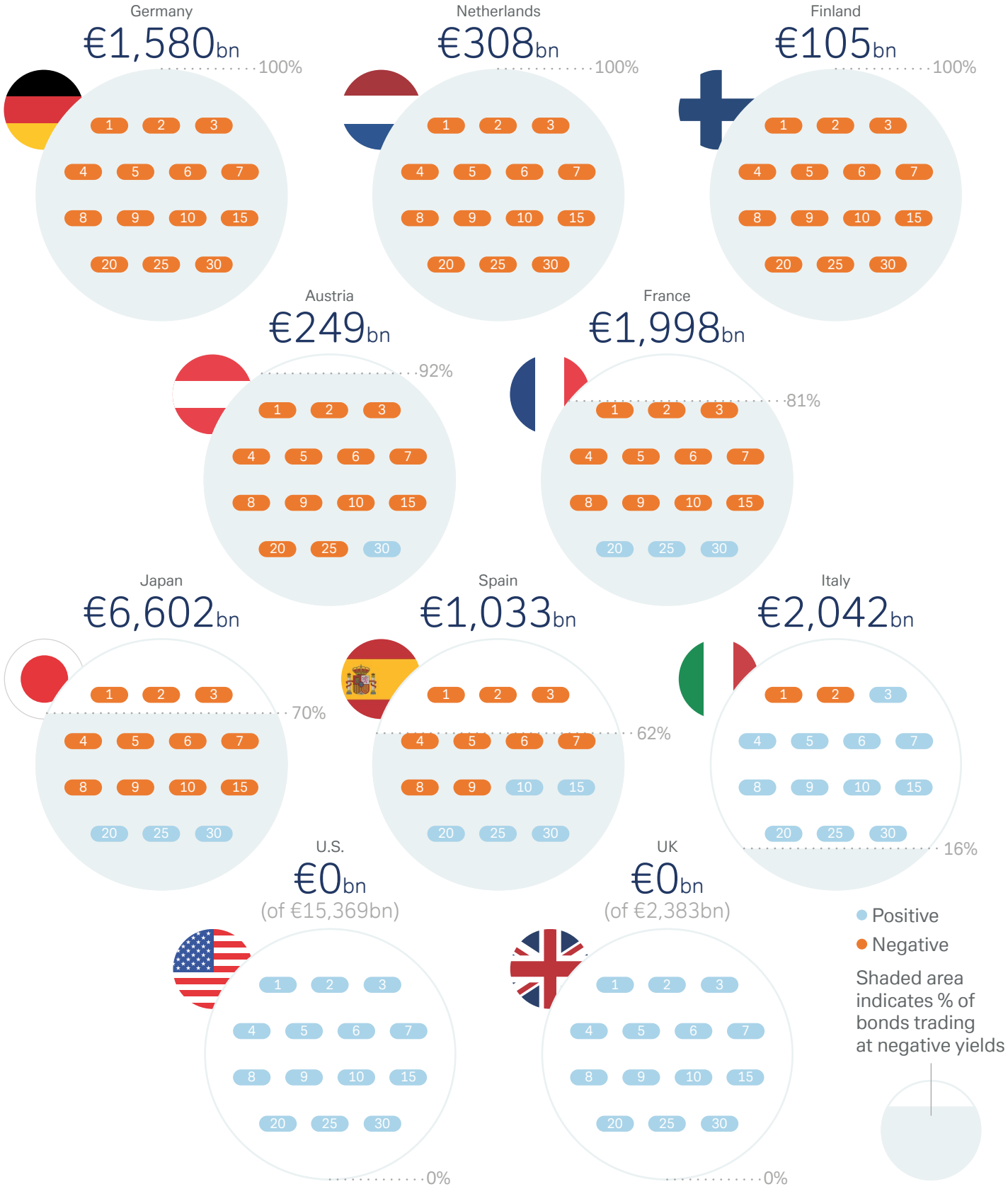
Fixed income

- In spite of record-low yields, further price increases are possible across the fixed income spectrum.
- Low default rates in developed and emerging markets should support credit.
- We keep our constructive view on emerging market hard currency bonds thanks to healthy spread levels vs. developed market bonds.

The topsy-turvy world of negative yields

Trillions of euros in government debt now trade at sub-zero yields, including almost all maturities of debt from 1 year to 30 years issued by several major European economies. Overview of government bond issuance with negative yields, country by country:

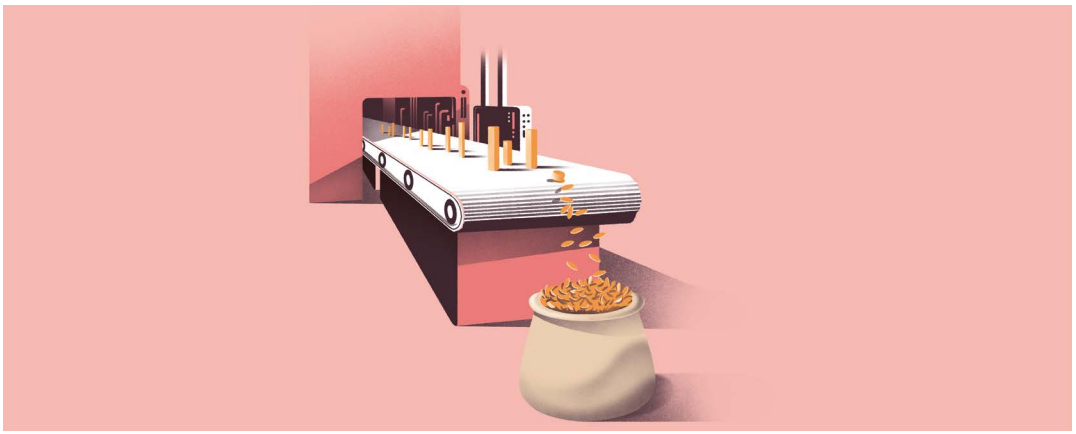
Figure shows the market value of bonds issued by each government that traded on sub-zero yields on 29 August 2019. Orange ovals indicate maturities trading at negative yields. Data as of 29 August 2019. Source: Bloomberg, ECB,WSJ/Tullet Prebon and Investing.com



Theme 4 update
Equities – Earnings ease

The case for considered investment

In a context of slowing economic growth, equity markets remain vulnerable to swings in sentiment and geopolitical risks. Therefore, selection and resilient portfolio construction are key.



The deteriorating macroeconomic environment is showing up in lower corporate earnings growth, especially in the manufacturing sector. Our fourth theme, "Earnings ease", therefore has further to run. The global economic slowdown is compounded by rising wages and mushrooming trade barriers, in particular import tariffs, eating into corporate profits. These costs cannot easily be passed on to consumers due to intense price competition. While Q2 earnings in the U.S. and Europe have turned out better than feared, we expect growth in earnings per share (EPS) to remain limited to 3-5% for the remainder of the year, with a possible lift in 2020. However, in our view consensus expectations for earnings per share in 2020 still look too optimistic.

Low interest rates are not a cure-all

While falling interest rates globally are supportive for valuations, in our view they are not sufficient to justify higher equity targets in the context of the ongoing economic slowdown. It is further worth noting that unintended consequences of negative nominal or real interest rates could be detrimental to equity prices. An ominous sign is that the bulk of equity gains so far this year has come from an expansion of valuation multiples, i.e. by higher valuations rather than earnings growth.

Our September 2020 index targets mainly predict low single-digit returns of 3-5%. Even though we still favour U.S. stocks over European equities, reflecting the stronger macro fundamentals in the U.S., in the short term global markets could suffer setbacks due to several geopolitical risks. In Europe, the impact of a potential hard Brexit remains unclear, and the consequences of the ongoing trade war will inevitably start being felt, albeit with a certain time lag of one to two quarters. On the other hand, a potential fiscal stimulus or a sudden resolution of trade conflicts could provide some upside. In fact, structural reforms and fiscal spending would represent a far more potent stimulus for risk assets than any rate cut that goes beyond what the markets have already priced in.

Bond proxies could appeal if economic outlook worsens

In the past, episodes of U.S. yield curve inversions have often gone hand in hand with rising equity markets, driven by a shift of active funds towards defensive and growth sectors, so-called "bond proxies", out of cyclical and value companies. This time, as the yield curve is distorted by ultra-loose monetary policy, investors have pre-empted this sector rotation: over the past two years, there has been a rapid rise in the valuation premium on growth stocks that has delivered the bulk of equity performance recently, over value. We estimate that growth enjoys a price/earnings premium of ~70% over value. Bond proxies would become more attractive if the economic outlook were to

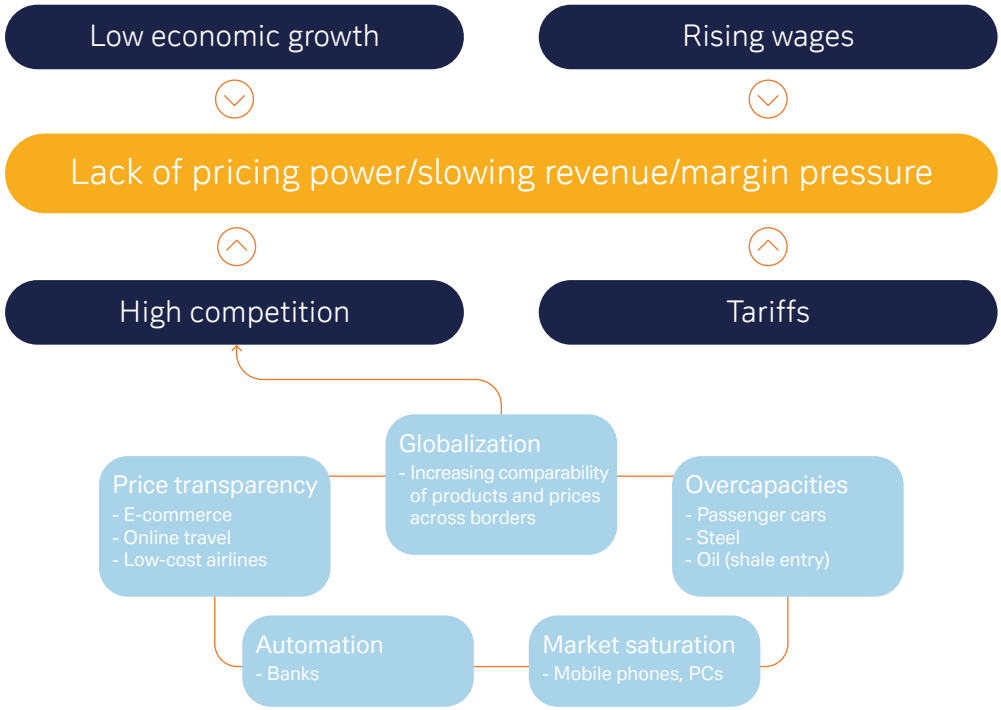
worsen further. In the U.S., typical bond proxy sectors such as Utilities are trading at a premium over their long-term historical price-earnings multiples for the next 12 months, i.e. at 21x vs. a 10-year average of 16x.

On a sectoral basis, we remain constructive on growth stocks but are more cautious on industrial stocks as they look relatively expensive in the light of deteriorating fundamentals, particularly visible in the global "manufacturing recession". We are equally cautious on real estate given the high valuations in the sector.

We are neutral on emerging market equities that so far this year have underperformed their developed market peers. Trade tensions between the U.S. and China keep a lid on regional stocks, including Japan, as do fears about an economic slowdown in China. However, in relative terms witihn emerging markets we still favour Asia over Latam thanks to better sector weightings, economic reforms, accommodative Chinese fiscal and monetary policies, more attractive relative valuations and a better overall economic environment.

Figure 4: What is putting the pressure on global earnings growth?

Source: DWS, Deutsche Bank AG. Data as of August 19, 2019.



Instant Insights

Equities

- Lower interest rates only go so far in supporting equity markets.
- We expect earnings and stock price growth to remain muted.
- On a relative basis we favor U.S. and growth stocks.
- Within emerging markets we still favour Asia over Latam.

Theme 5 update
FX and commodities – U.S. dollar and oil centre-stage

No green light for the greenback

Trade and currency war fears mean that the U.S. dollar is not an automatic gainer from risk-off sentiment. Oil prices continue to be pulled between demand and supply concerns.

The U.S. dollar does indeed remain centre-stage – and not just because of its continued relative strength. Trade tensions between the U.S. and the other major global economies have posed questions about likely longer-term trends in the U.S. dollar, and the likelihood of an exchange rate competitive devaluation.

Verbal interventions could brake U.S. dollar strength

The strength of the U.S. economy has led to continued inflows, boosting the value of the currency, and these could be bolstered in the short term by increased global risk aversion and trade tensions. From a valuations perspective, the U.S. dollar remains expensive, however, and this threatens to become an immediate issue, given President Trump's frequently-stated concerns around the currency's value. We would expect sustained verbal interventions from him intended to slow the currency's appreciation. Further Fed rate cuts would also help this process, and even direct intervention in some form cannot be completely ruled out. We would therefore expect the U.S. dollar to fall back to EUR/USD 1.15 at end-September 2020, even though in the short term some overshooting around the level of 1.10 remains likely.

Other currencies – notably the Japanese yen and Swiss franc – are likely to be bigger beneficiaries of a rise in risk-off sentiment. The Japanese yen has already proven its worth in portfolios as a diversifier, but we think that it is unlikely to appreciate beyond 102 vs. the U.S. dollar (on a 12-month horizon), in part due to technical factors behind the hedging behaviour of U.S. investors. The euro is caught in a sense between a rock and hard place: a hard Brexit would hurt the euro as well as the UK pound, exacerbating its long-term downwards trend vs. USD.

CNY could fall further but "carry" should support EM currencies

In emerging market (EM) currencies, the focus is on the Chinese yuan, particularly given recent hints that China could use its targeted exchange rate as part of the trade dispute with the U.S. Over a 12-month horizon, we see protracted weakness of the Chinese yuan vs. the US dollar. But with negative yields in both Europe and Japan, demand for "carry" (via higher EM yields) should support EM currencies overall to a certain degree.

Oil prices: global demand fears in the ascendant

We have reduced our 12-month oil forecast (WTI) from USD60/b to USD54/b. As always, the tug of war is between the concerns about the implications of slower growth for global oil demand (pulling prices down) and fears around disruptions or shortfalls to global supply (pushing prices up), as the recent attack on oil fields in Saudi Arabia has shown.

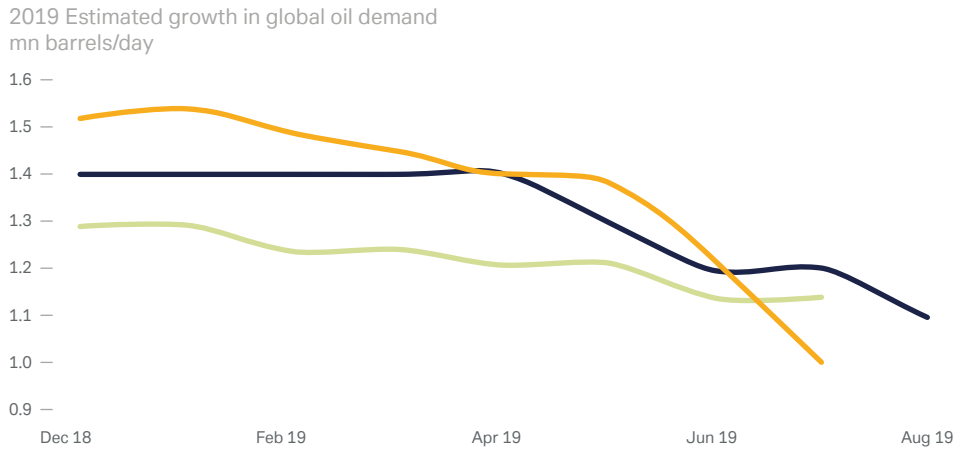
Expectations that global oil demand growth will slow are in the ascendant and are reflected in the major energy agencies' demand forecasts (see Figure 5 below). This has been one factor pulling oil prices down from their recent highs of over USD70/b in late 2018.

But there are some demand factors that could lead to pressures, at least within certain grades of oil, such as the IMO2020 legislation that will make ships switch to using lower-sulphur grades of fuels.

On the supply side, headlines will continue to be dominated by the threat of politically-driven supply disruption from individual markets. But less obvious underlying trends may be equally important. U.S. oil rig count is down by over 10% year-on-year and, despite rising rig efficiency, expectations of slower U.S. shale output growth may provide some support for oil prices. But, set against this, new major oil projects will come on stream next year, as well as pipeline infrastructure giving shale oil easier access to global markets. The expectation is that OPEC+ will have to make further cuts to its output to keep oil markets balanced in 2020: here, as ever, Saudi Arabia's role will be key.

Figure 5: Global oil demand growth is forecast to slow

Source: Deutsche Bank AG. Data as of August 19, 2019.



● International Energy Agency ● OPEC ● U.S. Energy Information Administration

Instant Insights

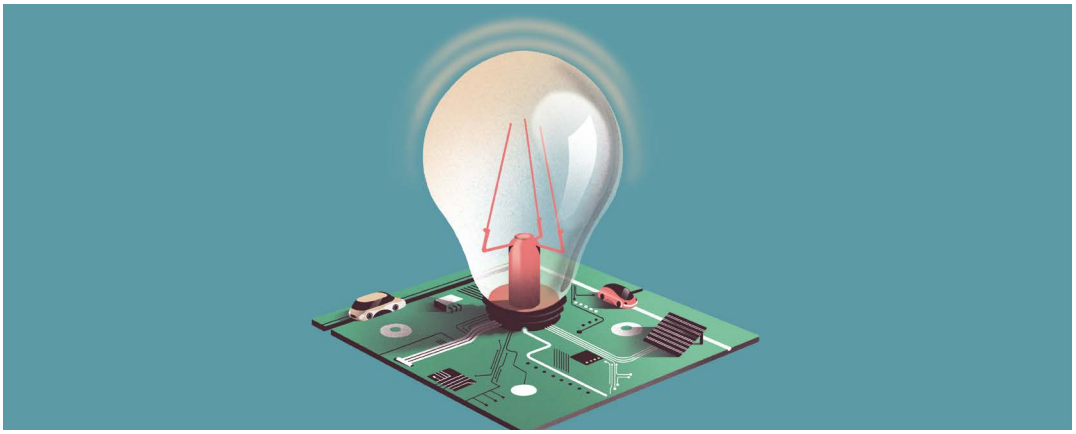
FX and commodities

- Trade and currency wars could weigh on U.S. dollar.
- Japanese yen and Swiss franc will remain alternative "safe havens".
- Global demand concerns will keep a lid on oil prices.

Theme 6 update
Long-term investment – Tech transition

Long-term for late-cycle

Long-term investment themes remain an important source of portfolio diversification and growth in this phase of the economic cycle. Here we focus on infrastructure and ESG, both launched this year. As with our other long-term themes, tech transition remains an important underlying factor.

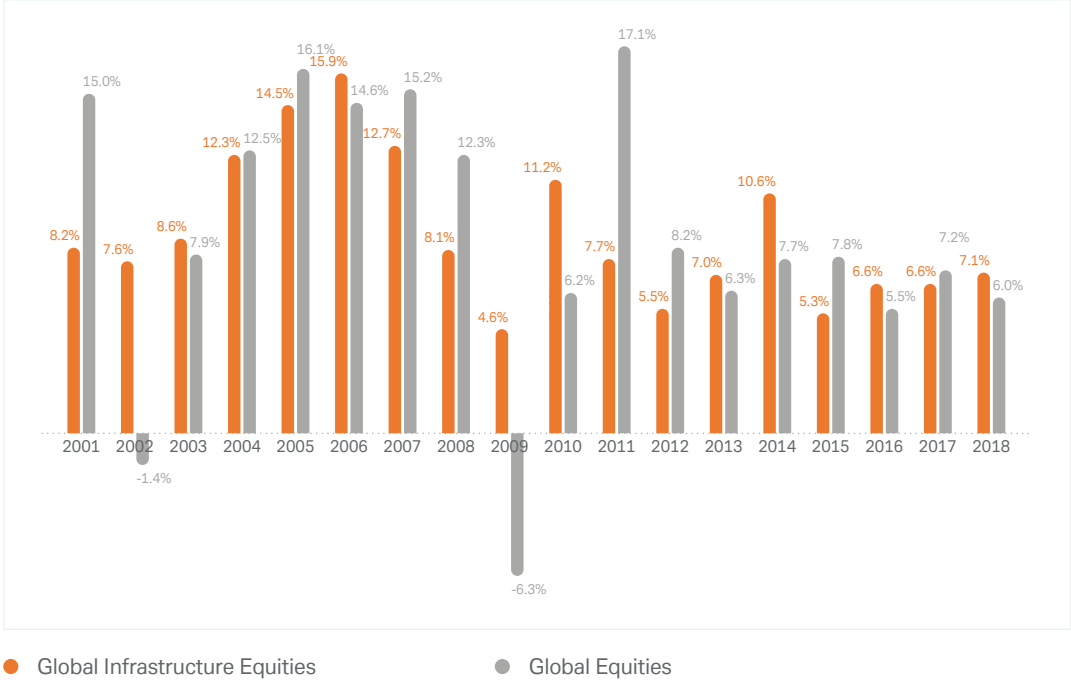


Infrastructure: general strength, but be selective

In times of economic and political uncertainty, infrastructure stands out as a defensive sector that adds value in two ways: stability and portfolio diversification. Historically, global infrastructure has been an effective diversifier, leading to more consistent profitability than broader equities. That said, expectations for growth are uneven. We favour infrastructure investments with stable cash flows.

Figure 6: Infrastructure EBITDA growth vs. global equities

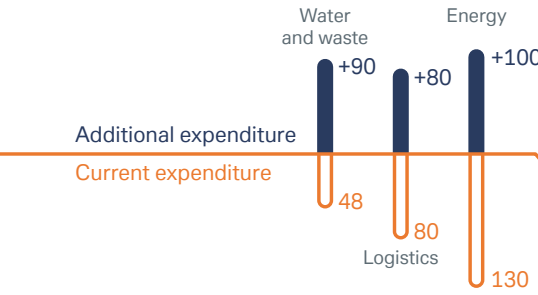
Source: DWS, Deutsche Bank AG. Data as of August 22, 2019.



Past performance is not indicative of future returns. Forecasts are not a reliable indicator of future performance. Your capital may be at risk. Readers should refer to disclosures and risk warnings here. Produced in September 2019.

What's moving ESG investments

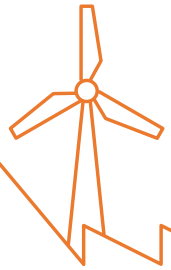
Global changes don't only represent risks – they also highlight the opportunities and prospects for creating a better world



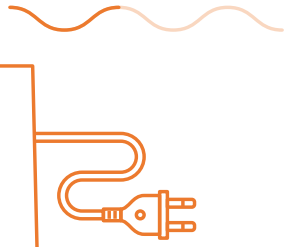
Annual investments[1]

In order to meet the EU's sustainability targets, higher investments will be needed each year in Europe than are currently being made (figures in billions of euros)

EU climate and energy targets for 2030[2]



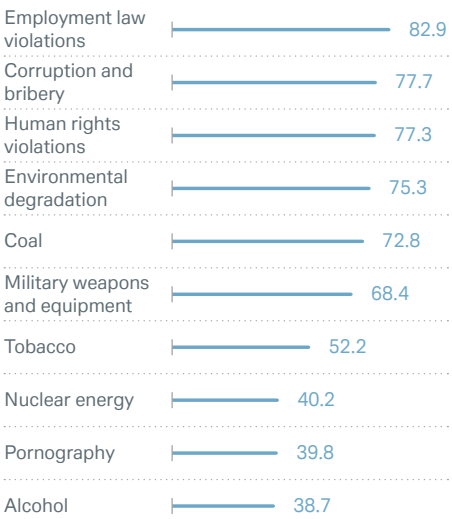
27%
Share of renewable energy in final energy consumption in Europe



40%
Greenhouse-gas savings compared with 1990

30% Estimated potential for energy saving in Europe

Top 10 exclusion criteria in sustainable investment in Germany[3]



Recycling drives value creation[4]

PRODUCTION
Preferred use of renewable or recycled raw materials

RECIRCULATION
At the end of life or use, the product is recycled by the manufacturer instead of being dumped

LONG-TERM THINKING
What lasts longer is used for longer, which protects the environment

QUALITY
Goods are only produced in such a way that they last a long time and are easier to recycle

ENVIRONMENT
Attention is paid to the protection of resources during the production process

SHARING INSTEAD OF OWNING
Products are lent for the duration of their service life and then go back to the manufacturer (eg, to be recycled)

Preference for ESG integration in 2019[6]

81% Investors

61% Fund managers

Church institutions and charity organisations	40%
Insurance companies and mutual societies	17%
Public pension or reserve funds	12%
Foundations	10%
Co-operative and occupational pension funds	5.7%
Public sector	3.9%
Other	11.4%

80%
of all studies evaluated by Oxford University[5] concluded that companies with clear sustainable guidelines achieve on average better returns for investors than competitors who place no importance on sustainability.

Sources: [1] European Investment Bank; [2] European Union; [3] Sustainable Investments Forum; [4] GKfW Research; [5] Oxford University /Arabesque Asset Management; [6] Cerulli Associates

ESG: long-term case bolstered by market uncertainty

ESG investments remain in the spotlight as investors grow nervous about the prospects for the economy and financial markets. It has been proven time and again that non-financial ESG criteria have a measurable impact on financial matters. The way this relationship between non-financial and financial variables tends to play out is in the reduction of certain potential risks, meaning that non-financial criteria, by reducing environmental, social and governance risks also reduce financial risk, typically resulting in higher-quality portfolios. This means that ESG criteria can help mitigate drawdowns and therefore improve risk-adjusted returns in our current late cycle environment. At a societal level, ESG investments benefit from a shift in consciousness and structural changes in the economy.

Technology: one underlying long-term driver

Technology is a very diverse sector, often with prominent market leaders in each sub-segment. These players benefit from strong margin profiles and substantial barriers to entry, such as capital expenditure for semiconductors and network effects in software. Looking ahead, we see significant growth potential stemming from the adaptation of technology in other sectors of the economy. These include the use of artificial intelligence and machine learning in manufacturing, the upgrade to the 5G standard in telecommunications, and the proliferation of cloud software in the service sector.

For these reasons, we remain constructive on technology on a long-term basis even with some valuation premium vs. global equities. We prefer companies with attractive earnings growth, potential ways to benefit from the themes noted above, a dominant market position and strong free cash flow generation.

The downside risks for this sector include the relatively short product cycles that can disrupt business models, though this risk is not limited to the technology sector. Smartphone penetration, one crucial growth drive in the past, has also entered saturation phase. Additionally, technology stocks are prone to volatility, which is exacerbated by concerns about stricter regulation and trade barriers.

Instant Insights

Long-term investment

- Infrastructure can deliver resilient, stable, and predictable long-term cash flows.
- ESG investments may help improve risk-adjusted returns in this late cycle environment.
- Technology remains a key underlying theme – and an investment opportunity, not just in this late phase of the economic cycle.

Macroeconomic forecasts

	2019 Forecast	2020 Forecast
GDP growth (%)		
U.S.*	2.3	2.0
Eurozone (of which)	1.2	1.1
Germany	0.7	1.0
France	1.2	1.0
Italy	0.0	0.4
UK	1.4	1.5
Japan	0.6	0.2
China	6.2	6.0
India	7.0	7.4
Russia	1.2	1.5
Brazil	0.8	2.0
World	3.3	3.4
Consumer price inflation (%)		
U.S.*	1.9	2.0
Eurozone	1.4	1.4
Germany	1.6	1.8
Japan	0.7	1.3
China	1.7	1.8
Current account balance (% of GDP)		
U.S.	–2.7	–2.6
Eurozone	3.3	3.2
Germany	6.8	6.5
Japan	3.2	3.5
China	0.4	0.2
Fiscal balance (% of GDP)		
U.S.	–4.4	–4.6
Eurozone	–0.9	–0.9
Germany	1.0	0.8
Japan	–3.3	–2.7
China	–4.8	–3.8

Please see risk warnings for more information. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect. No assurance can be given that any forecast or target will be achieved. Past performance is not indicative of future returns.
* For the U.S., GDP measure is calendar year and inflation measure is Core PCE Dec to Dec %. Forecast for U.S. Headline PCE (Dec/Dec) is 1.8% in 2019 and 2020. U.S. GDP Q4 on Q4 growth is 2.2% in 2019 and 1.9% in 2020.
Source: Deutsche Bank AG. As of August 22, 2019.

Asset class forecasts

Benchmark interest rates	Official rate	End-Sep 2020F
U.S.	Fed fund rates	1.50%-1.75%
Eurozone	Refi rate	0.00%
UK	Repo rate	0.75%
Japan	Overnight call rate	0.00%
FX	Official rate	End-Sep 2020F
EUR vs. USD	EUR/USD	1.15
USD vs. JPY	USD/JPY	105
EUR vs. JPY	EUR/JPY	121
EUR vs. GBP	EUR/GBP	0.89
GBP vs. USD	GBP/USD	1.29
USD vs. CNY	USD/CNY	7.10
Equities	Market Index	End-Sep 2020F
U.S.	S&P 500	3,000
Germany	DAX	12,000
Eurozone	Eurostoxx 50	3,300
Europe	Stoxx 600	370
Japan	MSCI Japan	910
Switzerland	SMI	9,800
UK	FTSE 100	7,100
Emerging Markets	MSCI EM	1,000
Asia ex Japan	MSCI Asia ex Japan	620
Commodities	Market Index	End-Sep 2020F
Gold	Gold spot	1,575
Oil	WTI spot	54
Fixed Income	Market Index	End-Sep 2020F
U.S.		
UST 2yr	U.S. 2yr yield	1.50%
UST 10yr	U.S. 10yr yield	1.75%
UST 30yr	U.S. 30yr yield	2.10%
U.S. IG CORP	BarCap U.S. Credit	105bp
U.S HY	Barclays U.S. HY	440bp
Europe		
Schatz 2yr	GER 2y yield	–0.80%
Bund 10yr	GER 10y yield	–0.50%
Bund 30yr	GER 30y yield	0.00%
Gilt 10yr	UK 10y yield	0.95%
EUR IG Corp	iBoxx Eur Corp all	90bp
EUR HY	ML Eur Non-Fin HY Constr. Index	380bp
Asia Pacific		
JGB 2yr	JPN 2y yield	–0.20%
JGB 10yr	JPN 10y yield	–0.10%
Asia Credit	JACI Index	295bp
Global		
EM Sovereign	EMBIG Div	350bp
EM Credit	CEMBI	350bp

F = Forecasts. Please see risk warnings for more information. Forecasts are based on assumptions, estimates, opinions and hypothetical models or analysis which may prove to be incorrect. No assurance can be given that any forecast or target will be achieved. Past performance is not indicative of future returns.
Source: Deutsche Bank AG. As of August 22, 2019.

Glossary

The Bank of Japan (BoJ) is the central bank of Japan.

Brent is a grade of crude oil used as a benchmark in oil pricing.

BTP (in full, Buoni del Tesoro Poliannuali) are Italian government bonds

Bunds are longer-term bonds issued by the German government.

Earnings per share (EPS) are calculated as a companies' net income minus dividends of preferred stock all divided by the total number of shares outstanding.

EBITDA stands for earnings before interest, taxes, depreciation, and amortization and is a measure of a company's overall financian lerformance and is used as an alternative to simple earnings or income in some circumstances.

The Energy Information Administration (EIA) is part of the U.S. Department of Energy and an agency of the U.S. Federal Statistical System.

ESG investing pursues environmental, social and corporate governance goals.

The European Central Bank (ECB) is the central bank for the Eurozone.

The EuroStoxx 50 Index tracks the performance of blue-chip stocks in the Eurozone; the Stoxx Europe 600 has a wider scope, taking in 600 companies across 18 European Union countries.

The Federal Reserve is the central bank of the United States. Its Federal Open Market Committee (FOMC) meets to determine interest rate policy.

The FTSE 100 Index tracks the performance of the 100 major companies trading on the London Stock Exchange.

Gilts are bonds that are issued by the British Government.

High yield (HY) bonds are higher-paying bonds with a lower credit rating than investment-grade corporate bonds.

The International Energy Agency (IEA) is an intergovernmental agency studying energy-related issues.

An investment grade (IG) rating by a rating agency such as Standard & Poor's indicates that a bond has a relatively low risk of default.

The Organization of the Petroleum Exporting Countries (OPEC) is an international organization with the mandate to "coordinate and unify the petroleum policies" of its 12 members. The so-called "OPEC+" brings in Russia and other producers.

The People's Bank of China (PBoC) is the central bank of the People's Republic of China.

A recession is usually defined as two consecutive quarters of GDP contraction.

The S&P 500 Index includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

A spread is the difference in the quoted return on two investments, most commonly used in comparing bond yields.

Valuation attempts to quantify the attractiveness of an asset, for example through looking at a firm's stock price in relation to its earnings.

Value-at- risk (VaR) attempts to estimate how much an investment might lose over a given time period, for a given probability.

The VIX Index is a measurement of volatility implied by S&P 500 Index options.

West Texas Intermediate (WTI) is a grade of crude oil used as a benchmark in oil pricing.

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