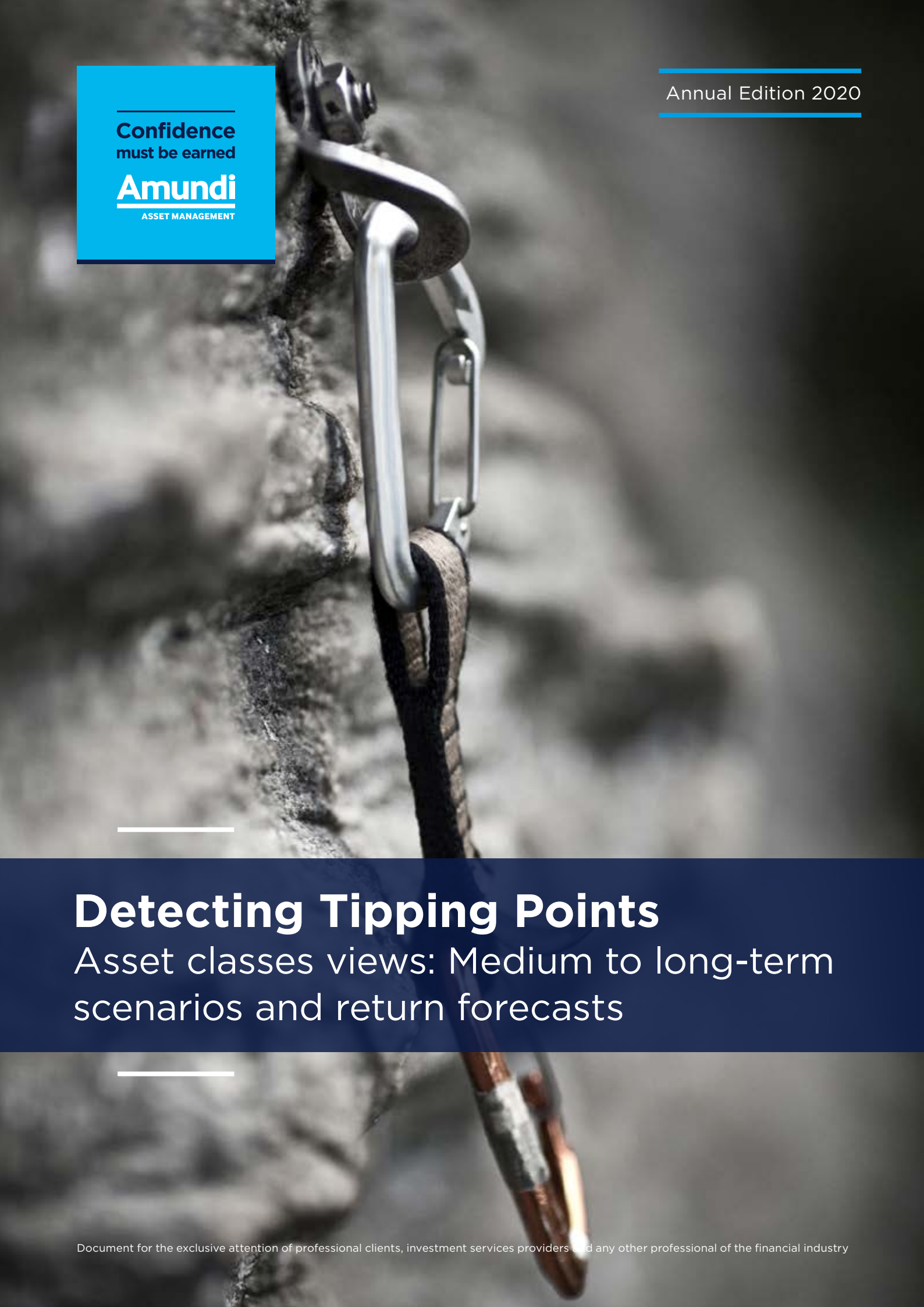

Confidence must be earned

Amundi
ASSET MANAGEMENT

Annual Edition 2020

Detecting Tipping Points

Asset classes views: Medium to long-term scenarios and return forecasts

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This document embraces Amundi's view on asset returns used to build reference portfolios for our institutional clients. The edition published in February covers major macro and financial foundations, while on a quarterly basis will provide tables updates.

Foreword

PASCAL BLANQUÉ
Group Chief Investment Officer

We should welcome events in whichever way they happen

Stoicism shows us the path forward with clear judgement of the uncertainties lying ahead of us. As the Greek philosopher Epictetus pointed out, dispassionate discussion of future paths is essential to make informed decisions enabling us to "welcome events in whichever way they happen". Realistic portrayals of possible realisations in the investing environment gain heightened significance by establishing reasonable expectations of risk and return over the medium term and beyond.

We present Amundi's 2020 Medium and Long Term Forecasts, a representation of our thoughts and analysis of our multi-asset investment universe and underlying assumptions. The report highlights the causal relationships between macro-economic factors and long term trends in asset prices, incorporating the latest discussions and analysis and drawing on insights from Amundi's industry experts.

2019 presented a tough challenge and all indications are that the road ahead will be just as daunting. In a reflection of the uncertainties lying ahead, we delineate possible macro-themes driving long term valuations. Our central scenario is the same as last year – one of subdued growth and inflation on a global scale, albeit leading to even lower returns due to complications from late-cycle investing. Recovery is likely as rates and profits normalise while central bank authorities stock up on the ammunitions needed to face further cyclical downturns.

Our downside scenario is that of macro and financial crisis turning into a chronic stagnant macro environment, leading to the notorious deflation and downward real yield spiral, further exacerbated by monetary policy ineffectiveness. While this scenario is unlikely when compared with the central scenario, its probability of occurrence is non-negligible and warrants close identification and monitoring of the warning signals. Japanisation is a risk, not a fatality.

At this point an optimist would draw attention to the feasibility of a series of proactive and coordinated policies to hasten the upturn through a coherent set of actions where fiscal and monetary policies work together with progressive guidelines to curb the negative long term trends. Comprehensive policies would inevitably build a virtuous circle where sustainable domestic demand and increased productivity feed off each other. While this remains the unlikeliest scenario, it serves to illustrate the need to monitor the greatest number of factors in the most efficient manner to implement and maintain a robust portfolio of any asset class for any time horizon.

The document is organised into four sections:

- The first describes our main highlights and convictions, including a description of our central and alternative scenarios.
- The second section reports our key asset class views over the medium to long term horizon, including some historical comparisons and our macro-economic assumptions for both developed and emerging economies.
- The third section addresses expected returns by asset class. Shaded paragraphs specifically indicate long term analysis. Asset allocation implications are reported at the end of this part.
- This year's edition includes some thematic discussions within Amundi considering long term perspectives. In particular, we present some preliminary findings on illiquid asset classes mapping them into our financial regimes and we debate the impact of low rates on investors, the sustainability of credit fundamentals, the value call.

Acknowledgement

The authors would like to express their gratitude to Claudia Bertino and Éric Tazé-Bernard for their valuable contribution.

1

Highlights and convictions

MONICA DEFEND,
Global Head of Research

Detecting tipping points, while fixing climbing nails

Central scenario: late cycle to continue and to be followed by a correction in the medium term.

We enter 2020 with the conviction that **at this stage a slowdown is in the nature of the cycle.** However, there are some specific features that characterise it as a peculiar late cycle regime when referred to inflation levels compared to tight labour market conditions, central banks' stance, yield curve inversion, risk asset returns, repressed volatility levels.

We need to rethink the interaction between monetary and fiscal policies

When compared to 2019, **we have not dramatically changed our long term economic assumption and narrative** that remains anchored in the idea of low growth, in particular for those countries facing demographic challenges and slack productivity, subdued inflation prints, especially in developed markets (DM), notwithstanding tight labour markets. Inflation will remain below central banks' target (with the exception of the US), while only a significant fiscal stimulus is likely to regenerate some pressure on prices.

More generally, in our view, **the decline in global trade is causing a major change in the structure of growth.** Therefore, the coming year will bring some changes in our approach to macro forecasting as we are challenged on recalibrating our working assumptions on growth drivers (i.e. considering inclusion policies to capture changes in the labour force participation rate, industrial policies changing the production model and potentially productivity enhancing policies, **including the impact of green economy and ESG**). We will closely monitor structural changes and demographic evolutions that could shift countries' growth path upward.

We entered 2019 with the expectations of more dovishness in central banks' attitude. But central banks went beyond returning to an accommodative policy of lowering rates and resuming asset purchases. The additional easing was greater than what we expected when pencilling in last year's assumptions and it has structural consequences: what had been considered unconventional is now part of the standard monetary policy toolkit. Moreover, **it raises the question of how the central banks will manage the next downturn**, at a time when their ammunition is almost exhausted and the costs and spillover of the action taken seem higher than the benefits. Fiscal policy is the common answer to this question.

Rates will struggle to normalise back to long term equilibrium levels

Notwithstanding the extensive debate on the subject, we need to rethink the interaction between monetary and fiscal policies. In any case, this "resetting" process is likely to take more time than expected.

As we expect inflation to remain subdued, monetary policy to stay accommodative and structural factors to play on lower productivity (and labour force), our **rates** outlook over the next 10 years is that they **will struggle to normalise back to long run equilibrium levels** for all the regions (save for US) we cover.

In the EM spectrum, we expect assets to be resilient, outweighing the potential risk related to unstable growth and trade dynamics, while downside risks are likely to be more country specific, more idiosyncratic than systemic. We incorporate higher default losses to encounter higher country risk premia linked to worsening macro financial conditions.

When compared to last year, **we have marginally lowered our medium- term equity return forecasts due to less attractive valuations** (i.e. negative repricing contribution) on confirmed modest EPS growth (low single digit), EM assets outperform both on the medium and long term horizon.

We expect **the late cycle** (i.e. economic growth consolidating at lower levels) **to continue and to be followed by a correction in the medium term.** We assume a global

EPS contraction in the medium term on tightening financial conditions (on persisting USD strength or pressure on margins on spread widening). This explains why, on average, medium- term equity returns are lower than long-term equity returns and credit outperforms equity on a shorter horizon.

On credit, we acknowledge that **liquidity risk can materialise** for low-rating credit in the event of a worsening macro and financial landscape while the high level of debt accumulated by low-rated US corporates represents an additional long-term risk. **Carry-like return coupled with an expected rise in default rates are likely to lead to lower performances than in 2019**. US credit expected returns are higher versus EU credit because of the yield difference due mainly to government levels and market structure, mitigated only by valuation where the EU is more attractive. However, this advantage is less evident looking at risk-adjusted returns.

We remain of the view that the USD is trading above its long-term valuation. If purchasing power parity (PPP) would suggest the currency the strongest overvaluation, the direction is confirmed when weighing the battery of equilibrium exchange rate models.

We foresee an inevitable downward shift of the efficient frontier curve

While in such a yield desert the USD has set itself among the few remaining oases and, while protectionist measures carried out by the Trump Administration have helped in spurring demand for the USD (Balassa 1975), the government's fiscal position, productivity growth, terms of trades and price dynamics would suggest the USD rally should have peaked and we could be close to a remarkable turning point.

As in fact no rise in long-term valuation has been registered and, considering that the USD rally in 2018 and 2019 has been mere function of the cyclical divergence between US and the Rest of the World (particularly with respect to Eurozone), we could be highly exposed to mean reversion in case the cyclical outperformance will dissipate or invert.

Nordic currencies are expected to appreciate the most against the greenback together with GBP and JPY, whilst CHF and NZD are the currencies currently trading closer to fair valuation and thus exposed to limited upside.

Moving to portfolio implications, starting from lower cross-asset expected returns in relation to the beginning of FY 2019, we foresee **an inevitable downward shift in the efficient frontier curve**. From the perspective of a euro-based investor, fixed income rewards US corporate IG and EM sovereign hard currency as an answer to the search for yield, while on equity we confirm the preference for Europe and we add a slight option on EM, the first one because of more benign valuations, the second one for their growth potential.

Looking at the strategic asset allocation perspective, 10-year expected returns are significantly lower if we compare them with average 10-year historical returns. This implies that **investors should revise down their portfolio target returns and/or rethink their asset allocation**.

A 50/50 global balanced portfolio has overshot its canonical 5% average return looking at the last 10 years. The same portfolio allocation will struggle to reach the 5% nominal target based on our average estimates. Moreover, the amount of risk required to move closer to the return target is so substantial as to call into question the current SAA framework. The new strategic asset allocation could increase the risk budget, but only in a limited way to be able to absorb a potential spike in volatility or changes in volatility regimes. The investment universe should be enlarged to include alternatives (also illiquid alternatives), leveraging on diversification with standard assets and within alternatives, but keeping in mind the illiquidity premium and risk/cost. **The revised framework should creatively mix quantitative discipline, qualitative assessment and "grano salis"** (with a grain of salt, i.e. understanding/ interpretation), because every investor's asset allocation question is a new one and the answer depends on how you mix the ingredients and knowledge).

Shaping medium-term landscape

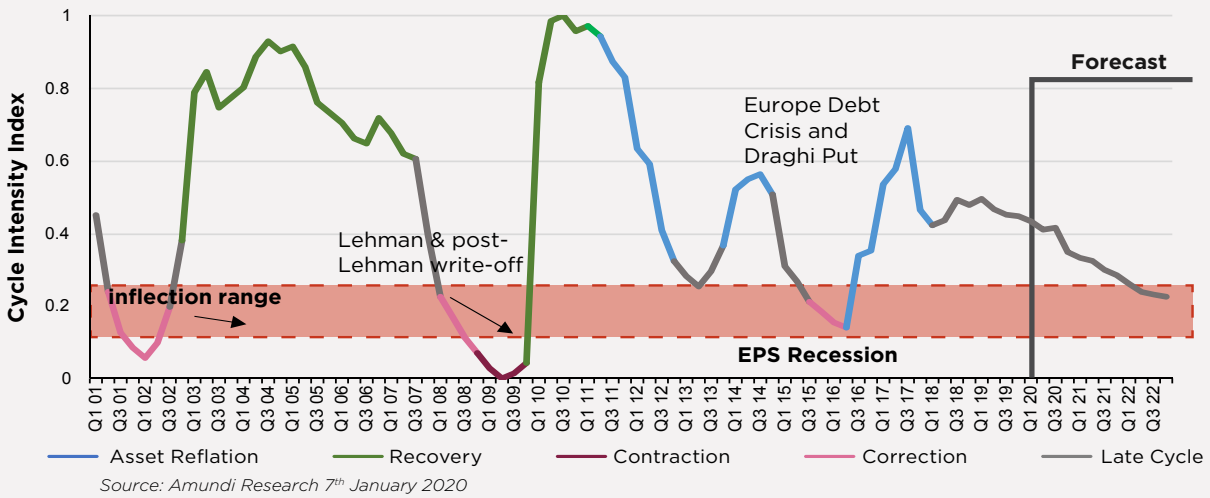
Downward trend is confirmed

Growth: deceleration in US and stabilisation in Eurozone are confirmed. Profit cycle remains fragile.

- **Real GDP growth is expected to gradually decelerate in the US towards potential** (1.8% vs. Fed 2%, q4/q4, with the growth-driver mix becoming less broad-based. While we maintain our call for the US consumer sector to post an "average" year, thus becoming the main growth driver, investments will decelerate, in particular non-residential. Compared to the last update, **we have revised up the expectations on residential investment performance, which is no longer a drag on growth.**
- While for the US "normalisation" is from the top, **for the Eurozone the picture is more mixed,** with Germany and Italy improving their trend profile, after the poor 2019 performance, France maintaining a rate of growth close to potential and Spain slowing down. **The aggregate for the Eurozone is a stabilisation at potential,** with currently little sign of an accelerating momentum ahead. Indeed, the manufacturing PMI still raises concerns that a turn in the tide of the trade war escalation will not suffice to remove the drag on the sector.
- Despite some short-term relief, profits are still in the final phase of this cycle. **A global trade rebound is needed to prolong growth until 2021. Margins, the key factor for the last decade's EPS growth, can be under pressure due to higher unit labour costs (ULC) and high debt leverage specifically for US corporates.**

Downward trend is confirmed: 2020 still a late cycle while the most likely scenario for end of 2021 is the transition to the correction phase.

Graph 1: **Investment Phazer Dynamic - Smoothed**



Source: Amundi Research 7th January 2020

The Advanced Investment Phazer (AIP) is our analytical tool that deploys cluster-based algorithms to provide probability-backed assessments of short-term global economic trends (24M) and eventually derive investment recommendations. The AIP wraps macroeconomic and financial regimes by partitioning the dataset using global factors and local determinants (DM and EM data are considered). Therefore, monetary policy – both conventional and unconventional – and private leverage are considered together with economic activity indicators. The model allows regimes' "likelihood" calculation conditioned and defined by internal macroeconomic forecasts. We therefore assign the expected probability for each of the regimes (we identified five regimes: contraction, slowdown, recovery, late cycle and asset reflation). Probabilities are inversely proportional to the Euclidean distance between macroeconomic forecasts and the reference values for each regime: the smaller the distance, the more likely the regime. See Andrew Ang, Geert Bekaert as reference for regimes and asset allocations implications.

Risks Postcard

Tipping points paving the way to diverging paths at a time when the global economy is going through structural transformation.

The **downside scenario** focus on the risk (not a fatality) of Japanisation for the Eurozone that can slip into deflation after a macro and financial crisis.

A significant shock can originate from the exacerbation of structural weakness, with rising debt and weakening potential growth, also in view of the limited room for manoeuvre of monetary policy.

In that case, the theme of Japanisation/deflation can resurface, even if we think that such an event would be limited in time compared with the Japanese episode because of strong intervention to limit the upside.

Deflation will be followed by a period of stagnation and low inflation.

This downside scenario even originates in the Eurozone and will spread its effects across the different areas.

The **upside scenario** focuses on how to offset the global economy weakening. For the purpose of this analysis, we confine the rationale around the variables that we identified within our framework.

The unwinding of globalisation requires regions to evolve and renew their economic growth drivers, shifting towards a more domestic-oriented production, based on consumption more than investment, where services outweigh manufacturing. Migration needs to be properly addressed through inclusion policies eventually benefiting economies and potentially easing the pressure on pension systems by adding mainly younger workers.

Fiscal policies need to address supply side factors to reset productivity and demographics in order to provide support to demand when the global economy weakens.

Ultimately, within our framework, stronger domestic demand will eventually smooth global spillovers.

A successful policy mix aimed at completing monetary and fiscal architectures (namely in EM and in Europe) will implement the upside scenario.

Downside scenario bottom line

Debt accumulation in the public and corporate sector and structural vulnerabilities leading to a macro recession and financial crisis turning afterwards into a deflationary period.

Upside scenario bottom line

Supply side factors reset (productivity and demography) triggered by renewed fiscal policy measures.

The Global View Focus

DIDIER BOROWSKI,
Head of Global Views

Policy mix: do not expect for a big change, unless there's a recession

In a world where: (1) nominal potential growth has decreased; (2) global debt has jumped; and (3) "new needs" (energy transition, defence and security spending etc.) are not being met, it's time to rethink the interaction between monetary and fiscal policy. However, this "resetting" process is likely to take more time than expected.

Financial repression to persist in a world of low growth

In a world where nominal potential growth is trending lower (real potential growth has weakened as well as inflation), and where at the same time global debt (both private and public) has surged, the world needs very accommodative monetary conditions for an extended period of time. As a result, financial repression is here to stay: central banks (CBs) are trapped in their very accommodative monetary policies (whether active balance sheet management or negative interest rates) in order to smooth the economic impact of the deleveraging process.

Further monetary policies alone could become counterproductive

The long-term impact of "unconventional" monetary policies (securities purchases and/or negative interest rates) is still largely unknown: CBs have never increased the size of their balance sheets on this scale and nominal rates have never fallen into negative territory to this extent (the Eurozone and Japan account for 90% of the negative yield universe). CBs are aware of the limited effectiveness of their policies and that these alone can no longer allow them to reach their inflation targets. The marginal impact of any additional accommodation is expected to be much lower (in the Eurozone and Japan) than a few years ago. Moreover, the adverse side effects on financial institutions (banks, insurance and pension funds) and on savers will increasingly be taken into account. With negative interest rates, eventually pension funds will all become underfunded, and savings income will collapse (which would necessitate – all other things being equal – a rise in the household savings rate). Going forward, additional monetary accommodation alone will prove counterproductive.

On the fiscal front, there is more room for manoeuvre when rates are low

The fact that the average interest rate paid on public debt has fallen below nominal GDP growth is a game-changer for many advanced economies, **as it is now possible to stabilise the public debt to GDP ratio with a primary deficit.** In addition, the debate on the types of expenditures that should be included in public debt metrics is returning to the forefront, notably in the Eurozone. This may pave the way for **a more flexible approach on the fiscal front at a global level** (i.e., infrastructure and security needs could be taken into account separately).

Moving towards fiscal and monetary complicity

The roles and responsibilities of CBs and governments were quite distinct during the Great Moderation: fiscal policy was dedicated to cyclical stabilisation and monetary policy was dedicated to meeting inflation targets. But with QE programmes, the boundary between monetary and fiscal policy has de facto been blurred. Inflation is persistently undershooting and therefore, this role splitting no longer works.

Closer coordination is required: CBs will need fiscal policy to achieve their goal while, on the other hand, governments will need very accommodative CBs to reflate their economies. In other words, we have entered into a world of fiscal dominance where we can legitimately question CBs' independence (new reaction function). **Fiscal policy should gradually take over from monetary policy.** Most central bankers emphasise the fact that monetary policy is not the "only game in town", and that low rates should be used to mobilise fiscal policy, where there is fiscal space. In the EZ, for instance, Germany and the Netherlands are asked to mobilise fiscal policy but, as a matter of fact, their governments are reluctant to move in this direction. **There is a consensus to say that policymakers need to rethink their role.** But without a trigger (recession and/or financial crisis), we believe that this is unlikely to happen. With regard to fiscal/monetary policy, the expectations of investors are therefore too high in the short term. Conversely, **in a time of recession and/or crisis, we must not underestimate the capacity** (and the implicit commitment) **of policymakers to stabilise the situation** (through new channels such as debt monetisation, the purchase of equities or other assets, or even "helicopter money").

Downside scenario

DIDIER BOROWSKI,
Head of Global Views

Japanisation is a risk, not a fatality

Defining Japanisation first

With a high proportion of bonds in negative territory, the theme of the "Japanisation" of the Eurozone (EZ) has come back to the fore. However, what is meant by "Japanisation" is rarely clearly defined. There are many dimensions to consider: interest rates naturally, but also the real economy (potential growth, demographics, labour market, debt, inflation), the banking and financial system, as well as the valuation of different asset classes).

Using the definition proposed by Takatoshi Ito (*Japanization: Is it endemic or epidemic?*, NBER, February 2016), Japanisation is defined by the combination of 4 factors: **(1) real GDP growth below its potential rate, (2) key interest rate at zero, (3) a negative real natural interest rate, and (4) a negative inflation rate**. By the yardstick of this simple definition, it is clear that the EZ has not (yet) been Japanised: growth is close to potential (on average in the area) and the inflation rate is certainly low but clearly anchored in positive territory. As a result, the path of nominal GDP since the major financial crisis in the EZ has been very different from what was observed in Japan in the 1990s and 2000s. Moreover, on many variables we do not observe the same characteristics are not observed as in Japan.

While the prospect of interest rates remaining at a very low level for a prolonged period seems to be supported by the ECB's strategy (negative rates and QE), the EZ stands out when it comes to the real economy, the financial sphere and asset valuation (absence of a bubble).

The question is therefore whether the EZ can slip into deflation following a new shock (i.e. a severe recession and/or financial crisis). Indeed, in Japan, deflation did not come out of nowhere but is the result of a shock to asset prices (stock market and real estate). It is worth remembering the events that led to deflation in Japan. With the financial liberalisation and particularly accommodative financial conditions, bank credit had soared in the 1980s. The stock index (Nikkei 225) rose from 10 000 yen at the end of 1983 to near 40 000 at the end of 1989. Real GDP growth was close to 5% (vs. 4% from 1975 to 1989). Subsequently, at the end of the 1980s, the Japanese economy was even held up as an example for its exceptional performances.

Ultimately, it was inflationary pressures and rising interest rates in the late 1980s that caused the turnaround in asset prices. The stock market declined (losing more than 60% in two and one-half years, with market capitalisation falling from around 140% of GDP at its peak to 60% of GDP in 1992) and bank credit began a long period of slowdown (first half of the 1990s) and then a quasi-continuous contraction between 1997 and 2012. The bursting of the real estate bubble and the credit bubble in the early 1990s was the vector of deflation/ stagnation (what is now called Japanisation). And these trends were reinforced a few years later by the Asian crisis, followed by the great financial crisis in 2008. In hindsight, the Japanese authorities reacted far too late, allowing deflation to take root.

A more proactive policy reaction

In the aftermath of the Great Financial Crisis, policymakers reacted much more proactively in the major advanced economies. Indeed, by learning from the Japanese experience, the major central banks (Fed and BoE) very quickly implemented QE policies. And cleaning up the banking sector was quickly the priority (unlike Japan). Even the ECB implemented unconventional policies much faster than the BoJ in the 1990s. There was certainly the episode of the sovereign debt crisis which precipitated Southern Europe into a severe crisis. But the deflationary pressures were ultimately short-lived, even there.

Analogies & differences

The analogies with Japan concern mainly interest rates (and the yield curve). On the other hand, the increase in debt is less marked, especially when expressed as a percentage of GDP. Moreover, demographic pressures (aging population, declining labour force) are far below what Japan has experienced. It is estimated that the labour force will stop declining in the EZ in about ten years' time, whereas it has been declining in Japan since the early 1990s. In addition, for deep-rooted cultural reasons, Japan is unable to resort to immigration. This is very different in Europe (especially in Germany, where demographic pressure is most pronounced), even if this is at the cost of political and social tensions. Finally, on the debt front, debt has been increasing rapidly in Europe since the great financial crisis, but because of the growth in nominal GDP, debt/GDP ratios are not rising as fast as in Japan (public debt: 240% of GDP in Japan vs. 85% in the EZ; corporate debt: 160% of GDP in Japan vs. 105% in the EZ). Finally, in terms of the labour market, downward nominal wage rigidity also protects Europe from a deflationary spiral.

That said, in the next crisis, with more limited room for manoeuvre, the theme of deflation/Japanisation could quickly resurface. Population ageing and low productivity are challenges, in particular in Europe. With weakened potential growth, rising debt and little room for manoeuvre for monetary policy, the EZ could therefore experience a "moment of truth" during the next recession.

Japanisation is a risk, not a fatality. Ultimately, everything will depend on the Eurozone's ability to strengthen its financial architecture in the coming years to increase its resilience to the inevitable macro-financial shocks that the future has in store. The fact that large economic areas would likely be under threat at the same time makes this scenario unlikely. With governments and central banks already implicitly committed to doing "whatever it takes" to avoid a debt-deflation spiral, the policy mix would rapidly become even more expansionary in the countries threatened by this prospect, with possible debt monetisation on the cards. This could even bring about a change in the macro-financial regime, with higher inflation, interest rates and volatility. Ironically, it is precisely because Japanisation is a serious threat in the medium and long term that the "Japanese" scenario is very unlikely to occur. Nevertheless, it is to be expected that interest rates will remain persistently low. And perhaps this is indeed the price to be paid in the EZ to avoid a true Japanisation.

Japanisation: applied case study to Europe

In the alternative scenario we have considered, the EZ (and perhaps other economies) could fall into recession and then stagnation/deflation. But we believe that **such an episode would ultimately be short-lived compared to what happened in Japan**. The numerical calibration of this scenario (growth/inflation/rates) is therefore mainly given for guidance and to allow its impact on asset returns to be inferred in a simple way. It should be noted, however, that there are two major methodological difficulties here: **(1) true Japanisation would probably result, in one way or another, from a previous shock to asset prices (financial and real, as in Japan), and (2) it is clearly impossible to quantify the impact of economic policy, which we know would play a crucial role.**

Within this representation of the Japanisation scenario we can distinguish a period of macro and financial crisis followed by a period of stagnation and deflation. Over the next 5 years, we imagine a macro-economic recession exacerbated by the derailment of financial assets, characterised by credit spread widening, rising defaults and profit recession. **The expected returns worsen for all risky assets, while government and high quality credit benefit from the interest rate decline.** After the medium term period, we assume a period of stagnation and deflation/low inflation (inflation stays negative only for a short period). In that period asset returns are subdued because of low economic growth and inflation on the macro side, and low yields and earnings growth on the assets side. The practical implications of the stagnation in terms of returns are further demonstrated if we look at a longer horizon (represented as a 15 year horizon for the purpose of this paper).

Upside scenario

When policy makers take up the challenge

ANNALISA USARDI, *CFA, Senior Economist*

Our central scenario implies a slower trend growth ahead for many developed and emerging countries compared with the 1950-2000 period. This argument is based on **three drivers: an adverse demographic effect (older populations), the lasting effects of capital shallowing and modest productivity growth.**

In this scenario, we maintain a neutral stance with regard to the possible implications of policy making that could affect trends in the three growth pillars as a result of any structural policies implemented. This indeed represents an area that harbours upside potential.

The crucial role of policy making

Policy making could affect many aspects of the social and economic landscape, reshaping the behaviours of individuals and economic actors and as such impacting economic growth potential.

The structural reforms that policymakers could implement are at the core of our upside scenario, where we try to identify policy actions with a selection of factors that could lift potential growth by increasing total factor productivity growth.

In our model, productivity growth is a function of exogenous and endogenous factors summarised in what we call a country's "**general development score index**" (GDS), which in turn is a function of three readily available scores:

A. the UNDP Human Development Indicator (which takes into account human factors such as life expectancy, educational attainment, literacy rates, etc.);

B. the World Bank Worldwide Governance Indicator (which takes into consideration general governance conditions that support growth);

C. the World Bank country Research and Development indicator (R&D investment as % of GDP).

Structural reforms to increase productivity & competitiveness

Thus, in practical terms, **in our upside scenario policymakers take up the challenge and implement a combination of structural reforms aimed at increasing productivity and competitiveness:** by improving human capital, social conditions, income distribution (human development); by developing better governance and easing conditions for doing business (governance indicators); by creating incentives to foster research and development investment.

Some of these developments are still in their early stages and in several cases are not the result of coordinated policy efforts as pointed out in the macro assumptions behind our central scenario.

Human capital investing: key factor of growth

Policies aimed at mitigating the effects of adverse demographics may succeed in **increasing the labour force participation rate**, supporting labour force growth and thus potential growth. In particular, these could be policies supporting higher participation by female workers or aimed at providing lifelong training for workers who remain in the labour market for longer. Both themes apply, with different intensity, to both developed and emerging economies and may be factors that could marginally limit the effect of adverse demographics and also improve income distribution and human capital. They also represent a key factor in determining the real upside potential of Emerging countries: the presence of a demographic dividend does not always automatically translate into higher potential growth in a low literacy environment and training and the attraction and retention of human capital become a key factor of growth. This will be particularly true in the next decades, when **new technologies will require IT skills in order to exploit the**

maximum productivity potential: on this basis, the growth premium of Emerging over Developed markets can be challenged.

Another key area of policy making **is the promotion of R&D, new investments and capital deepening**, with the introduction of new technologies and infrastructure that may promote local/regional production chains, revamping regional growth and competitiveness with a network of new production chains. In this area, a good example is provided by the European Union's Industry 4.0 plan and Infrastructure Plans which can be launched as a coordinated effort. The enhancement and extension of these plans could play an important role in lifting potential growth in Europe.

Finally, structural reforms in governance and the ease of doing business, especially in those countries whose ranking is poor, may attract Foreign Direct Investments, further fostering growth.

The expected returns will be stronger for all asset classes

Moving to our forward looking asset returns framework, the materialisation of the upside scenario incorporates a more generous medium term outlook for the macro and financial environment under the assumptions of more effective policy actions and some improvements in productivity and competitiveness over a longer timeframe. **The expected returns will be stronger for all asset classes**, in particular if we look **at a 10 year horizon and the long term** (represented as a 15 year horizon for the purpose of this paper), when the most structural improvements will materialise. In fact, interest rates could converge to higher levels of yields and equities could benefit from higher potential earnings growth. Comparing the upside with the central scenario, expected returns improve across the asset classes considered. All equity regions benefit from the improvement, which could mostly affect EM and the EU.

2

Return Forecasts & Macroeconomic assumptions

Key Asset Class Highlights: central scenario

CASH	– **There are structural factors lowering the long run levels:** lower economic growth resulting from slowing productivity and labour force. – Persistently **low inflation rate**s with respect to central bank targets and monetary policy stances will significantly impact our 10-year expected returns on cash. – **In advanced markets, central banks will continue to support the economies** by using conventional and unconventional monetary policies. In the medium term (5-year horizon), cash rates could stay low or further compress as a result of monetary policy. – Over the next 10 years, **rates will struggle to normalise back to long run equilibrium levels** for all regions except for the US. – Compared with last year's returns, we highlight generally **lower expected returns** due to lower starting levels and lower equilibrium levels.
GOVERNMENT BONDS	– We confirm our long-term assumptions for the **yield curve to be flatter than historical** averages in all the developed countries. Yields should be lower on both a 10-year horizon and in equilibrium as a result of our expectation for lower short-term interest rates. – For the Euro area as well as Japan, we foresee a **prolonged period of low yields** because of structural factors and central banks. – **Expected returns on government bonds are modest because of (1) low starting yields and (2) expected capital losses due to yield increases.** This combination is particularly painful for countries with negative yields even though our assumptions are for gradual adjustments in yields levels. – We have a **high dispersion of scenarios** at the 5-year horizon reflecting the rise in uncertainty in both the macroeconomic and the financial landscape. – Current low yields and less attractive valuations reduced our expected returns over the next 10 years compared to our last yearly update in January 2019.
EMERGING BONDS	– **The outlook on EM debt is moderately positive in the medium to long term**, because of high carry and a moderately positive scenario reflecting our outlook on the EM/DM economies. – In the long term, we expect a marginal downside adjustment of EM sovereign spreads and yields in line with lower nominal growth, barring any inflationary shock that is not in our base case. – Also, looking at the medium-term horizon, we expect EM assets to be **resilient, outweighing potential risks** linked to unstable growth and trade dynamics. – As demonstrated by recent history, **the downside risk can be country specific**, more idiosyncratic than systemic, affecting the country macro environment and the country risk premium. – Phases of **USD overvaluation are supportive for EM local currency debt** expected returns, but accompanied by higher risk. – **Default loss estimates are higher than in most recent history**, to incorporate potential rising country-specific risk linked to worsening macro financial conditions.

CREDIT	– **Spread tightening in FY 2019 led to tighter valuations** across the corporate spectrum. Default rates remained close to the last ten-year lows in Europe and lower than long-term averages in the US in 2019. – **In the next few years**, a more carry-like return coupled with an expected rise in default rates are **likely to lead to lower performances** than in 2019. – With the deterioration of the macro and financial landscape, spreads **will widen and defaults increase** reducing the expected returns **in the medium term**. – **Liquidity risk can materialise for low-rating credit** in the event of the exacerbation of the financial crisis, tilting returns on the downside: in this respect, the high level of debt accumulated by low-rated US corporate debt represents an additional long-term risk. – Higher duration and lower quality in the US results in higher equilibrium spreads versus the EU. – **Medium to long term expected returns are higher for the US than the EU credit sector, mainly due to the yield level gap in the two areas and the difference in market structure (quality).** Focusing on the credit component, US credit is not favoured from a valuation point of view and embeds higher risk than EU credit. The advantage of US credit versus EU credit expected returns is partially cancelled when looking at risk-adjusted returns.
EQUITIES	– With poor earnings growth, a large part of the equity rally of 2019 has been due to valuation expansion, consequently **PE multiples are now elevated across regions**. – **In the medium-term a period of contraction in earnings growth is the most likely scenario** due to the prolonged length of this profit cycle, justifying the lower expected returns with risks skewed on the downside with respect to long term projections. – Compared with one year ago, **expected returns on equity over 10 year horizon are lower** as they incorporate higher valuation at the starting point across the regions. The lower EPS growth as previously highlighted represents another driver for lower returns, but less relevant given its size in explaining the difference. – In equilibrium, we estimate that the US market should appreciate at a trend rate of 7.6% p.a. in nominal terms. EM equity return in the long-run is estimated at 8.9%, lower than last years, but confirming a higher potential versus developed markets.
CURRENCY	– USD is trading above long-term valuation with a weighted average USD overvaluation of 12%. Currency contribution to returns for a not USD investor can be significant so reducing the overall USD assets advantage on returns. This is true when assuming the valuation gap to be absorbed in our forecast horizon (10 years). – In the medium term, coherently with our central scenario, The strength of USD and interest rate evolution may halt the adjustment dynamic during the economic slowdown.
ASSET ALLOCATION IMPLICATIONS	– Overall, cross-asset **ex-ante returns shifted downwards versus last year**, accompanied by relatively stable correlation and volatility, with the resulting efficient frontier curve likewise showing a downward parallel shift. – We maintain the maximum allowable allocation in assets with **favourable risk/reward profiles, such as EM Hard currency bonds and European equities**. – Assets with a higher allocation relative to FY 2019 include US Corporate IG and EM equity.

Annualised Return Forecasts

In the following table, we present our return forecasts across different asset classes, calculated as the average of simulated annualised returns, on different forward looking horizons (from 3 years to 10 years). We included as reference also the historical annualised returns and volatility calculated on 20 years horizon.

Assets in local currency	Reference Index	Duration	Average Annualised Expected Returns			1999-2019 Historical Returns (annualized)	1999-2019 Volatility (annualized)
			3 year Expected Returns	5 year Expected Returns	10 year Expected Returns		
Cash							
Euro Cash	JPCAEU3M index	0.3	-0.6%	-0.4%	-0.1%	1.9%	0.5%
US Cash	JPCAUS3M index	0.2	1.3%	1.3%	1.6%	2.4%	0.6%
Government Bonds							
US Bond	JPMTUS Index	6.2	2.7%	1.7%	1.5%	4.8%	4.6%
UK Bond	JPMTUK Index	11.0	2.9%	0.0%	0.4%	5.6%	5.8%
Japan Bond	JPMTJP index	9.5	-0.1%	-0.2%	0.0%	2.1%	2.3%
Emu Bond - Core	JPMTWG index	7.4	-0.8%	-1.1%	-0.6%	4.6%	3.9%
Emu Bond - Semi Core (France)	JPMTFR index	7.7	-0.1%	-0.5%	-0.4%	4.9%	4.1%
Italy Bond	JPMTIT index	6.7	0.7%	0.7%	1.0%	5.3%	5.6%
Spain Bond	JPMTSP index	6.7	-0.8%	-0.2%	0.7%	5.4%	5.1%
EMU Bond All Maturity	JPMGEMUI Index	7.2	-0.2%	-0.3%	0.1%	4.9%	3.9%
Barclays Global Treasury	BTSYTRUU Index	7.6	1.2%	0.6%	0.8%	4.2%	6.6%
Credit Investment Grade							
Euro Corporate IG	ER00 index	5.0	-0.3%	0.2%	0.5%	4.6%	3.2%
US Corporate IG	C0A0 index	7.0	3.0%	2.7%	2.8%	6.0%	5.1%
Barclays Euro Aggregate	LBEATREU Index	6.4	-0.2%	-0.2%	0.2%	4.7%	3.3%
Barclays US Aggregate	LBUSTRUU Index	5.7	2.8%	2.1%	2.0%	5.0%	3.4%
Barclays Global Aggregate	LEGATRUU Index	6.7	1.6%	1.1%	1.3%	4.4%	5.5%
Credit High Yield							
Euro Corporate HY	HE00 index	3.5	-0.1%	1.5%	2.1%	5.3%	11.3%
US Corporate HY	H0A0 index	4.2	2.3%	3.7%	4.1%	6.9%	8.8%
Emerging Market Debt							
EM Hard Currency Debt*	JPGCCOMP Index	6.9	4.1%	5.2%	4.8%	9.0%	8.2%
EM-Global Diversified**	JGENVUUG Index	5.4	4.0%	4.1%	5.5%	6.7%	11.7%
Convertible Bond							
Europe Index (Eur Hedged)	UCBIFX20 Index		0.1%	1.7%	2.7%	4.4%	8.8%
Equities							
US Equity	NDDLUS Index		1.9%	4.6%	6.5%	5.5%	14.6%
Europe Equity	NDDLE15 index		1.7%	3.9%	6.0%	3.7%	14.7%
Eurozone Equity	NDDLEMU Index		1.8%	3.7%	5.9%	2.8%	17.4%
UK Equity	NDDLUK Index		1.6%	4.1%	6.4%	4.3%	13.3%
Japan Equity	NDDLJN Index		1.4%	3.2%	4.8%	1.9%	17.7%
Pacific ex-Japan Equity	NDDLPXJ Index		1.9%	4.4%	6.3%	6.7%	13.8%
Emerging Markets Equity***	NDLEEGF index		2.7%	5.7%	7.2%	9.8%	16.9%
World Equity	NDDLWI index		1.9%	4.4%	6.2%	4.6%	13.7%
AC World Equity	NDLEACWF Index		2.0%	4.5%	6.4%	4.8%	13.7%

EM sovereign index are EMBI Global Diversified and EM-GBI Global diversified: Hard Currency USD, ** USD Unhedged, including the USD currency expectation towards EM currencies. EM Local starting date is 31/12/2002. *** EM equity starting date is 29/12/2000*

Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Macro figures as of last release. Interest rates, Equity, spread and FX updated as of the 22nd of November 2019. Equity returns based on MSCI indices. Reference duration are average figures. Local Currency.

***Short term forward views and fair values provided by Research team (macro, yields, spread and equity).** Forecasts for annualised returns are based upon estimates and reflect subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision making.*

The forecast returns are not necessarily indicative of future performance, which could differ substantially.

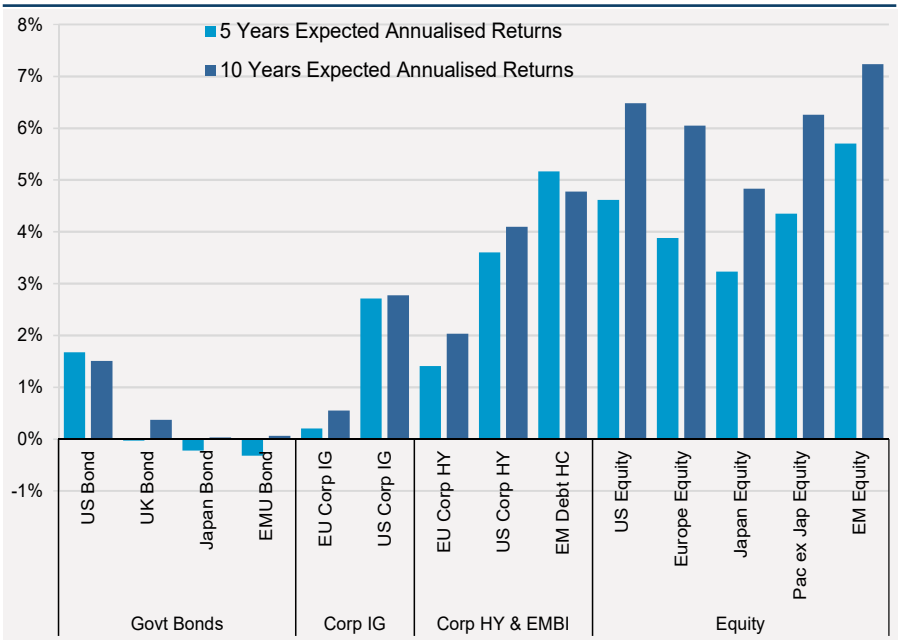
Current, Previous Update and Historical Comparison

In the medium term, we expect **equity returns** to dwindle against a backdrop of slowing economic growth and the growing risk of a profit recession.

Government bonds should benefit from falling interest rates, especially in countries with a positive interest rate policy.

We can anticipate widening **corporate bond spreads** and an increase in default rates, which is likely to penalise the high-yield sector.

Graph 2: **Asset class returns over a 5 and 10 year horizon**



Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

Our 10 year forecasts are lower than those we published last year for all asset classes.

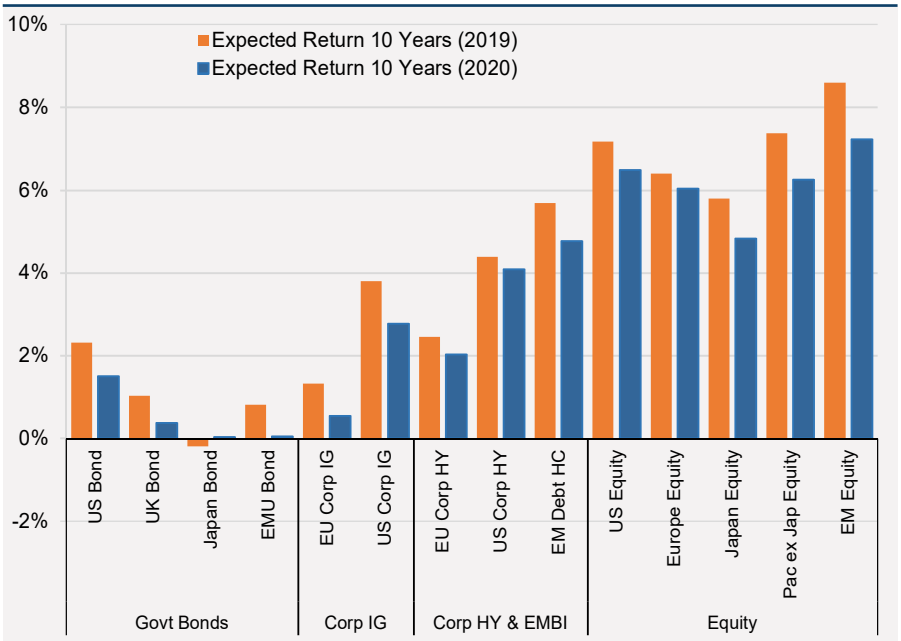
While the medium term slowdown scenario is confirmed, the starting point and our assumptions for the 10 year target have changed.

2019 has been a year of very positive performance in the global investment universe and valuations are tighter.

For fixed income assets, this is partially offset by lower 10 year target yields.

For equities, the decrease is reinforced by some fine-tuning on the downside for long term EPS estimates.

Graph 3: **10 years expected returns: comparison between this year and last year update (2020 vs 2019)**



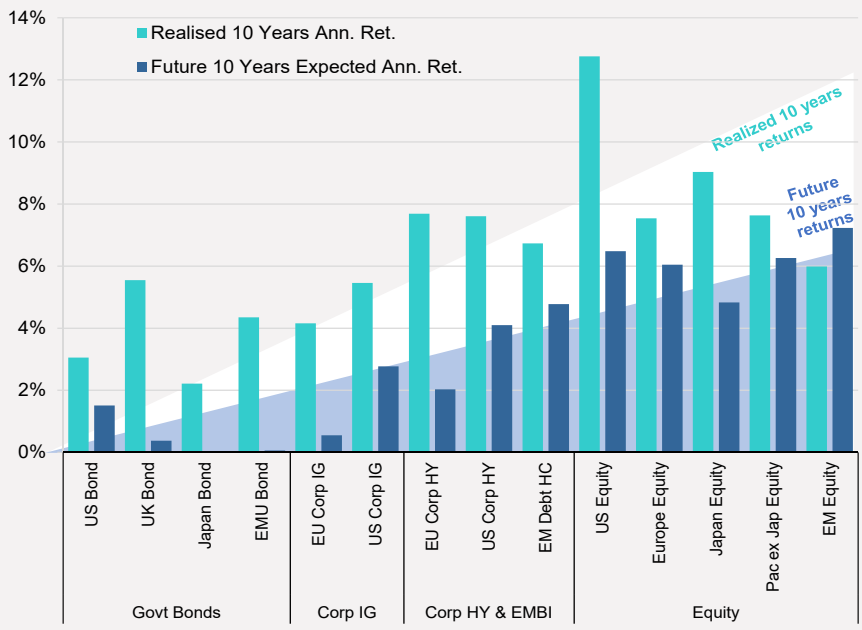
Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

Return forecasts

Our 10 year forecasts are lower than the actual 10 year performance delivered during the asset reflation period because we entered a late cycle phase in 2018 with economic growth surpassing its peak and because of our modest long term estimates.

Our long term scenario assumes **lower growth rates** (mostly due to adverse demographic dynamics and modest productivity), **inflation** remaining subdued with respect to central bank targets, especially in DM, **lower short term interest rates, flatter curves** than in the past, and **lower long term earnings growth.**

Graph 4: **Asset class historical 10 year returns and forward looking 10 year forecasts**



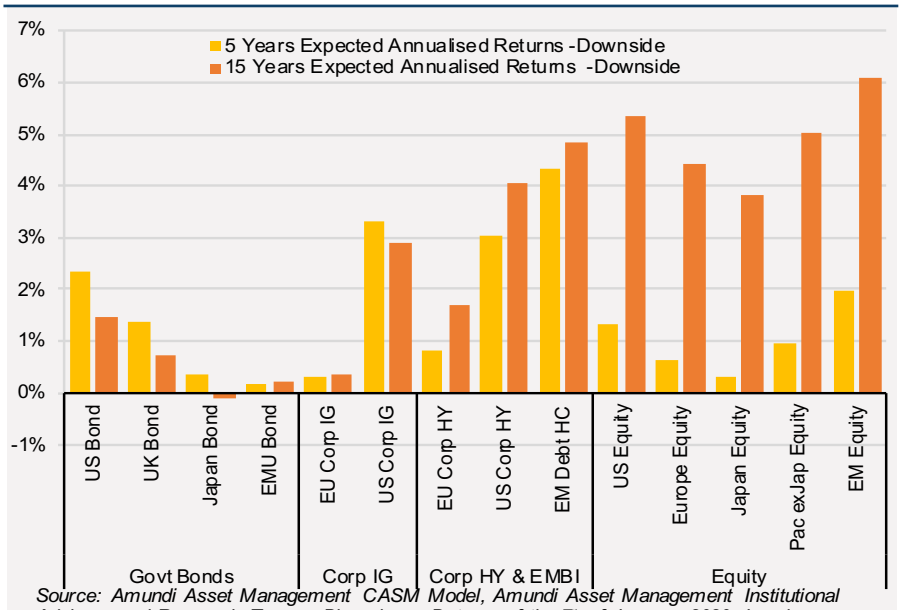
Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency. Historical performance from 30/11/09 to 30/11/19.

Downside Scenario - Japanisation

In the downside scenario, over the next 5 years, we imagine a **macro-economic recession exacerbated by the derailment of financial assets,** characterised by credit spread widening, rising defaults and profit recession. Expected returns on risky assets will be depressed.

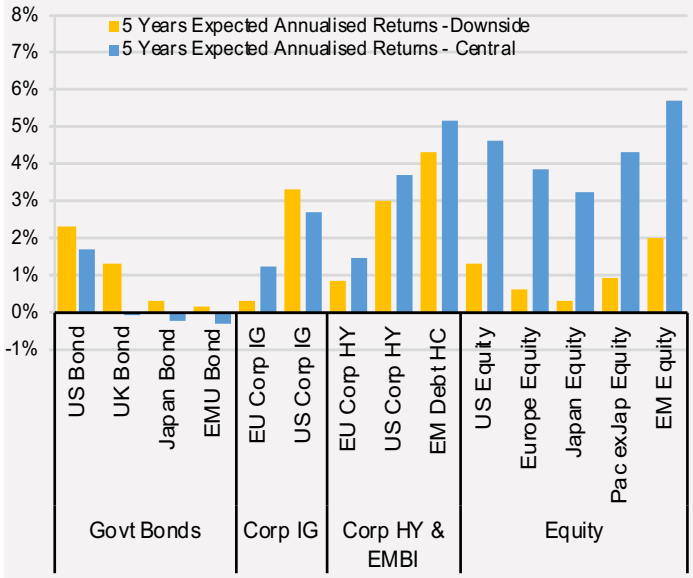
During the **period of stagnation that follows,** expected returns are modest and below our identified equilibrium levels.

Graph 5: **Asset class 5 years and long term expected returns under downside scenario**

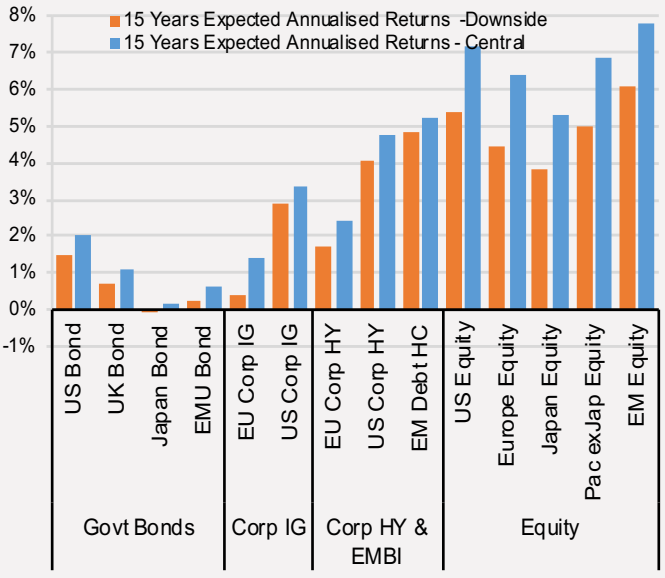


Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

Graph 6 and 7: **Expected returns comparison (downside vs. central scenario) over medium and long term horizon**



Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.



Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

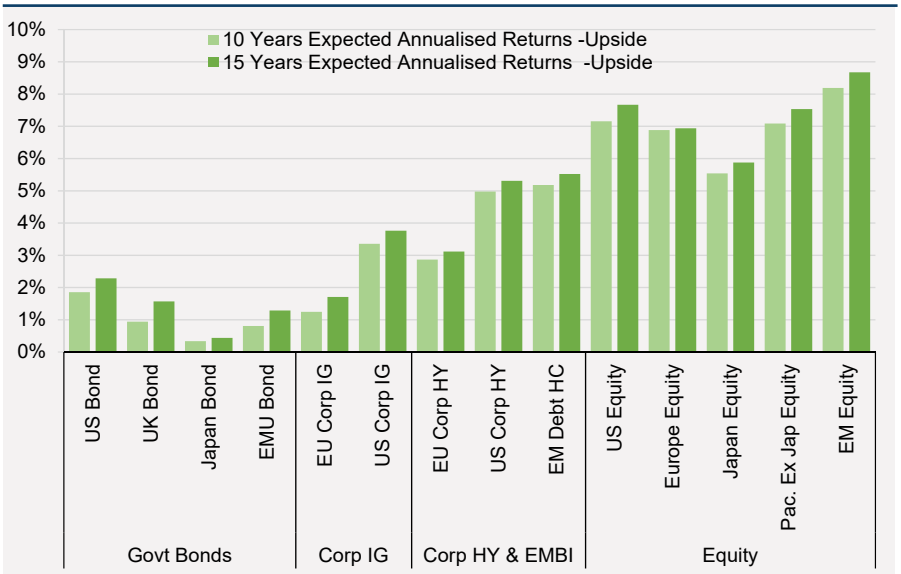
Comparing the downside and central scenarios, **expected returns worsen for all risky assets**, while government and high quality credit can benefit from the interest rate decline in the 5 year horizon because of the macro-financial crisis we assume.

Over the **long term horizon** (considered as 15 years), our assumptions resulted in a **recovery of risky assets**, although overall **expected returns are lower** than in our central scenario because of the combination of crisis followed by stagnation.

Upside scenario – When policy makers take up the challenge

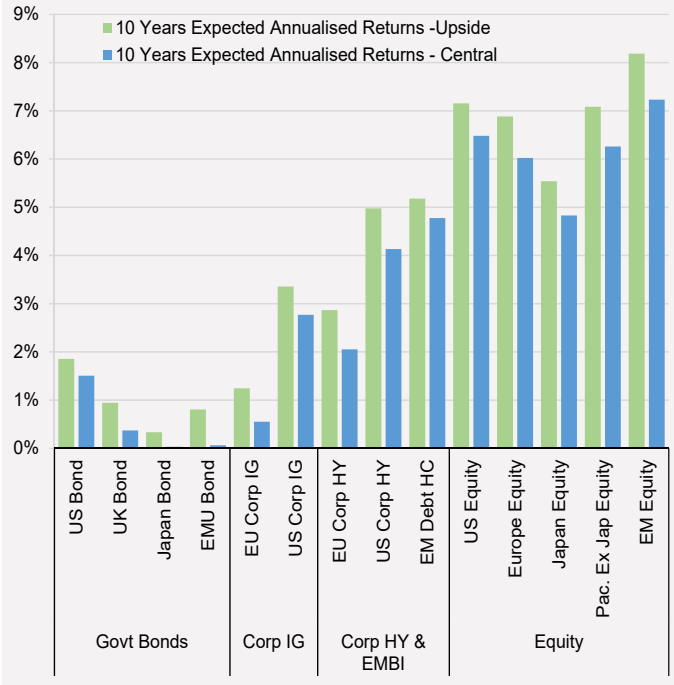
In the upside scenario, some weakening factors in the global economy are offset. We assume a worldwide improvement, in particular EM and Eurozone can grow supported by monetary and fiscal policy and some structural improvements can be put forward for demographic and local developments. Expected returns will be stronger for all asset classes, especially if we look at a 10 year horizon and beyond. In fact, interest rates could converge to higher levels of yields and equities could benefit from higher potential earnings growth.

Graph 8: **10 year and long term expected returns under the upside scenario**

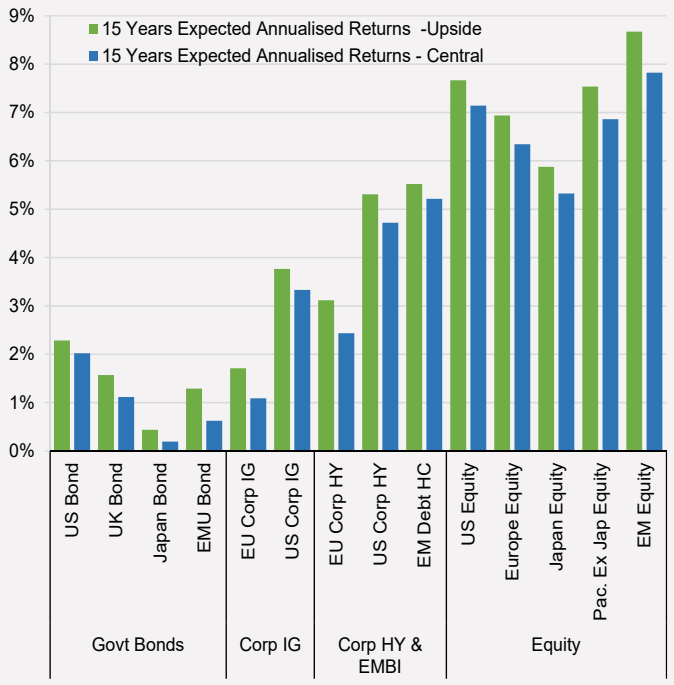


Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

Graph 9 and 10: **Expected returns comparison under upside and central scenario over medium and long term horizon**



Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

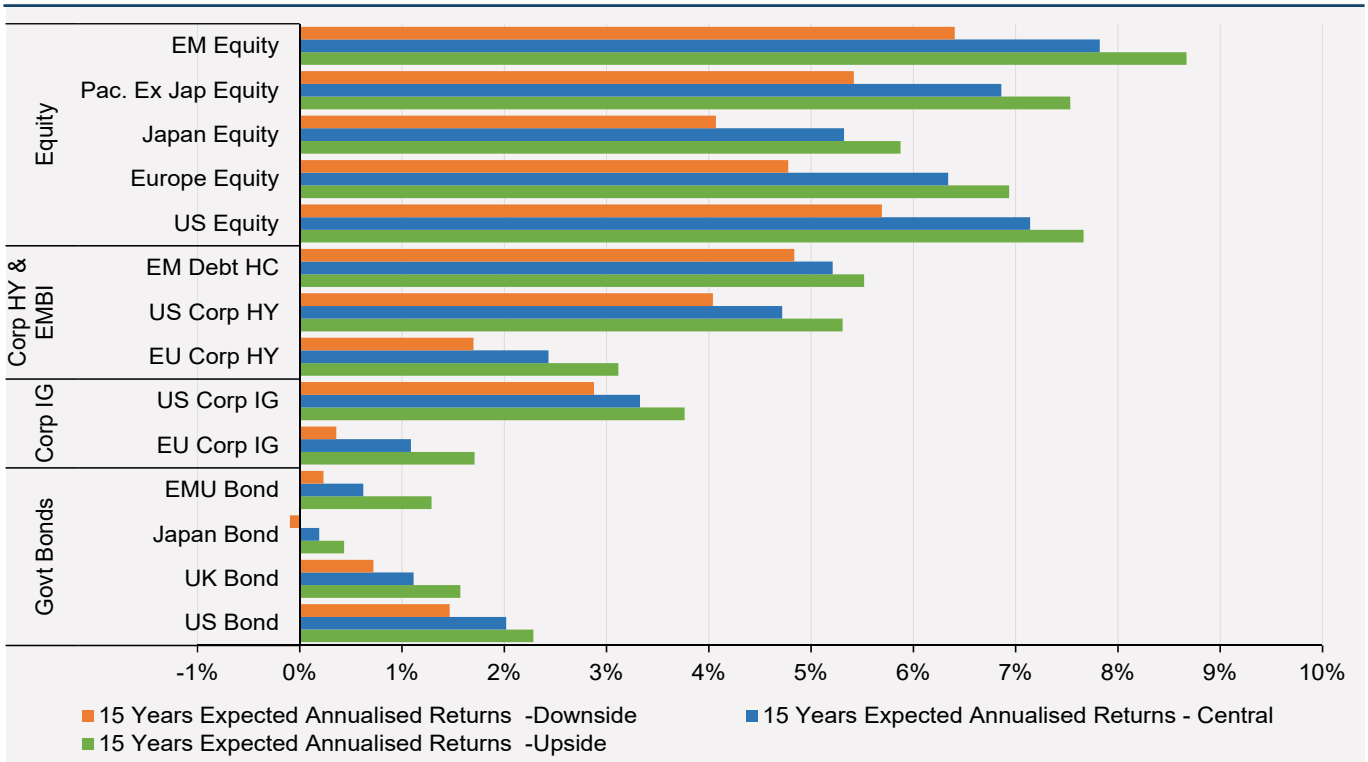


Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg. Data as of the 7th of January 2020. Local currency.

Comparing upside with central scenario, **expected returns improves across the asset classes considered**. All the equity market regions can benefit for the supportive monetary and fiscal policies and for the structural improvements.

Long term expected return comparison in the three scenarios

Graph 11: **Standard asset class long term expected returns under our 3 scenarios**



Source: Amundi Asset Management CASM Model, Amundi Asset Management Institutional Advisory and Research Teams, Bloomberg.
Data as of the 7th of January 2020. Local currency.

In this graph we compare expected returns over a **long term horizon** (15 years) in all three scenarios. Considering the differences between the scenarios and equity potential for the macro areas, in general **equity returns could range on average between 4% and 9%**. On fixed income, even if the three scenarios imply different medium term scenarios (ranging from macro and financial recession on the downside to macro and financial consolidation on the upside) and diverging expected returns, over the long term we see **a clear ranking in expected returns** within the scenarios **based on long term growth and inflation expectations.**

Methodological note

JUNG HUN KIM MOON, *CFA, Senior Quantitative Analyst*

TOM WALSH, *Senior Quantitative Analyst*

Cascade Asset Simulation Model

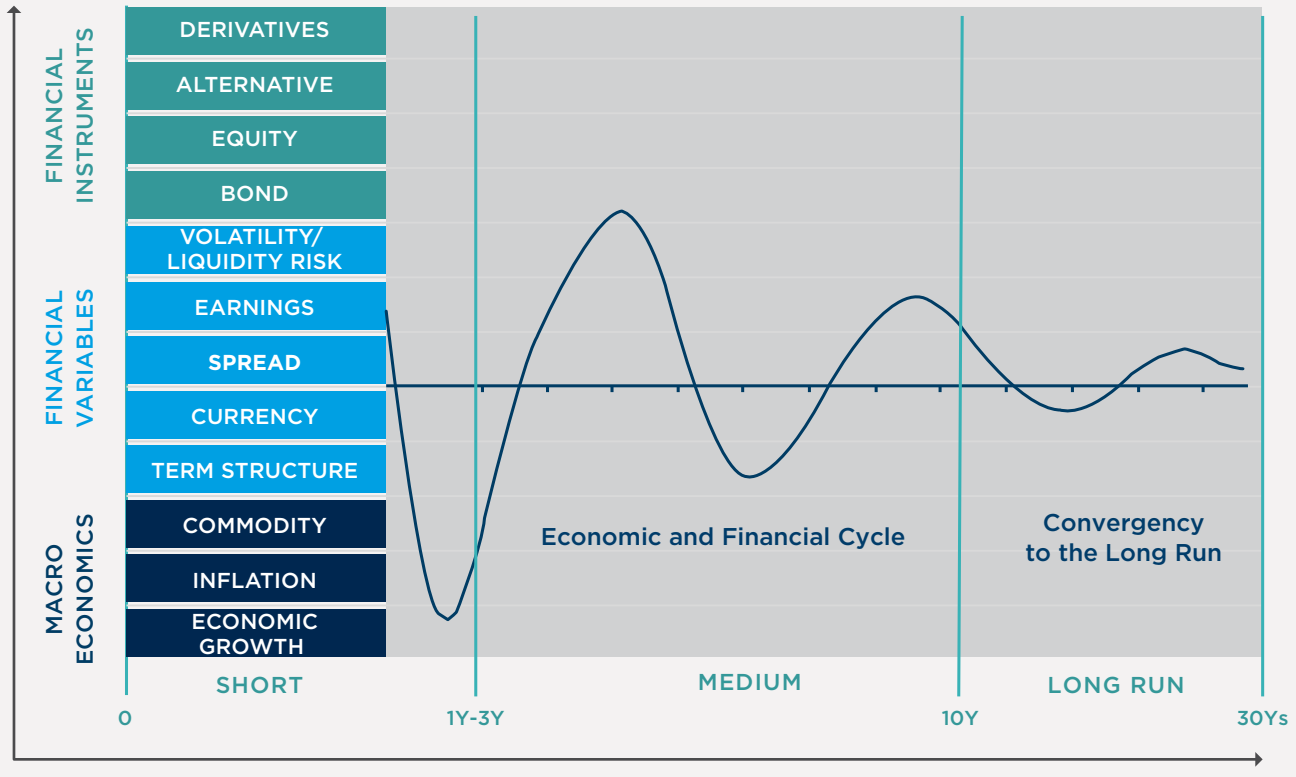
CASM is Amundi proprietary platform for asset return simulation:

- Generates scenarios of asset prices and underlying economic and financial factors
- Blend of in-house expertise and market analysis
- Used in:
  - Deploying strategic asset allocation and asset liability management analysis based on client specific requirements.
  - Defining the reference allocation and/or risk profile for Amundi Multi Asset portfolios.
  - Delivering forward-looking analysis for portfolios at asset class level (for example exploring the forward-looking risk return trade-off of the different asset classes).

Key Features

- Macro factor based model allows scalability of asset class coverage due to the parsimonious modelling approach
- Covers entire business cycles through dynamic model from short term to long run via medium term cyclical evolution

Graph 12: **Representation of the CASM model along the 2 dimensions: on the vertical axis the cascade and on the horizontal the time horizon**



Source: Amundi Asset Management CASM Model - Institutional Advisory, for illustrative purposes only

Contributors

- Platform management and development by Amundi Multi Asset Institutional Advisory
- Macro and financial modelling based on Amundi Research contribution
- Forward looking scenarios and assumptions articulated by Amundi Multi Asset Institutional Advisory and Amundi Research
- Also supported by Amundi Portfolio Managers

We use a Monte-Carlo methodology in order to generate the possible changes in different risk factors for the time horizon considered, representing the future states of these factors under objective measures. The resulting model is then used to price the asset classes coherently with the forward looking evolution of the risk factors.

In order to determine possible interest rate scenarios, we analyse the changes in the major economic regions. We use a cascade-style modelling technique to simulate the different term structures, using risk factors such as the GDP cycle, inflation, real rates and slope for each of the economic regions.

Moving into spread-related assets (EM bonds and corporate bonds), we focus on implied volatility, quality, default and recovery rates, together with economic cycles, to estimate a forward-looking path for EM bonds (hard currency), EU corporate (IG and HY) and US corporate (IG and HY).

Our framework on equity focuses on earnings growth and price earnings, as a determinant of capital gains and dividend yields, to represent the income effect; these variables are analysed with to be replaced by in connection with the macroeconomic pillars of the model (the economic and inflation cycle).

CASM is updated on a quarterly basis to incorporate new starting points, our short-term outlook along with long-term trends, the significance of which is verified on an annual basis.

We generally tend to project lower growth rates, particularly in those countries with adverse demographic dynamics. Yet, being model based, we acknowledge that our projections are subject to a degree of uncertainty, in particular related to the validity of the working assumptions. By considering factors that could represent a deviation from the implication of these assumptions, **we identify for each growth driver (labour, capital and productivity) possible exogenous factors (changing labour force participation rates, industrial policies changing the production model, productivity enhancing policies) which may determine deviation from the trend we project, all potentially depending on structural policy changes, which then become the key variable to monitor.**

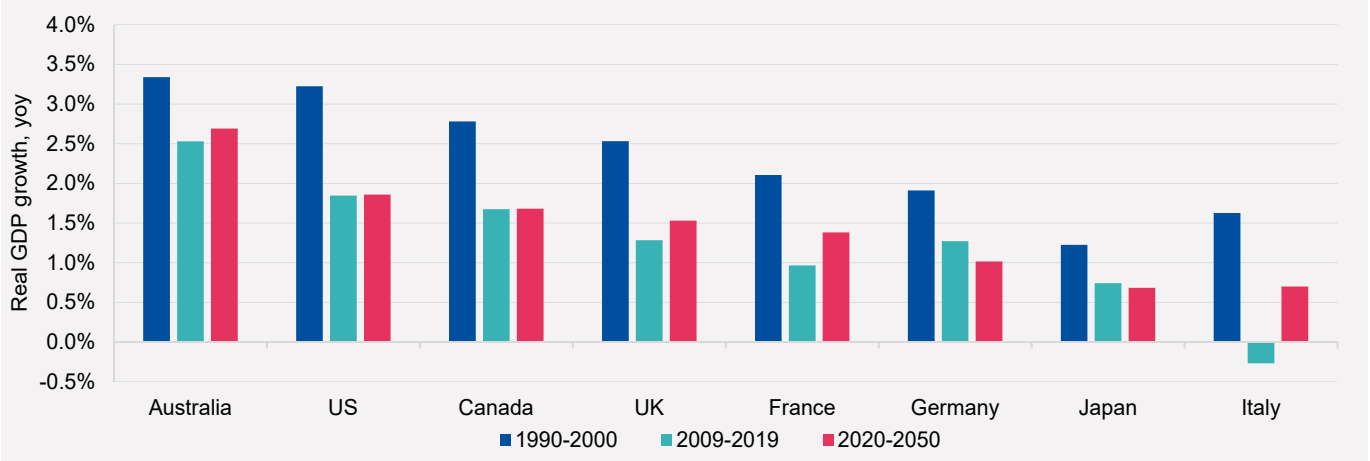
ALESSIA BERARDI, *Head of EM Macro and Strategy Research*

ANNALISA USARDI, *CFA, Senior Economist*

Developed Markets

Compared to the past decades, Developed Markets' (DMs) growth rate has been slowing and, according to our projections, this trend will gradually continue over the next 30 years, albeit at a differing pace according to country. As can be seen from graph 13, the average growth rate in 2020-2050 is projected to be significantly lower than in 1990-2000. For only a few countries will the projection for 2020-2050 be higher than the growth achieved in the post GFC period (e.g. Australia, France and Italy), the reasons for this being attributable to a particularly weak economic performance in the last decade (e.g. Italy, with a double-dip recession from which the economy emerged with difficulty before experiencing a new slowdown in 2019) or to a better outlook for labour growth, capital and productivity than recently (such as for Australia and France).

Graph 13: **Developed Markets Growth**



Source : Amundi Research, IMF, OECD, Bloomberg, Datastream. Data as of 01/11/2019

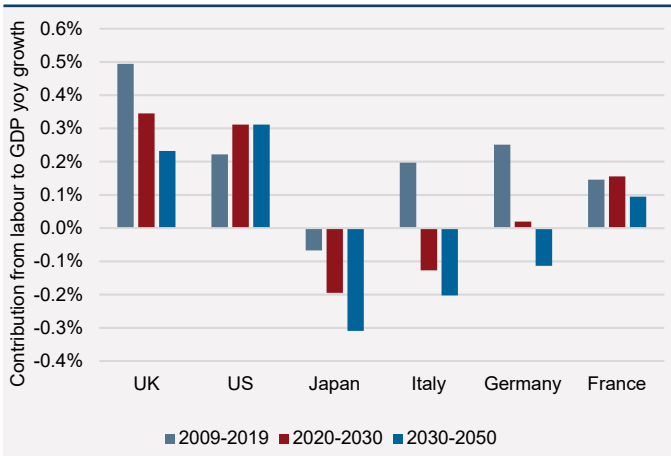
Labour contribution to growth is expected to represent a drag on growth on many DMs

Our approach to estimate potential growth over the next decades is based on a **growth accounting methodology where future growth is a function of labour, capital and their combined productivity.**

Post GFC, labour's contribution to growth in DMs has supported growth via two trends: an increase in employment (at the bottom of the last recession, unemployment rates were exceptionally high) and, generally speaking, an increase in the labour force participation rate, in particular among women and senior citizens. While employment growth is clearly a cyclical factor which cannot be extrapolated into the future, higher trends in labour force participation rates in selected countries may represent a trend and are an aspect requiring particular attention especially where growth cannot come from an increasing population:

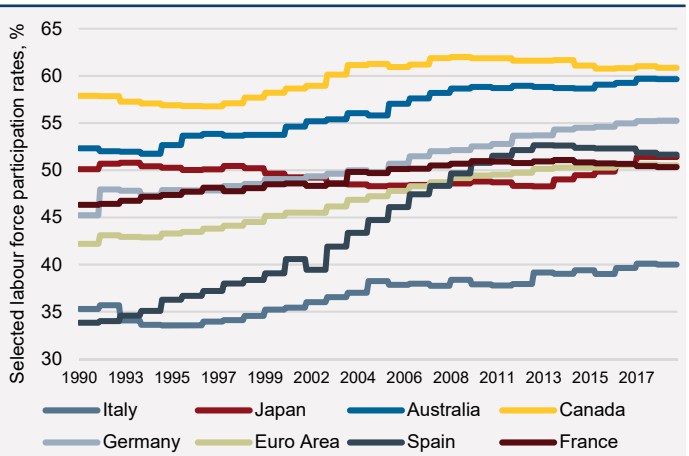
in fact, the growth accounting model we use does not use any assumption on the participation rate, which is implicitly held constant. With this caveat in mind, it appears that **in the next decades, labour's contribution to growth is likely to be a drag for Japan, Italy and Germany, where the demographic factor is more adverse.** An interesting development for future research could be assessing how policies affecting labour participation of women and senior citizens may mitigate this adverse trend.

Graph 14: **Contribution to growth, labour**



Source: World Bank, IMF, OECD, Bloomberg, Amundi Research

Graph 15: **Selected female labour force participation rates**



Source: World Bank, IMF, OECD, Bloomberg, Amundi Research

Labour force: in the next decades, labour's contribution to growth is expected to represent a drag on growth for many DMs, yet policies supporting stronger labour force participation rates may mitigate adverse demographic effects. On the labour force participation rate of females, within the Eurozone, there is ample catch-up room for Italy.

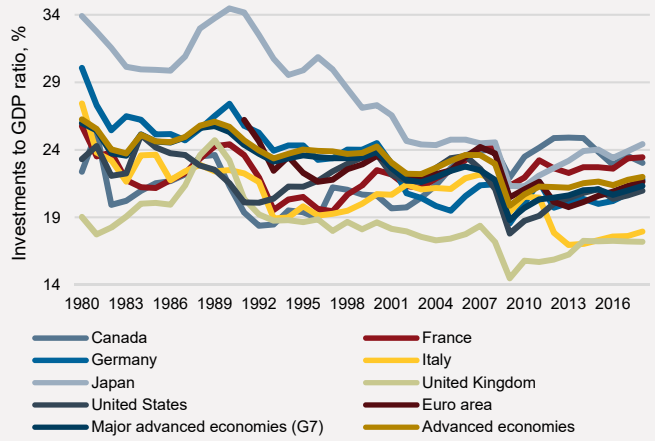
Productive capital in an economy is a function of savings and investment patterns, in part linked to demographics

Productive capital in an economy is a function of savings and investment patterns, in part linked to demographics and in part linked to exogenous factors such as policies. In our model, **demographics implicitly play a role in projecting the capital intensity over the next decades as savings patterns, which are demographic dependent,** are a factor defining the investment rate of an economy. Yet, we acknowledge that investment intensity is also a function of policies, which could boost investments and capital productivity beyond the assumptions of a model and could therefore help modify the trend resulting from its implicit assumptions.

Indeed, this is another aspect that may represent a risk around our projections. As an example, for a few decades the **investment to GDP ratio of DMs** has been declining but, post GFC, **this trend seems to have reversed,** thanks for instance to the adoption of investments in new technologies and policies introduced (e.g. Industry 4.0 in the Eurozone)[1]. This could not only have an impact on investments and capital deepening, but also on productivity, representing another aspect of an upside potential surprise compared to our baseline assumptions.

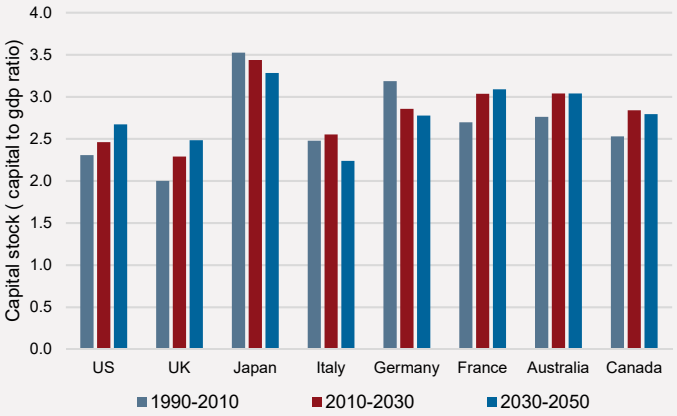
[1] *https://www.europarl.europa.eu/RegData/etudes/BRIE/2015/568337/EPRS_BRI(2015)568337_EN.pdf*

Graph 16: **Investments to GDP, changing tide?**



Source: Datastream, IMF, Amundi research computations, as of December 2019

Graph 17: **Capital stock**



Source: Datastream, IMF, Amundi research computations, as of December 2019

Various initiatives have and will be undertaken to encourage the acquisition of "e-skills"

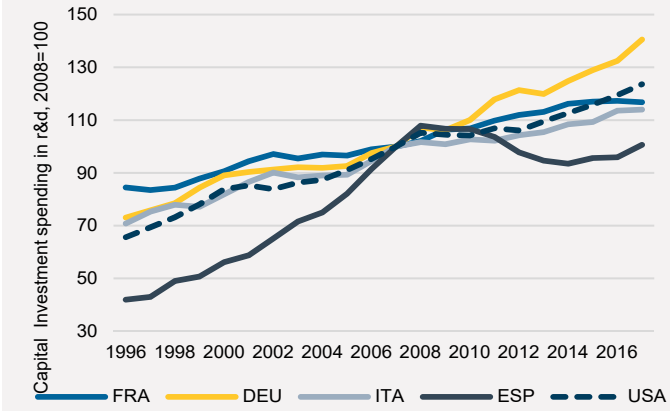
Capital: on average, the capital stock to GDP ratio has remained broadly stable among developed markets; yet, in the next decades, the capital stock is expected to increase, supporting potential growth. The few exceptions are Italy, Germany and Japan, where we could perhaps see the impact on investment patterns coming from demographics. Indeed, policies which could boost investment incentives could represent an upside risk to our projections. For instance, Italy is clearly a laggard in the investment ratio trend reversal which other Eurozone countries have experienced. Also, Germany seems not to have experienced a surge in investment intensity. Japan, meanwhile, is experiencing a trend reversal, but the current average is still very far from previous very high levels..

Finally, **Productivity** is the residual factor explaining that **part of growth not directly attributable to the direct physical contribution of labour and capital.** It is a concept that is difficult to measure and even more difficult to forecast: we link its trend to factors related to the development of human capital (e.g. literacy, ongoing training, skills development) and technology (e.g. R&D) and we also acknowledge that it is closely related to each country's policies and institutions.

In Developed Markets, the nature of manufacturing work has shifted from largely manual labour to the ability to programme and control high performance machines, while skilled labour is a prerequisite to fully exploit the potential of new technologies, increasing total productivity. As an example, EU experts highlight that there may be a significant shortage of ICT professionals in the next few years and therefore various initiatives have and will be undertaken to encourage the acquisition of "e-skills" (e.g. complementarity to the Industry 4.0 project). Such policies would represent a factor that, while enhancing productivity, could complement new trends in investment and labour participation, as highlighted earlier, placing developed markets in a better position than otherwise expected.

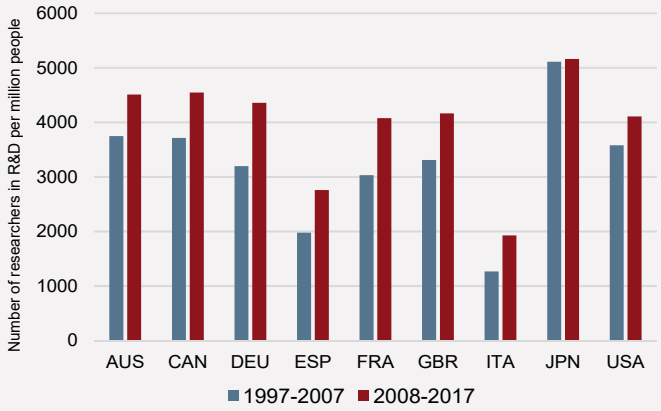
The chart 18 shows the trend in R&D investment in real GDP terms, for selected Eurozone countries, compared with the US, highlighting there has been a strong push for R&D since 2008. This is also reflected in the increase in the number of researchers in R&D (per million people). Yet as the chart 20 highlights, the location of the top R&D investors still tends to be polarised in a few countries.

Graph 18: **Investments spending in R&D**



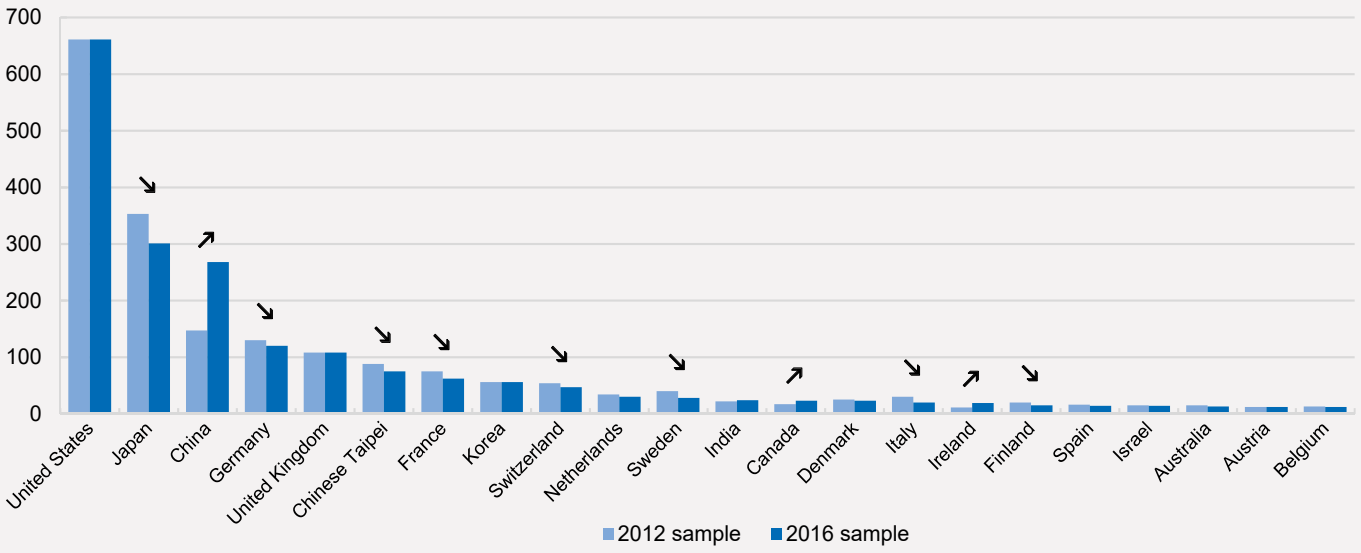
Source: World Development Indicators, World Bank,as of December 2019

Graph 19: **Researchers in R&D (per million people)**



Source: World Development Indicators, World Bank,as of December 2019

Graph 20: **Geographical distribution of the sample of the world's top R&D investors, between 2012 and 2016 (Number of companies by location of headquarters)**



Source: JRC-OECD, calculations based on EU Industrial R&D Investment Scoreboard (2013 and 2017), May 2019

Emerging Markets

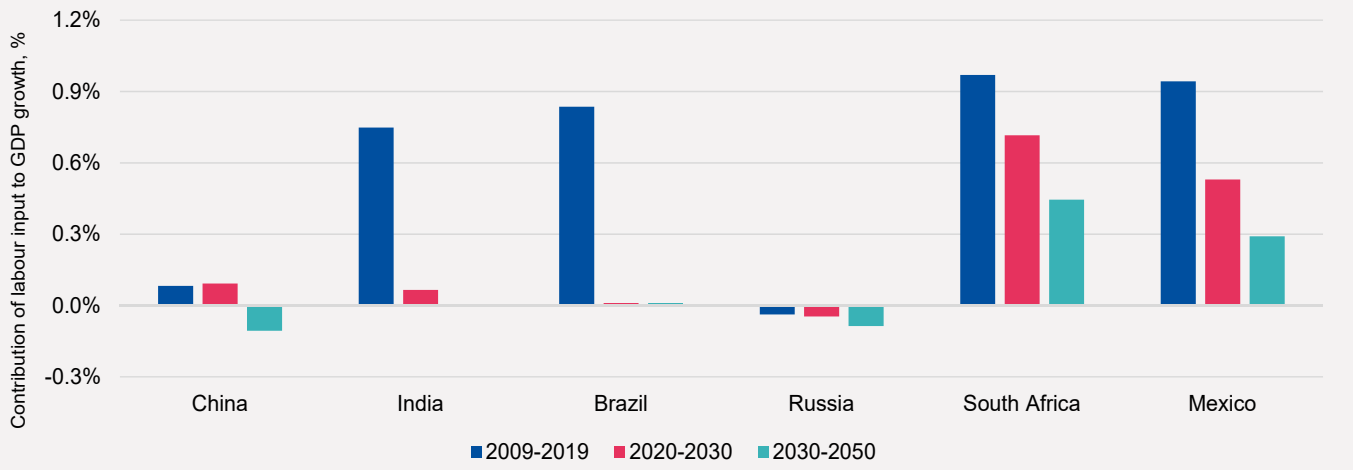
The major source of weakness will come from declining labour and capital inputs as first triggers

In the Emerging Markets universe, we expect **potential growth rates to slightly decelerate** over the next few years although the pace and the drivers may differ according to country. If we analyse the dynamics of the growth drivers as already mentioned in the previous section (Solow growth model), we see that the **major source of weakness will come from declining labour and capital inputs** as first triggers. The Total Factor Productivity input presents a more mixed outlook, depending on factors that play a different role and weight at country level.

With regard to the first pillar of growth in the Solow model, demographics, we can easily observe that it is no longer clearly the case that the EM population is growing faster than the DM population. The **labour input contribution to growth,** consistent with the median working-age population growth rate, has already started to decline in the past decade and it will become negative on average in the next decade (2020-2030), based on data from the US Census Bureau.

Macroeconomic assumptions

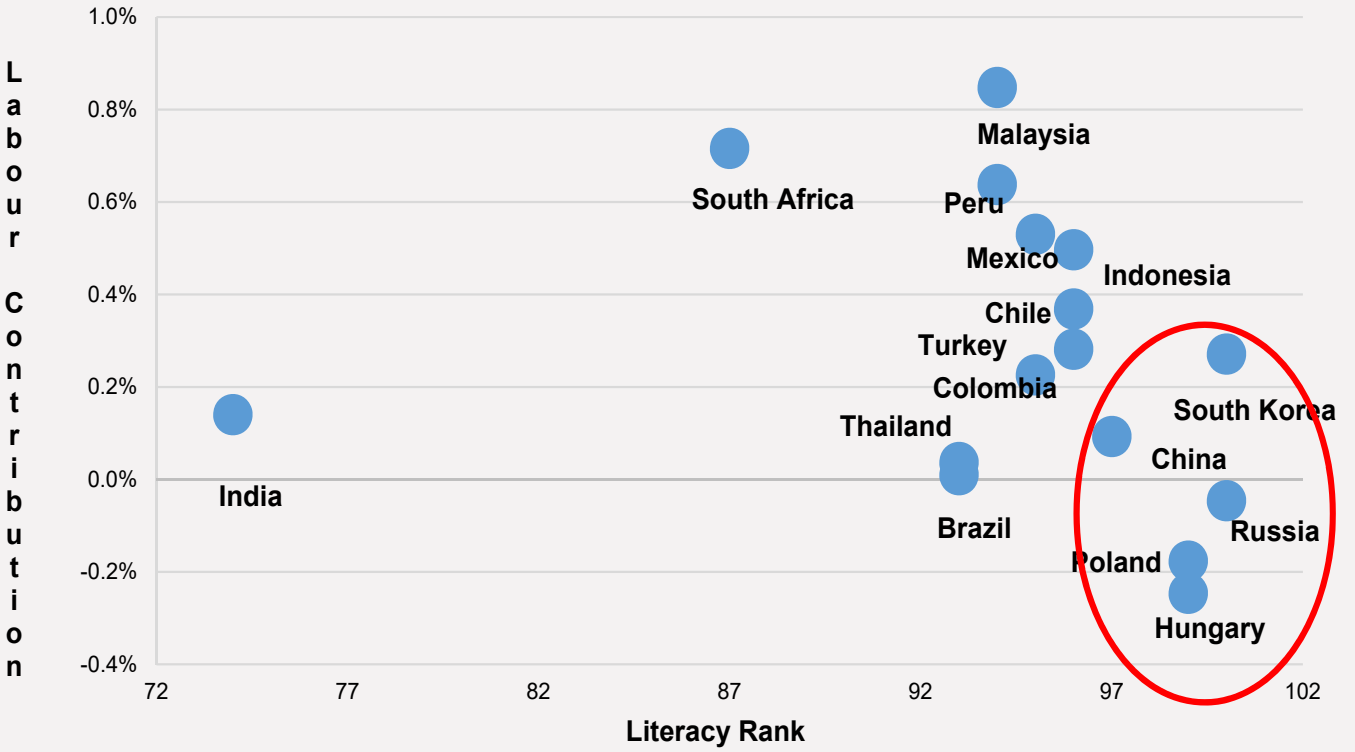
Graph 21: **Contribution to growth, labour**



Source: IMF, OECD, Bloomberg, Datastream, Amundi Research - Data as of 01/112019

While the demographic dividend concerns the increasing share of the young working-age population that still remains positive for some of the Emerging countries (like India and many low-income economies), in order to provide a more exhaustive assessment, it's worth noting that in a world where education and knowledge (human capital) have been gaining more and more traction, population growth by itself wouldn't be enough to sustainably support GDP growth over the next few decades. The skills and expertise needed for the knowledge economies are effective communication, problem-solving skills, ability to learn and collaboration skills (in short, an environment with high literacy levels in sound and secure societies).

Graph 22: **Adult literacy rates / Labour contribution to growth**



Source: World Bank, Amundi Research, Data as of December 2019

The multi-decade globalisation process and the corresponding creation of the global supply chain has been one of the most powerful drivers behind the capital deepening in the Emerging Markets, as we used to call the second growth pillar in the Solow model. At the same time mirroring the aspect just mentioned, the **commodity super-cycle** has fuelled EM growth too. The export-led growth model (both among manufacturing and commodity producers) has been the main growth model implemented among the Emerging economies and few countries have attempted to develop more sustainable endogenous growth drivers. China is probably the country where this is more evident although the export-led and domestic-led models still coexist.

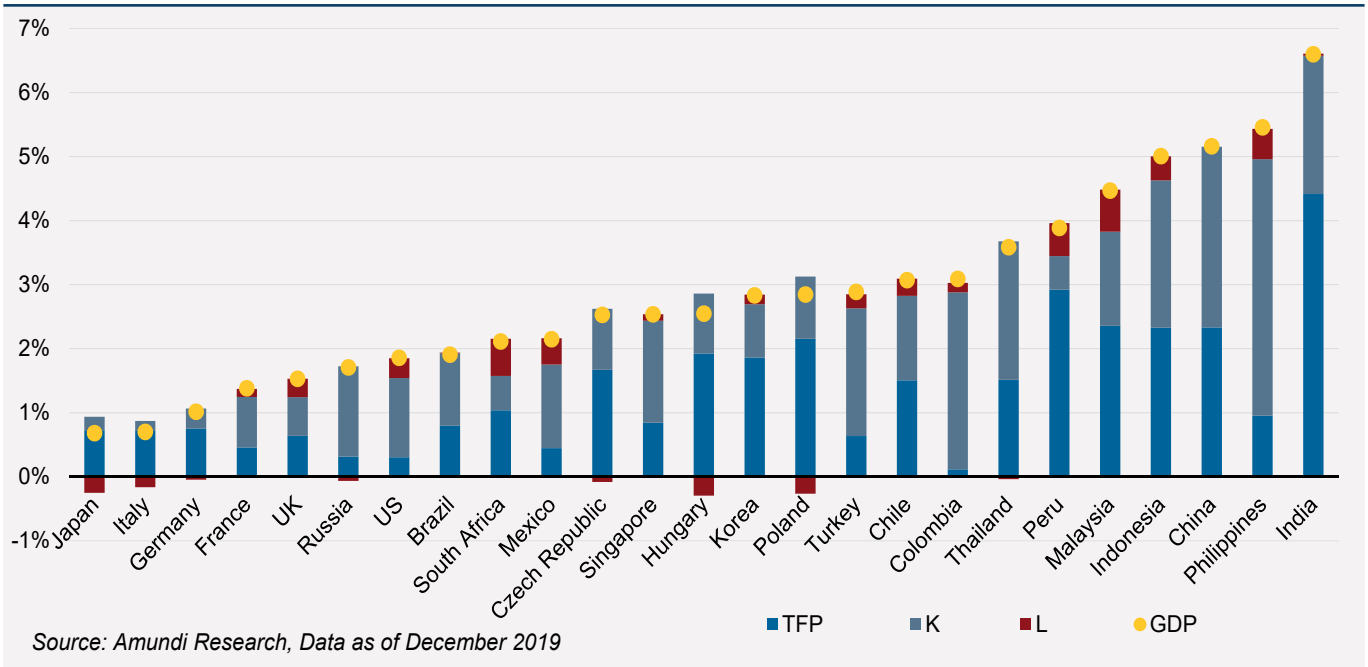
The latest trade dispute between China and the US is only the tip of the iceberg of a major protectionist attitude which began many years ago

Since the Great Financial Crisis, the globalisation process has slowed with the introduction of several protectionist measures and at the same time the commodity super-cycle is over due to a different growth strategy that China is attempting to implement. The latest trade dispute between China and the US is only the tip of the iceberg of a major protectionist attitude which began many years ago. Capex today is weak everywhere and going forward the Emerging Markets need to reinvent themselves in a more automated and less globalised world. Education, R&D expenditure, innovation and deepening of the domestic and regional consumer markets are still the priorities/challenges to focus on. In the last few decades, an important component of Capex in the EM universe has been Foreign Direct Investments: they still provide decent rates of growth but they plateaued in recent years and as a result of the changes highlighted above, FDI aren't expected to grow faster going forward.

With regard to the Solow Model's third pillar, **Total Factor Productivity,** the Emerging Markets still present **substantial areas for improvement** coming from many sectors such as the Institutional and Legal frameworks, the agricultural sector, education, R&D and innovation to name a few. Indeed, Productivity enhancement is by far related to the two previous factors through the increase in human capital and capital deepening. The potential in terms of productivity is as big as the challenges still to get there. As already stated, in the past few decades, the Emerging Markets enjoyed two positive external shocks, the globalisation process and the Commodity super-cycle. Unfortunately, at a time when these two drivers have been losing steam, not enough steps have been taken to catch up on a sustainable domestically-led growth model. As usual, the picture is not black or white and to be fair some reforms (more at a micro than a macro level) have been implemented: **Central Bank independence and fiscal rules to ensure a viable policy environment; FDI threshold increased and major openness in some sectors to private and foreign capital; infrastructure plans to make it easier to do business are some positive examples.** However, insufficient measures remain in terms of land acquisition and rural sector modernisation to trigger productivity gains. It goes without saying that the Emerging Markets need a more far-reaching transformation than what they have implemented so far, to ensure they are equipped to confront a new less globalised world.

In the following chart 23 we show the GDP potential for main Developed and Emerging Countries split by contribution (TFP=total factor productivity, K= capital, L= labour).

Graph 23: **Average growth rate projected and contribution**



Source: Amundi Research, Data as of December 2019

Global Inflation

ECB and FED will be conducting a strategic review which is expected to conclude in 2020

Inflation has shown subdued behaviour in DM in the last decade: although several economies are generally experiencing quite tight labour markets, there are little signs of pass-through into consumer prices and both the ECB and FED have been missing their inflation targets for a number of years. In this situation, both Central Banks will be conducting a **strategic review** which is expected to conclude in 2020. In this framework, they may be expected to adopt **asymmetric behaviour** by tolerating higher inflation targets in times of expansion to compensate for this difficulty in generating inflationary pressures domestically, implying the acknowledgement of a slower transmission process and lower for longer policies. **The combination of fiscal and monetary tools could be more effective in generating inflationary pressures should significant fiscal expansion materialise,** thus supporting growth. Yet, in a framework where monetary policies remain currently constrained in terms of their effectiveness by the liquidity trap, at least in DMs, long-term inflation levels may become slightly lower than so far envisaged, particularly in the Eurozone and Japan.

In the last few years, Emerging Market Inflation dynamics have not been different from those in Developed Markets: generally speaking, inflation levels have been subdued and sharply declining in high inflation countries (Brazil, Russia, India, Indonesia to name a few), with some exceptions (Turkey and Argentina). This has happened even in areas like Eastern Europe, where labour markets were and still are quite tight. Indeed, the disinflation process has been a global one. However, unlike DM, the EM Central Banks have finally been enjoying a long period of inflation rates within or very close to their inflation targets. The same Central Banks have, on average, been able to introduce and successfully adhere to their inflation target mandates and to better manage inflation expectations than in the past. This is why, even considering the big differences at country level, the global factors and the new tools box available are going to play an important role in keeping inflation levels around the Central Banks' targets going forward.

Having said that, **EM inflation baskets are still heavily biased towards goods rather than services and the risks related to more protectionist initiatives and climate change are tilted to the upside.**

Table 1: **Assumptions on inflation: Developed and Emerging Markets**

Inflation	10 yr horizon	Long Run Level (Nov 2019)
US	2.2% (Headline) -2% (Core)	2.2% (Headline) -2% (Core)
EMU	1.7%	1.9%
France	1.7%	1.9%
Germany	1.5%	1.7%
Italy	1.8%	2.0%
UK	2.3% (RPI) - 1.8% (Core)	2.5% (RPI) - 2% (Core)
Japan	0.8%	0.8%
EM countries	2.9%	2.9%

Source: Amundi Asset Management, December 2019

Detecting Tipping Points while fixing climbing nails

3

Returns by asset class and asset allocation implications: drivers and assumptions

Returns by asset class and asset allocation implications

Cash

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- The revision towards lower expected returns on cash is triggered by the decline in equilibrium interest rates observed in the last 30 years.
- Persistently low inflation rates with respect to central bank targets and monetary policy stances will significantly impact our 10-year expected returns on cash.
- In advanced markets, central banks will continue to support the economies by using conventional and unconventional monetary policies. In the medium term (5-year horizon), cash rates could stay low or further compress as a result of monetary policy.
- Over the next 10 years, rates will struggle to normalise back to long run equilibrium levels for all regions except for the US.
- Compared with last year's returns, we highlight generally lower expected returns due to lower starting levels and lower equilibrium levels.

Assumptions on short-term interest rates

For all the macroeconomic and financial variables, the focus is on the 10-year horizon and on the very long term (beyond 10 years), which corresponds to the equilibrium level. Our assumptions are for short-term interest rates to remain below their long-term level in the next 10 years for all developed countries except for the US, where cash could reach the equilibrium level.

Table 2: **Assumptions on short-term rates : historical average, 10-year forecasts and long-term equilibrium levels**

3M Yield	10 year Horizon	Long Run	10 year historical average
US	2.5%	2.5%	0.6%
Euro Core	0.8%	1.7%	-0.2%
UK	1.8%	2.5%	0.5%
Japan	0.2%	0.8%	0.0%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

The revision towards lower cash rate is triggered by the decline of equilibrium interest rates. There are structural factors lowering it, such as lower economic growth because of slowing productivity and labour force growth. The sluggish inflation evolution trend with respect to central bank targets and monetary policy stances will substantially affect our 10-year targets.

Estimating the neutral real rate

In order to estimate the long-term monetary policy target, we analysed the equilibrium (neutral) rate of interest (r*) defined as the real short-term rate consistent with a neutral policy stance corresponding to the economy at its potential and inflation at its target level. The estimation of an equilibrium (neutral) real policy rate is crucial as it anchors the future level of short-term interest rates.

The decline in potential growth rates, demographic trends and portfolio shift towards safe assets explain the decline in real equilibrium rates, putting downward pressure on real yields. The wide range of estimates suggest that the downward impact on the equilibrium real rate from slowing population growth and rising life expectancy over the period from 1980 to 2050 amounts to about 1 and 2 percentage points in the US and in the Euro area respectively. Future reversal of structural trends of the current downward evolution of the real equilibrium rate depends on a number of factors: impact of digitalization, automation, artificial intelligence, evolution of investment in R&D and labour participation.

Laubach-Williams ("LW") and Holston-Laubach-Williams ("HLW") models provide an estimate of the r* (neutral rate).

LW r* and trend growth is unchanged vs. last year across all regions, HLW is slightly down in the US, around down 10 bps in the UK, 20 bps down in the Eurozone, with respective trend growths expected to be flat to marginally higher.

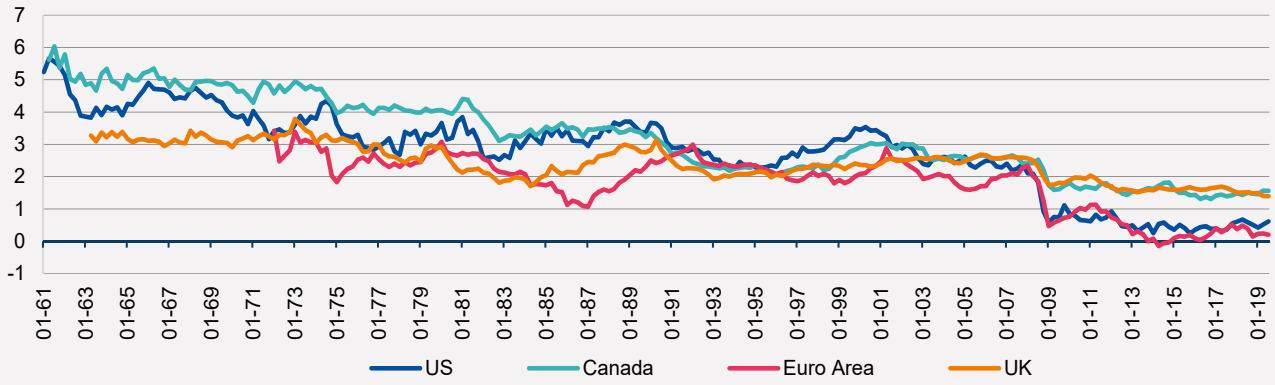
Tab 3: **r* and trend growth estimates according to Laubach-Williams ("LW") and Holston-Laubach-Williams ("HLW") models**

	LW r*	LW trend Growth	HLW r*	HLW trend Growth
US	0.8%	2.3%	0.5%	2.1%
UK	na	na	1.4%	1.8%
Euro Area	na	na	0.1%	1.2%

Source: NY Federal Reserve, December 2019

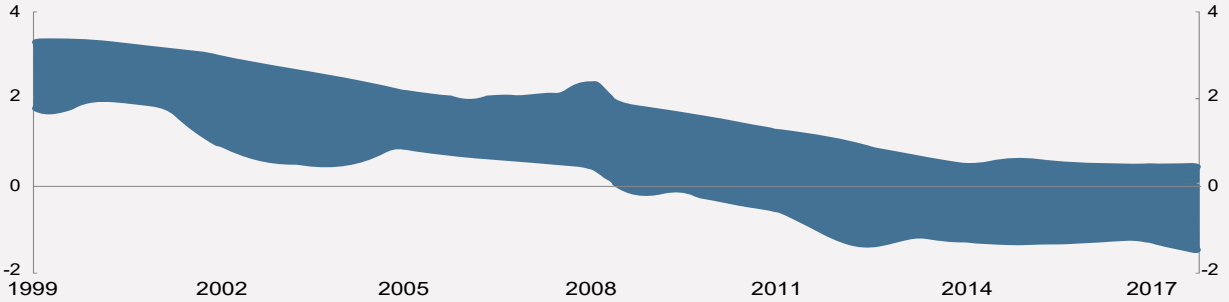
For the US, the Laubach-Williams ("LW") and Holston-Laubach-Williams ("HLW") models provide estimates of r* in the range 0.5%-0.8%. We assume for our expected return calculations that the real neutral interest rate is 0.5% over US core inflation, resulting in a nominal cash rate of 2.5% in equilibrium, in line with FED's long-term expectation. This level is lower than last year's equilibrium level.

Graph 24: **Equilibrium real rate for main developed countries. r* calculated according to the Holston-Laubach-Williams model by the FED**



Source: Federal Reserve Bank of NewYork

Graph 25: **Equilibrium real rate range estimated by ESCB (European System of Central Banks)**



Notes: The blue-shaded area reports ranges of point estimates of r for the euro area, as estimated in Brand, C. and Mazelis, F. (2019), "Taylor-rule consistent estimates of the natural rate of interest", Working Paper Series, No 2257, ECB. Corresponding individual point estimates are reported in Brand, C. et al. (2019), op. cit. Sources: Fiorentini, G., Galesi, A., Pérez-Quirós, G. and Sentana, E. (2018), "The Rise and Fall of the Natural Interest Rate," Documentos de Trabajo, No 1822, Banco de Espanã; Hledik, T. and Vlcek, J. (2018), "Multi-country Model of the Euro Area," Czech National Bank, forthcoming; Holston, K., Laubach, T. and Williams, J. C. (2017), "Measuring the natural rate of interest: International trends and determinants," Journal of International Economics, Vol. 108, No S1, pp. 59-75; Jarocinski, M. (2017), "VAR-based estimation of the euro area natural rate of interest," ECB Draft Paper. Sample period: 1999 Q1 to 2017 Q4.*

Returns by asset class and asset allocation implications

Analysis by the European System of central banks working group on econometric modelling indicates that the equilibrium real rate has been around zero or negative in recent years.

For the Eurozone and Japan, we assume that the real interest rate is zero in equilibrium, even if it could remain in negative territory for a prolonged period.

In the UK, we base our projections on an equilibrium real rate of 0.5%, and a nominal equilibrium cash rate of 2.5%, in line with our estimate on long-term inflation for the Retail Price Index (RPI). Over the 10-year horizon, real cash rates could stay in negative territory.

Starting points and medium-term evolution

In advanced countries, central banks will continue to support the economies by using conventional and unconventional monetary policies. In the medium term (5-year horizon), cash rates could remain low or further compress as a result of monetary policy.

In 2019, **the Fed** lowered the federal funds target rate by 75 bps to 1.75% to provide insurance against the risks associated with the trade war escalation and weak foreign demand growth as well as against a backdrop of muted inflation. The current level is now below the long-term equilibrium level of 2.5%. The baseline scenario is for continued moderate expansion, a solid labour market, and inflation moving gradually to 2%. In that context, the Fed could leave interest rates on hold for the next few quarters.

Nevertheless we anticipate that the next move will be a cut in policy rates given the medium-term backdrop of slowing growth, lingering geopolitical risks, low inflation and a record level of corporate debt in the US in 2020.

For the Eurozone, we assume that the real equilibrium interest rate is zero, but the convergence towards equilibrium levels will be very slow implying that for the medium term, real cash rates could stay negative and normalise to zero very slowly. Measures of underlying inflation remain muted and core inflation – stuck in the 1% region since 2014 – has continuously undershot the ECB's projection over the last few years. Over the medium term, significant monetary policy stimulus will be needed to support the build-up of inflationary pressures and to ensure "the sustained convergence of inflation to the ECB's 2% objective".

Given the high risks regarding Euro area growth in 2019 related to the trade war, Brexit and to the slowdown in China and in light of weak inflation, the ECB adopted an impressive package of policy measures in 2019 to provide substantial monetary stimulus. It will leave "interest rates at their present or lower levels for a long period, i.e. until the inflation outlook robustly converges to 2%, within the projection horizon". ECB projections for HICP inflation are 1.2% in 2019, 1.1% in 2020, 1.4% in 2021 and 1.6% in 2022.

The ECB has also resumed net purchases under a new asset purchase programme (APP) for an extended period to end shortly before the ECB starts raising key interest rates.

Another important point to stress when considering our monetary policy assumptions is the heterogeneity between countries in the Euro area, which has not decreased (heterogeneity of the structure of the economies, of labour cost, of the situation of public finances and of banks and credit growth, etc.). It will continue to make the Euro area monetary and exchange rate policy more challenging.

In the UK, with the recent sluggish economic data, and evidence of a weakening labour market at the end of 2019, the probability of further stimulus to avoid a prolonged period of below target inflation, is rising. Several MPC members have indicated that they will vote for an "insurance" cut if the expected post-election pick-up does not materialise. Given the proximity of the policy rates to the Zero Lower Bound, the BoE will favour early and aggressive policy actions when growth is sluggish.

It is worth noting that indicators of medium-term inflation expectations continue to be consistent with the 2% objective: market expectations as measured by UK inflation swaps (5Y5Y forwards) have remained above their historical averages in 2019. This is in contrast to similar measures in the US and Euro area, which have fallen to historical lows in 2019, leading to proactive central banks. This leaves more room for manoeuvre for the BoE to start normalising policy rate when growth recovers.

In Japan, since 2016 the central bank is operating in a new policy framework with an "inflation-overshooting commitment" in which it commits "to expand the monetary base until the return of inflation above 2% in a

stable manner". However, the Japanese economy has continuously fallen short of expectations, leading to a scenario of delayed rise in monetary policy rate beyond the medium term horizon.

Our expected returns on cash

In the following table, expected returns on cash for the main developed countries are calculated as the average annualised returns for an investment in cash rolled every 3 months coherent with the assumptions explained previously. We expect that only the US could reach the long-term target in the next 10 years. Cash returns are likely to be compressed because of the low starting level and the slow normalisation path starting beyond the medium-term horizon.

Tab 4: **Expected cash returns for developed economies on 5 and 10-year horizon**

Cash Returns	US	Eurozone	UK	Japan
5 yr	1.3%	-0.4%	0.5%	-0.1%
10 yr	1.6%	-0.1%	1.1%	0.0%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

Government Bonds

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- We confirm our long-term assumptions for the yield curve to be flatter than historical averages in all the developed countries. Yields should be lower on both a 10-year horizon and in equilibrium as a result of our expectation for lower short-term interest rates.
- For the Euro area as well as Japan, we foresee a prolonged period of low yields because of structural factors and central banks.
- Expected returns on government bonds are modest because of (1) low starting yields and (2) expected capital losses due to yield increases. This combination is particularly painful for countries with negative yields even though our assumptions are for gradual adjustments in yields levels.
- We have a high dispersion of scenarios at the 5-year horizon reflecting the rise in uncertainty in both the macroeconomic and the financial landscape.
- Current low yields and less attractive valuations reduced our expected returns over the next 10 years compared to our last yearly update in January 2019.

Assumptions on nominal 10-year yields

Our assumptions are for 10-year yields to stay below their equilibrium levels in the next 10 years for all developed countries except the US, where 10-year treasury yields could reach the equilibrium level.

Tab 5: **Assumptions on nominal 10 year yields: 10-year horizon and long-term (equilibrium) levels compared with the January 2019 10 year average**

10 year Yield	10 year Horizon	Long Run	Historical 10 year average
US	3.0%	3.2%	2.4%
Euro Core	1.3%	2.4%	1.1%
France	1.8%	2.8%	0.0%
Italy	2.8%	3.7%	3.1%
UK	2.3%	3.2%	1.9%
Japan	0.6%	1.2%	0.0%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

Our estimates on 10-year nominal yields are broken down into two components: one part that reflects the expected path of short-term interest rates over the next 10 years (discussed in the previous section) and the other corresponds to the slope between 10 year and cash rates. We equate the term slope as the observed variable reflecting a combination of two underlying factors: expectations regarding future short-term interest rates (the difference between average expected short-term rates over the lives of the two bonds), compensation for risks associated with holding long-term bonds rather than short-term bonds (i.e. the term premium component).

We continue to anticipate a term premium lower than the historical average. In particular, we confirm our assumptions for the term slope in the long term, as structural factors will continue to anchor the term slope to lower levels in all the developed countries resulting in flatter term structure over the 10-year horizon.

Assumptions on the yield curve

In the United States, we base our forecasts on a 70 bps term slope in equilibrium, which is flatter than the historical average. Our equilibrium long-term bond yield is 3.2% because of the lower cash yields. This assumption relies on two factors likely to keep yield curves flatter:

1. Structurally lower term premium
2. Specificities of monetary policy as central banks are close to or at the effective lower bound.

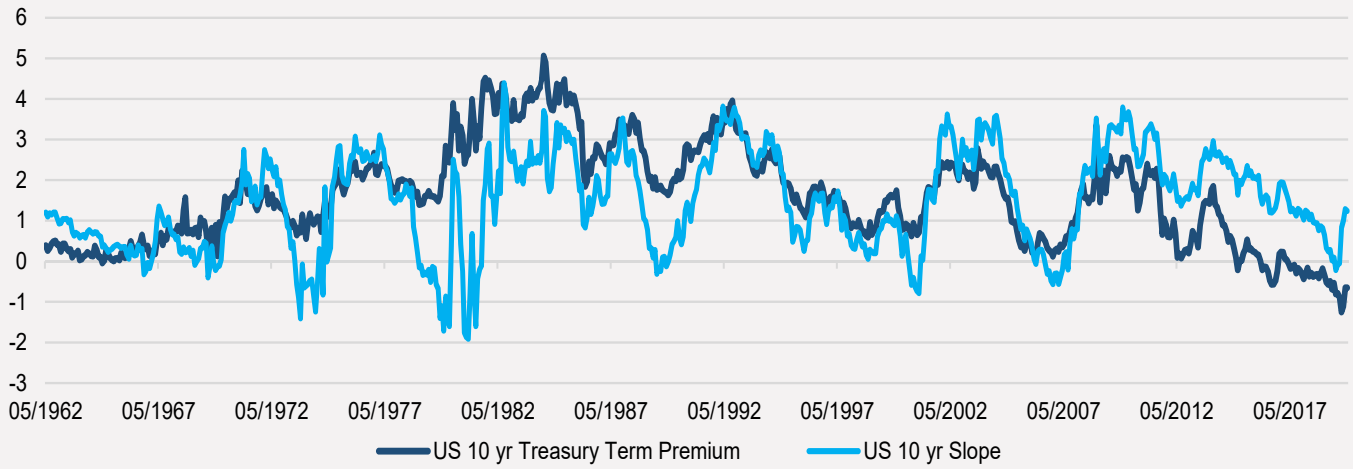
The US term slope fell during last year with the risk of recession rising (leading to a flight to safety) and as long-term expectations on inflation fell, remaining close to historical lows. On a structural note, the downward trend of the US term premium since 2008 has been linked to the more appealing features of bonds in an environment of low growth and low inflation: against this backdrop, bonds are used as a hedge against tail risks. Bonds also benefited from the tighter regulatory environment. As a result, investors have been willing to hold bonds even as the term premium became negative.

With interest rates close to or at the effective lower bound, the Fed is exploring what monetary policy tools are likely to be effective to provide monetary accommodation; it is scrutinizing its monetary policy strategy, tools and communications. The Fed has recently communicated some preliminary views: in addition to Quantitative Easing, the Fed has declared that it "is exploring an extension of its conventional policy toolkit in a way that reinforces forward guidance on policy rates". It is considering approaches "to cap interest rates on Treasury securities at the short-to-medium range of the maturity spectrum—yield curve caps—in tandem with forward guidance that conditions lift-off from the ECB on employment and inflation outcomes". These approaches are likely to weigh on the term premium over the medium-term.

In the Euro area and Japan, three factors are likely to depress the term slopes and weigh on long-term yields and term slopes over our forecast horizon:

1. The premium for inflation risk looks set to remain at historical lows with moderate inflation over the long term.
2. Central banks will need to keep yields depressed below nominal GDP to help government debt sustainability.
3. We also expect a significant lag between the end of the asset purchase programme, which will be implemented for an extended period of time, and a rise in the term premium.

Graph 26: **US 10-year term premium and term slope**



Source: Bloomberg, Federal Reserve Bank of New-York, Amundi Asset Management

In Japan, we assume the term slope equal to 0.4% both on a 10-year horizon and in the long-term. Since 2016, Bank of Japan (BOJ) has been operating within a new policy framework consisting of two components: firstly, a Yield Curve Control in which it controls short-term and long-term interest rates through market operations; and secondly, an "inflation-overshooting commitment" in which it commits "to expand the monetary base until the return of inflation above 2% in a stable manner". The BOJ recently communicated its concern regarding the implications of an excessively flat yield curve on the profits of financial institutions. Therefore, the yield curve is not likely to flatten further in the short term.

For the Euro area, we expect a depressed term slope over our forecast horizon (10 years) and a flatter curve in equilibrium, with the 10yr-3m spread at around 50 bps and 70 bps respectively. Our long-term bond yield forecast has been lowered versus our last update to take into account disappointments on growth and inflation, which led us to downshift our expected path for short-term rates (see previous section). It now stands at 1.3% for German 10Y bond yields on a 10-year horizon.

Returns by asset class and asset allocation implications

For the rest of the Eurozone, current spreads vs. Germany are below the equilibrium levels while the Italian spread is higher than the long-term. We expect the euro sovereign spreads to evolve above the long term in the next 10 years. According to our analysis, the Italian spread could stabilise at around 125bp in the long-term assuming the debt to GDP ratio remains under control (refer to the special section on debt sustainability), potential GDP growth stands at 0.7% and inflation is in line with the ECB target. The other Euro spread trends are linked to European Union factors that could weigh in at the short and medium term, so we expect the asset class to retain a high level of variability.

In the UK, the curve could steepen slightly from the current level assuming a smooth Brexit, an expected fiscal easing and a pick-up in investment with the reduction of Brexit uncertainty. Higher wage growth and tighter labour markets argue for a higher inflation premium compared to the Eurozone. In the long-term, we considered similar assumptions to the Eurozone.

Our expected returns on Government Bonds

Returns are penalised by the term structure factor (effect of the change in yields) across all the countries and proportionally to the size of the adjustments. Even if the yield adjustment towards higher levels is very slow and less pronounced in the medium term, 5-year expected returns on government bonds are modest because of capital losses due to yield increases and low yields (and carry). Moving to the 10-year horizon, the expected returns can be higher because of the higher carry component but the contribution from the term structure remains negative and significant. The dispersion of the scenarios is higher on a 5-year horizon than on a 10-year horizon, as our simulations capture the uncertainty of the macro and financial landscape in the medium term.

In the US, the contribution from the term structure component is slightly negative on the 5-year horizon, implying a trend towards lower yields for counterbalancing the economic slowdown first. This will result in returns that can be marginally higher than the return on the 10-year horizon. For core Eurozone and Japan, the term structure adjustment is slow and continuous on the 10-year horizon. In the UK, the impact of the adjustment is quite severe, because the average duration of the index is high (i.e. around 12 years) and looks set to increase after the medium term. Looking at a comparison with last year's figures, the 10-year returns are lower because of a lower starting yield, the main difference being on non-core Euro government bonds (in particular peripherals), where yield decreases have been particularly strong.

Breakdown of our 5-year and 10-year expected returns on government bonds

Tab 6: **Developed markets government bond: expected returns decomposition by macro determinants**

	Horizon	Return	Carry & Roll Down	Nominal Term Structure	Others (simulation, compound, etc)	Volatility
US GOVT Bond	5 yr	1.7%	1.6%	-0.1%	0.2%	5.7%
DUR = 6.2	10 yr	1.5%	2.0%	-0.7%	0.2%	5.2%
EU GOVT Bond	5 yr	-1.1%	0.0%	-1.2%	0.1%	3.9%
DUR = 7.38	10 yr	-0.6%	0.4%	-1.2%	0.1%	3.9%
IT GOVT Bond	5 yr	0.7%	1.5%	-1.0%	0.2%	5.9%
DUR = 6.67	10 yr	1.0%	1.9%	-1.1%	0.2%	5.2%
FR GOVT Bond	5 yr	-0.5%	0.3%	-0.9%	0.1%	4.3%
DUR = 7.66	10 yr	-0.4%	0.7%	-1.3%	0.1%	4.2%
UK GOVT Bond	5 yr	0.0%	1.1%	-1.5%	0.3%	7.2%
DUR = 11.01	10 yr	0.4%	1.8%	-1.8%	0.3%	6.7%
JAP GOVT Bond	5 yr	-0.2%	0.3%	-0.6%	0.1%	3.2%
DUR = 9.52	10 yr	0.0%	0.5%	-0.6%	0.1%	3.1%

Source: Bloomberg, Amundi Asset Management CASM Model as of 7th of January 2020. Yields as of 22/11/2019.

The annualised expected return is the average compound return of each scenario in our simulation. Annualised expected returns are calculated for several investment horizons. The returns are decomposed into risk factors i.e. carry (includes coupon, roll down and pull-to-par effect), nominal term structure and a residual return. The return breakdown is calculated using the first and second order sensitivities of the price with respect to the risk factor. The residual return contains the higher order components. The remainder of the residual return is linked to the asymmetry of the asset class return distribution. We calculate the return breakdown of the central scenario whereas the expected return is the average simulated return. Bond index instruments are constant maturity i.e. rebalanced on a quarterly basis.

Emerging markets Bonds

DEBORA DELBÒ, *Global EM Senior Strategist*, **JUNG HUN KIM MOON,** *CFA, Senior Quantitative Analyst*

- The outlook on EM debt is moderately positive in the medium to long term, because of high carry and a moderately positive scenario reflecting our outlook on the EM/DM economies.
- In the long term, we expect a marginal downside adjustment of EM sovereign spreads and yields in line with lower nominal growth, barring any inflationary shock that is not in our base case.
- Also, looking at the medium-term horizon, we expect EM assets to be resilient, outweighing potential risks linked to unstable growth and trade dynamics.
- As demonstrated by recent history, the downside risk can be country specific, more idiosyncratic than systemic, affecting the country macro environment and the country risk premium.
- Phases of USD overvaluation are supportive for EM local currency debt expected returns, but accompanied by higher risk.
- Default loss estimates are higher than in most recent history, to incorporate potential rising country-specific risk linked to worsening macro financial conditions.

EM Sovereign assumptions

Long-term equilibrium levels for EM bond yields and spreads

Tab 7: **Long-term spread levels and yields for EM governments**

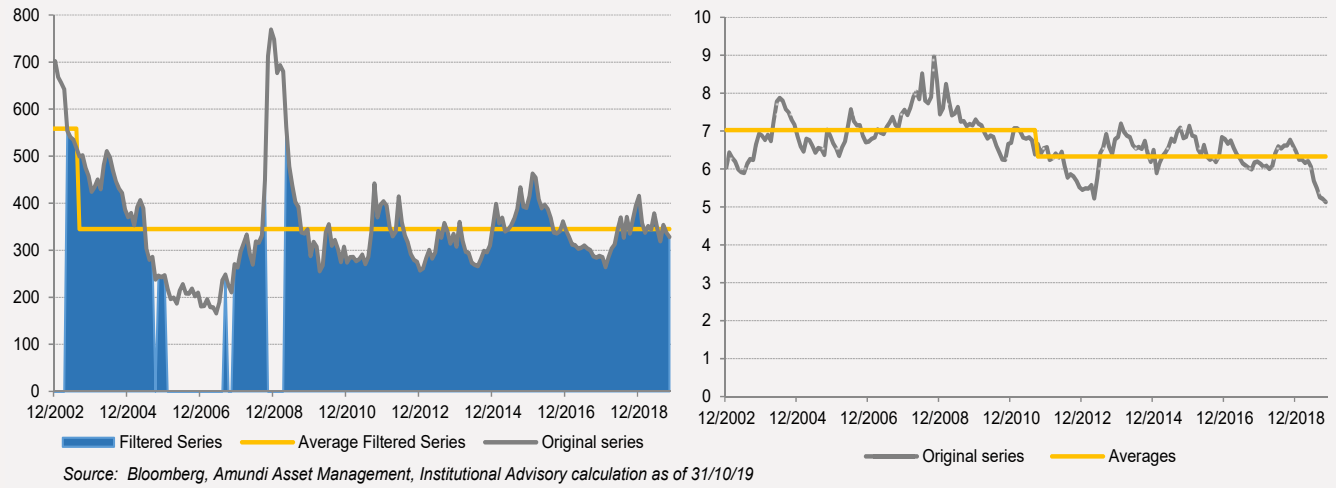
	Long Run Level	Historical Average (break analysis)
EMBI Global Spread	3.2%	3.5%
EMBI Global Diversified Spread	3.0%	3.4%
GBI-EM Global Diversified Yield	6.0%	6.3%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

Starting from this publication, the reference index to represent EM government hard currency is the JPM EMBI Global Diversified. In this way, our standard asset class is aligned to the most representative and diversified benchmark. In fact, the diversified allocation scheme allows a higher distribution of weights among the countries in the index and it is less concentrated on single countries. We fix the long-term level for the EMBI global diversified spread at 3%. This level incorporates the effect of diversification within the index and minor adjustments towards lower spread levels.

We decrease the long-term yield for the local currency EM index (GBI EM Global Diversified) to 6% because of the falling term premium and the declining trend in inflation in EM countries. Looking at the country level, the developments in individual countries confirm the declining trend. In particular, Russia and Brazil have experienced a decreasing trend for local yields synchronised with the inflation dynamics; here the current yield is consistently below the long-term average. Turkey is an example of an idiosyncratic risk, where a spike in level and volatility is fairly persistent because of not yet anchored inflation.

Graph 27 and 28: **Historical Analysis on EMBI Global Diversified Spread and GBI-EM Global Diversified Yield**



Source: Bloomberg, Amundi Asset Management, Institutional Advisory calculation as of 31/10/19

Historically, sovereign default rates have generally been lower than corporate default rates, even if they increase at lower rating categories and over longer time horizons. Our estimates are for the default rate at 1% and the recovery rate at around 50% for external debt (hard currency), assuming a higher default rate than in historic data to take into account the increasing presence of quasi-sovereign issuers that may not be fully guaranteed by governments in case of default. The assumptions on local currency incorporate higher default, based on the evidence that local currency issuances are primarily impacted in the case of default.

In the medium term, we assumed that defaults could increase further to incorporate potential rising country-specific risk, due to the worsening macro financial conditions and potential contagion effect from developed markets.

EM Sovereign: outlook and risks

The outlook on EM debt is moderately positive in the medium to long term, as a result of high carry and a moderately positive scenario reflecting our outlook on the EM/DM economies. Despite seeing EM potential growth rates moderately declining going forward, we are still likely to enjoy years of higher EM growth than DM growth (Real and Nominal). Having said that, winning factors such as the demographic factor are losing steam and in most EM the Labour component has reduced or will reduce its growth in the near future.

In the long-term, we expect a marginal downside adjustment of EM sovereign spreads and yields in line with lower nominal growth, barring any inflationary shock that is not in our base case. Also, looking at the medium-term horizon, we expect EM assets to be resilient, outweighing potential risks linked to unstable growth and trade dynamics.

As increasingly demonstrated by recent history, the downside risk can be country specific, more idiosyncratic than systemic, affecting the country macro environment and the country risk premium. In open and vulnerable economies the currency dynamics (impacting inflation through high CCY pass-through) will hit local currency exposure while default and credit risk will hit hard currency exposure.

China debt restructuring deserves a point of attention. Defaults in China are a consequence of direr economic conditions but at the time a sign of the economic model moving towards a more market based one. Notwithstanding, these mechanisms are perfectly normal in a more market oriented economy, we think that this evolution has to be monitored carefully, as they offer a further source of default rates increasing in the years to come.

Phases of USD overvaluation for future emerging market local currency debt returns. However, there is a direct correlation between higher return and higher risk.

Returns by asset class and asset allocation implications

Our expected returns on EM Bonds

Expected returns on EM bonds are supported by the carry which is expected to remain at interesting levels. Also, the macro and financial scenario, even if mixed, should favour EMs in relative terms. Focusing on the medium term, the decline in US treasury yields should compensate the negative capital appreciation derived by the spread widening in the hard currency area. Meanwhile, the expectation on local currency bonds will be lower because of yields widening and the less supportive contribution by EM currencies. According to our analysis, on a 10-year horizon, the expected return on the EMBI Global Diversified could mitigate because of the increasing US treasury yield trend. Meanwhile, EM GBI Global Diversified returns on a 10-year horizon can be higher, as we expect the yield to revert to its normalisation path after the medium-term widening. This provides support to returns via the term structure factor. We assume EM currencies are undervalued versus USD and the positive contribution affecting returns on a 10-year horizon, with EM currencies reaching fair value over the forecasting horizon (10 years).

Breakdown of our 5-year and 10-year expected returns on the EMBI

Tab 8: **Emerging markets government bond: expected returns decomposition by macro determinants**

	Horizon	Return	Carry	Nominal Term Structure	Sovereign Spread	Residual (simulation, compound, etc)	Default	Volatility
EMBI Global Diversified	5 yr	5.2%	5.2%	0.4%	-0.4%	0.5%	-0.6%	15.1%
DUR = 6.87	10 yr	4.8%	5.4%	-0.7%	0.1%	0.5%	-0.5%	13.0%
EM-GBI Global Diversified	5 yr	4.1%	5.5%	-0.9%	0.3%	0.0%	-0.9%	12.6%
DUR = 5.36	10 yr	5.5%	5.8%	-0.4%	0.9%	0.0%	-0.8%	12.6%

Source: Bloomberg, Amundi Asset Management CASM Model as of 7th of January 2020. Spread and Yield as of 22/11/2019. EM-GBI are not part of the CASM simulation engine at this stage.

The annualised expected return is the average compound return of each scenario in our simulation. Annualised expected returns are calculated for several investment horizons. The returns are decomposed into risk factors i.e. carry (includes coupon, roll down and pull-to-par effect), nominal term structure, spread, default and a residual return. The return breakdown is calculated using the first and second order sensitivities of the price with respect to the risk factor. The residual return contains the higher order moments. The remainder of the residual return is linked to the asymmetry of the asset class return distribution. We calculate the return breakdown of the central scenario whereas the expected return is the average simulated return. Bond index instruments are constant maturity i.e. rebalanced on a quarterly basis.

Corporate Bonds

SERGIO BERTONCINI, *Head of Fixed Income and FX Research,* **JUNG HUN KIM MOON,** *CFA, Senior Quantitative Analyst*

- Spread tightening in FY 2019 led to tighter valuations across the corporate spectrum. Default rates remained close to the last ten-year lows in Europe and lower than long-term averages in the US in 2019.
- In the next few years, a more carry-like return coupled with an expected rise in default rates are likely to lead to lower performances than in 2019.
- With the deterioration of the macro and financial landscape, spreads will widen and defaults increase reducing the expected returns in the medium term.
- Liquidity risk can materialise for low-rating credit in the event of the exacerbation of the financial crisis, tilting returns on the downside: in this respect, the high level of debt accumulated by low-rated US corporate debt represents an additional long-term risk.
- Higher duration and lower quality in the US results in higher equilibrium spreads versus the EU.
- Expected returns are higher for the US than the EU credit sector, mainly due to the yield level gap in the two areas and the difference in market structure (quality). Focusing on the credit component, US credit is not favoured from a valuation point of view and embeds higher risk than EU credit. The advantage of US credit versus EU credit expected returns is partially cancelled when looking at risk-adjusted returns.

Long-term assumption on credit

We maintain the previously established equilibrium corporate spread levels within the EU and US. In our assessment, we analyse quantitative and qualitative indicators driving the long-term embedded risk of holding a corporate bond. Initial statistical analyses are performed on different macroeconomic and financial indicators: correlation with business cycle outlook, structural break and statistical analysis of the spread time series. We pay particular attention to the relationship between credit spread and the corresponding term structure of government interest rates (EU and US), confirming the conventional wisdom of a negative correlation between the spread and government yields.

The ultimate determination of long-term spread levels is undertaken with a qualitative view on the possible long-term trend in monetary policy and inflation conditions as well as geopolitical risks (e.g. trade wars) known to have a causal relationship with the spread level. Continuous monitoring of the qualitative conditions is required as this shift in non-predictable patterns can have a structural impact on both tactical and strategic horizons.

Long-term assumptions on credit spreads (option adjusted spreads)

Tab 9: **Long run spread level**

OAS spread	Long Run Level	Historical Average (break analysis)
US IG	1.3%	1.5%
US HY	4.5%	5.1%
Euro IG	1.1%	1.2%
Euro HY	3.5%	4.0%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

Default loss estimates

In the high yield sector, we analysed the default rate by rating and we aggregated considering a composition that better represents the most recent trends in the sector. The difference in quality of US and European universes and sector composition explain the different long-term default estimates, which are lower in Europe than in the US where quality is consistently lower.

Returns by asset class and asset allocation implications

Compared with previous years, our assumptions for default losses in both the short term and medium term signal an increase in default probability. In the long term, the default probabilities can mitigate in the EU and US corporate universes.

Our default assumptions reflect the effect of accommodative monetary policy facilitating easier debt market access under favourable conditions in the short term and the increase in defaults linked to the medium-term backdrop of a synchronised global slowdown.

Tab 10: **Default rate assumptions on different horizons and recovery rates**

Default Loss	Default Short Term	Default Medium Term	Default Long Term	Recovery
US IG	0.1%	0.2%	0.1%	43.9%
US HY	2.7%	6.2%	3.8%	46.0%
Euro IG	0.1%	0.2%	0.1%	43.9%
Euro HY	2.0%	4.3%	2.6%	46.0%

Source: Bloomberg, Amundi Asset Management CASM Model, December 2019

Our expected returns on Corporate Bonds

Expected returns across all ratings and horizons are lower in relation to previous forecasts. Credit spreads across the spectrum for both the EU and US have tightened over the past year as central banks attempt to stay ahead of decelerating growth, to the point where current spreads are close to or below the respective equilibrium levels, which in conjunction with the current low rates, results in lower yields in relation to the previous year.

Consequently, as shown in the table below, the carry component has decreased significantly while at the same time amplifying the prospect of negative contributions from government yields and spread movements. The overall expected returns in the medium and long term for corporates are lower in both the EU and US.

Medium-term returns (5 years) are lower than 10-year returns, because of higher default losses and spread widening making a negative contribution. Expected returns are higher for the US than the EU credit sector, mainly due to the yield level gap in the two areas and the difference in market structure (quality). Focusing on the credit component, US credit is not favoured from a valuation point of view and embeds higher risk than EU credit. The advantage of absolute expected returns is partially cancelled when looking at risk-adjusted returns.

Our 5-year and 10-year expected returns on Credit

Tab 11: **Credit bond: breakdown of expected returns by macro determinants**

	Horizon	Return	Carry & Roll Down	Nominal Term Structure	Credit Spread	Default	Others (simulation, compound, etc)	Volatility
US Corporate IG	5 yr	2.7%	3.0%	0.0%	-0.5%	-0.1%	0.2%	7.3%
DUR = 6.99	10 yr	2.8%	3.5%	-0.8%	-0.1%	0.0%	0.3%	6.5%
EU Corporate IG	5 yr	0.2%	0.9%	-0.7%	0.0%	-0.1%	0.1%	3.6%
DUR = 5.04	10 yr	0.5%	1.3%	-0.8%	0.0%	0.0%	0.1%	3.5%
US Corporate HY	5 yr	3.7%	6.5%	0.2%	-0.8%	-2.3%	0.3%	12.2%
DUR = 4.18	10 yr	4.2%	6.8%	-0.4%	-0.3%	-2.1%	0.3%	10.7%
EU Corporate HY	5 yr	1.5%	3.8%	-0.4%	-0.4%	-1.6%	0.1%	12.6%
DUR = 3.48	10 yr	2.1%	4.0%	-0.6%	0.0%	-1.5%	0.1%	10.1%

Source: Bloomberg, Amundi Asset Management CASM Model as of 7th of January 2020. Yields as of 22/11/2019.

The annualised expected return is the average compound return of each scenario in our simulation. Annualised expected returns are calculated for several investment horizons. The returns are decomposed into risk factors i.e. carry (includes coupon, roll down and pull-to-par effect), nominal term structure, credit spread, default and a residual return. The return breakdown is calculated using the first and second order sensitivities of the price with respect to the risk factor. The residual return contains the higher order components. The remainder of the residual return is linked to the asymmetry of the asset class return distribution. We calculate the return breakdown of the central scenario whereas the expected return is the average simulated return. Bond index instruments are constant maturity i.e. rebalanced on a quarterly basis.

Global Equities

DEBORA DELBÒ, *Global EM Senior Strategist*, **VIVIANA GISIMUNDO,** *Deputy Head of Institutional Advisory*, **LORENZO PORTELLI,** *Head of Cross Asset Research*

- With poor earnings growth, a large part of the equity rally in 2019 was due to valuation expansion. Consequently, PE multiples are now high across regions.
- In the medium term, a period of contraction in earnings growth is the most likely scenario due to the prolonged length of this profit cycle. This, together with above- average valuations, justifies expectations for equity returns to be below the long-term projections, with risks skewed on the downside.
- Compared with one year ago, expected equity returns over a 10-year horizon are lower as they incorporate higher valuations at the starting point across the regions. The lower EPS growth, as previously highlighted, represents another driver for lower returns, but given the size this is less relevant in explaining the difference.
- In equilibrium, we estimate that the US market should appreciate at a trend rate of 7.6% p.a. in nominal terms. EM equity return in the long-run is estimated at 8.9%, lower than last years, but confirming a higher potential versus developed markets.

Long-term assumption on Equity

The expected return on equities can be broken down into 3 components; (1) the income return, (2) the expected trend growth in real earnings per share plus inflation, and (3) the expected change in valuation or repricing. Over the medium-term horizon, the repricing component, i.e. the change in the P/E valuation multiple, can have a meaningful impact. Over a longer horizon, however, we consider no contribution from this component and the steady state expected return on equities is equal to the income return plus the expected trend growth in nominal earnings per share.

1 - The income component

The income return is the percentage of market value that is distributed to shareholders as cash If dividends are the only source of income, then the income return is equal to the dividend yield. Today, buyback programmes are another common source of distributing cash to shareholders. We therefore include the net buyback yield, which is the buyback yield net of the dilution effect of the issuance of new shares. We confirm the total income estimates in the table below:

Tab 12: **Total income assumptions based on dividend yields and buy back**

Income	DY Assumptions	Buy Back Assumptions	Total Income
USA	2.0%	0.5%	2.5%
Eurozone	3.0%	-0.2%	2.8%
UK	3.4%	-0.3%	3.1%
Japan	2.1%	0.4%	2.5%
Pacific ex Jap	3.5%	-0.5%	3.0%
Emerging	2.6%	0.0%	2.2%

Source: Thomson Reuters, Bloomberg, Amundi Asset Management, December 2019

2 - Expected trend growth in earnings per share

The expected trend growth in nominal EPS is estimated on the basis of long-term nominal GDP growth adjusted for revenue exposure. In fact, as the potential GDP growth does not incorporate the contribution to earnings growth coming from foreign exposure, we adjusted it by analysing the distribution of the earnings focusing on company revenues by region.

Long-term nominal GDP corrected to incorporate earnings growth coming from income exposure

Tab 13: **Geographic distribution of revenues of various regional indices (%): in rows the global revenues for each area split by countries/regions in the columns**

	United States	Canada	European Union	United Kingdom	Pacific	Japan	Africa, Eastern Europe, Middle East	Asia	Latam	Adjusted* Potential Growth
USA	68.5%	2.2%	7.6%	2.4%	1.6%	2.3%	4.3%	8.1%	3.1%	**4.1%**
Eurozone	15.8%	2.0%	48.2%	4.8%	2.3%	2.0%	9.5%	8.3%	7.1%	**3.9%**
UK	20.1%	1.8%	15.9%	25.5%	2.2%	3.4%	6.4%	20.4%	4.3%	**4.4%**
Japan	12.9%	1.8%	5.1%	1.2%	2.0%	60.1%	2.9%	12.3%	1.8%	**2.8%**
Pacific ex Jap	6.0%	0.5%	4.2%	1.5%	52.8%	2.0%	1.3%	30.4%	1.2%	**5.3%**
Emerging	6.0%	0.6%	7.0%	1.1%	3.9%	1.3%	12.9%	56.9%	10.2%	**6.0%**
Nominal Potential GDP Growth	**3.9%**	**3.7%**	**3.0%**	**3.5%**	**4.8%**	**1.4%**	**4.7%**	**7.1%**	**6.1%**	

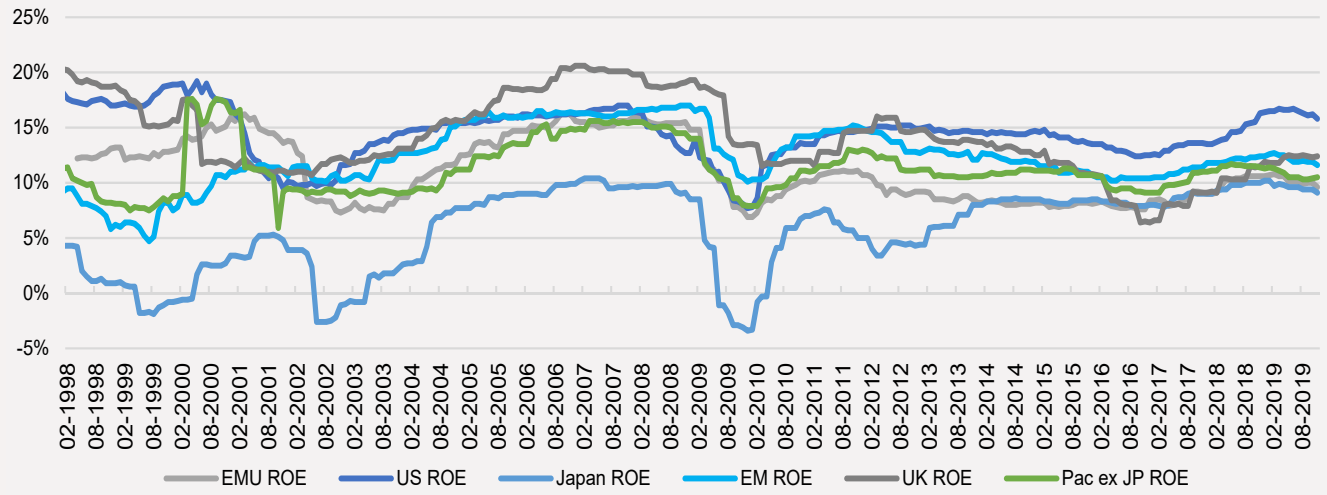
**Adjusted for Including the geographical distribution of revenues*
Source: Thomson Reuters, Bloomberg, Amundi Asset Management, December 2019

The areas growing slower (Japan and Eurozone) are the ones that benefited more from this adjustment. In fact, the stocks quoted on the Euro area equity markets generate more than half of their revenues internationally (52%), of which around 30% in the Emerging markets. The potential growth increases from 3% to 3.7%. Also, Japanese stocks generate around 40% of revenues abroad (more than 15% in EM) and potential growth doubles to 2.8%. For the higher growth areas (EM and Pacific ex Japan) the adjustment impacts negatively.

In addition, we looked at the sustainable growth rate to estimate the expected trend growth in EPS. This is the product of the return on equity and the retention ratio (i.e. the portion of earnings remaining after dividends have been paid). It represents the growth rate that companies can reach using the revenues they generate. This measure of growth has the advantage of using the return on equity of the different equity markets and of taking directly into account the specificities of equity market structures in terms of sector composition. At the same time, these figures represent a potential and are significantly higher than the EPS growth historically delivered by the markets. For this reason, we used sustainable growth (calculated on the last 10-year history) to reinforce the ranking of our estimated EPS and to highlight the difference between areas. The following graph shows the historical trend in the return on equity.

Returns by asset class and asset allocation implications

Graph 29: **Return on equity trend for macro equity areas**



Source: MSCI, Thomson Reuters, Amundi Asset Management as of 29/11/19

The return on equity trend has normalised after the great financial crisis showing a similar path for all the macro equity areas. Historically, the US and Japanese return on equity exhibit the highest and lowest ROE respectively, as higher profitability for US companies translates into higher sustainable growth rate. The European ROE is likely to be lower than in the past as the new regulatory environment will limit the financial sector ROE. In Japan, the ROE could continue to converge towards other equity markets due to new changes to the Corporate Governance Code, bringing Japan closer to global governance practices.

Market Cap weights of sectors in various regional indices

Tab 14: **MSCI equity index by sectors**

	MSCI USA	MSCI EMU	MSCI UK	MSCI JAPAN	MSCI PAC. EX JP	MSCI EM
Financials	13.1	16.8	20.1	10.7	36.7	24.3
Consumer Discretionary	9.9	14.4	6.7	18.5	6.1	14.1
Communication Services	10.4	5.1	5.3	8.3	3.0	11.0
Information Technology	23.2	10.0	1.3	11.7	0.9	15.9
Industrials	9.0	15.3	10.3	21.0	9.4	5.3
Materials	2.6	7.1	8.7	5.2	10.0	7.3
Energy	4.2	4.9	15.2	0.8	3.5	7.4
Health Care	14.1	7.7	11.3	9.9	7.7	2.8
Consumer Staples	7.0	10.4	16.7	7.9	5.1	6.3
Utilities	3.3	6.4	3.3	1.6	4.7	2.6
Real Estate	3.2	2.0	1.2	4.2	12.9	2.9
MSCI Indices	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Thomson Reuters, MSCI, Amundi Asset Management, December 2019

The US market sector composition is biased towards technology and growth sectors, while the Eurozone is characterised by the larger weighting of the financial and value sectors, Eurozone EPS growth has been dragged down since the GFC by this sector bias. Emerging market indices are also heavily weighted in technology companies (27% in information technology and communication services) while the Japanese market is heavily weighted in value and cyclical sectors.

Estimates of long-term nominal EPS growth

Tab 15: **Long term nominal EPS growth for main equity market areas in the second column last year assumptions**

	Long Run Earnings Growth (2020)	Long Run Earnings Growth (2019)	Adjusted* Potential Growth	Historical EPS Growth	Sustainable Growth
USA	5.1%	5.2%	4.1%	5.8%	9.0%
Eurozone	3.8%	4.1%	3.9%	2.3%	3.7%
UK	4.5%	4.6%	4.4%	na	5.8%
Japan	3.3%	3.3%	2.8%	na	5.5%
Pacific ex Jap	5.0%	5.1%	5.3%	6.8%	4.2%
Emerging	6.3%	6.8%	6.0%	8.6%	7.8%

**Adjusted for Including the geographical distribution of revenues*
Source: Thomson Reuters, Bloomberg, Amundi Asset Management, December 2019

Our final estimates for long-term nominal EPS growth are lower than last year. The differences are marginal except in the Eurozone and Emerging markets due to lower growth potential as per our assumptions. The ranking between equity areas is unchanged. Eurozone EPS growth's downward revision is mostly due to the decrease of EM growth potential, even if the final figures are firmly higher than historical figures. EM EPS growth estimates are depressed because of lower domestic potential growth (mainly EM Asia).

Estimates of long-term expected return

Tab 16: **Total equity return in equilibrium is the sum of long run earnings growth (trend) and the income component**

	Long Run Earnings Growth (2020)	Income Component	Total Return
USA	5.1%	2.5%	7.6%
Eurozone	3.8%	2.8%	6.5%
UK	4.5%	3.1%	7.5%
Japan	3.3%	2.5%	5.8%
Pacific ex Jap	5.0%	3.0%	8.0%
Emerging	6.3%	2.6%	8.8%

Source: Thomson Reuters, Bloomberg, Amundi Asset Management, December 2019

Over the long-term, we expect the US market to appreciate at a trend rate of 7.6% in nominal terms, which is very close to the UK total return. For the Eurozone, the long-term expected return stands at 6.5% and in Japan it is below 6%. EM equity returns are estimated at 8.8% over the long-term, taking into account a significant source of EM revenues is from the developed countries.

Returns by asset class and asset allocation implications

Medium term dynamic and repricing component

In the medium term, a period of contraction in earnings growth is the most likely scenario due to the prolonged length of this profit cycle. EPS already showed signs of fatigue in 2019 as economic and financial conditions became less supportive and the overall picture for the next 3 years looks less benign, especially for margins. The credit cycle and overall leverage burden are expected to start weighing in on the financing cost due to higher interest rates or deteriorating credit quality, eroding margins and limiting the upside to earnings. No structural growth re-rating is expected and no solid contribution from the revenue side is likely in the next few years. The combination of a less supportive top and bottom line increases the probability of a profit recession going forward. Historically, a profit recession has paved the way for a multiples de-rating and contraction and finally a price index correction. This is likely to happen this time given that current PEs are well above the reference levels shown during past EPS contraction phases. All these considerations point to medium-term expectations for equity returns below the long-term projections, with risks skewed on the downside. Hence, returns are expected to grow in line with dividend yield on average.

In 2019, the Fed and ECB resumed their balance sheet expansion and lowered policy rates. As a result, risky assets started outperforming again and equities enjoyed a very strong rally. With poor earnings growth, a large part of the equity rally in 2019 was due to valuation expansion. As a consequence, PE multiples are now high across regions and particularly in the United States after a 10-year bull market. In the Eurozone however, valuations are less stretched. In the short term, Eurozone valuation multiples could be supported by the growth pick-up we expect in Germany after a period of economic stagnation and by the very low yields on government bonds. Meanwhile in the medium term, these high valuations across equities will limit the return potential.

Earnings will have to take over the lead from valuations in 2020. However, at this late stage in the cycle, with GDP growth projected at trend and margins under pressure, we forecast cross-region weak earnings growth. Current PE valuations for EM are expensive vs. DM, taking into account the structural break of the ratio vs. DM occurred in 2013. Therefore, valuations are not supportive over the medium term.

Our expected returns on Equity

Compared with one year ago, expected equity returns over a 10-year horizon are lower as they incorporate higher valuations at the starting point across the regions. The lower EPS growth, as previously highlighted, represents another driver for lower returns, but less relevant in explaining the difference due to its size. We confirm a profit contraction scenario in the medium term.

Our 5-year and 10-year expected returns on Equity

Tab 17: **Breakdown of total expected Equity returns by macro determinants**

	Horizon	Return	EPS Growth	DPE	Income	Volatility	Long Run EPS
US Equity	5 yr	4.6%	3.8%	-1.7%	2.5%	17.3%	5.1%
	10 yr	6.5%	4.7%	-0.8%	2.5%	15.6%	
EU Equity	5 yr	3.7%	2.5%	-1.5%	2.8%	21.1%	3.7%
	10 yr	5.9%	3.2%	-0.2%	2.8%	19.9%	
UK Equity	5 yr	4.1%	2.5%	-1.5%	3.1%	16.0%	4.4%
	10 yr	6.4%	3.7%	-0.5%	3.1%	13.2%	
Japan Equity	5 yr	3.2%	1.9%	-1.2%	2.5%	19.1%	3.3%
	10 yr	4.8%	2.6%	-0.4%	2.5%	17.6%	
Pacific ex Japan Equity	5 yr	4.3%	2.8%	-1.5%	3.0%	15.4%	5.0%
	10 yr	6.3%	4.0%	-0.8%	3.0%	13.8%	
EM Equity	5 yr	5.7%	4.6%	-1.6%	2.6%	19.4%	6.3%
	10 yr	7.2%	5.7%	-1.2%	2.6%	18.9%	

Source: Bloomberg, Amundi Asset Management CASM Model as of 7th of January 2020. Price as of 22/11/2019

As highlighted above, we expect a contraction in earnings across all the regions in the medium term, the probability of an earnings recession being higher than 50%. Over the next 5 years, equities could deliver returns lower than respective long-term returns because of lower EPS growth and multiple contractions. Over a 10-year horizon, we expect EM to outperform developed markets by around 1% p.a. on average, supported by higher EPS growth. Amongst developed markets, the US and Pacific ex Japan are the markets with the highest expected returns.

Currencies

FEDERICO CESARINI, *Cross Asset Strategist*

- USD is trading above long-term valuation with a weighted average USD overvaluation of 12%. Currency contribution to returns for a not USD investor can be significant so reducing the overall USD assets advantage on returns. This is true when assuming the valuation gap to be absorbed in our forecast horizon (10 years).
- In the medium term, coherently with our central scenario, the strength of USD and interest rate dynamics may halt the adjustment dynamic during the economic slowdown.

G10 FX – Long Term Assumptions

As confirmed by ample literature, (Cassel, 1918, 1922; Obstfeld, 1995; Hegwood & Papell 1998; Clark & MacDonald, 1999) deviations from fair values tend to mean revert over time highlighting the importance of the correct understanding of equilibrium level and path of convergence.

While acknowledging Purchase Power Parity (PPP) tends to hold in the long-run, we are aware of the existence of potential pitfalls which could result in long term deviations from PPP (i.e. inconsistent relationship with relative inflation) as exchange rates sensitivity to price dynamics has more than halved since the Global Financial Crisis.

We thus attempted to identify factors potentially having a persistent impact on exchange rates, which can differ from what price dynamics would suggest. In this context, we followed the idea of Clark and MacDonald (1999) and constructed three additional Behavioural Exchange Rate Models (BEER) to leverage on short, medium and long-term determinants. Using differentials of i) interest rates, ii) terms of trade, iii) productivity, iv) fiscal spending and v) trade openness in addition to price dynamics, we developed three Fixed Effect Panel regression models on the G10 currencies, using the USD as the base.

As we are dealing with long-term equilibrium levels, the weighing scheme has been set as follows: the lower the path of convergence towards fair value, the higher the weight attached to the model. PPP remains the most powerful driver in determining long-term exchange dynamics, but overall BEER models' contribution accounts for more than half of final weighted estimates.

Tab 18: **long term FX fair value**

Nominal	12/12/2019	Over/under valuation vs spot					
	Spot	PPP	BEER I	BEER II	BEER III	WAVG	Long Term Target
AUD/USD	0.691	-13%	2%	-11%	-8%	-9%	**0.76**
CAD/USD	0.759	-12%	-11%	-3%	-9%	-9%	**0.83**
CHF/USD	1.015	-4%	2%	-1%	0%	-2%	**1.03**
EUR/USD	1.113	-14%	-8%	-11%	-9%	-11%	**1.24**
GBP/USD	1.316	-16%	-13%	-14%	-20%	-16%	**1.53**
NOK/USD	0.110	-24%	-20%	-6%	-17%	-18%	**0.13**
NZD/USD	0.660	-7%	3%	-7%	-3%	-5%	**0.69**
SEK/USD	0.106	-23%	-18%	-19%	-25%	-22%	**0.13**
USD/JPY	109.3	14%	20%	12%	12%	14%	**94.5**

Source: Bloomberg, Amundi Research as of 12th December 2019

USD

Based on the framework detailed above, we maintain the view (versus FY 2019) that the USD is trading above long-term valuation. If PPP would suggest the currency the strongest overvaluation, the direction is confirmed when weighing the battery of equilibrium exchange rate models.

Our analysis shows the USD is close to a remarkable inflection point with some indications the rally has already peaked. Among the factors considered are USD outperformance in the current yields' desert and impact of US protectionist measures on USD demand. When coupled with US fiscal position, productivity growth and term of trade evolution, results show we could be close to a remarkable turning point.

On the same vein, the 2018 and 2019 USD rallies in fact proved to be mere function of divergences in cyclical positions between the US and the Rest of the World (Eurozone above all). Thus, we did not register any change in our long-term valuation, we could be highly exposed to mean reversion in case the cyclical outperformance will dissipate or invert.

We remain vigilant for further signals indicating the advent of the aforementioned inflection point: convergence of US yield differential, flight to quality to dissipate, policy mix to spur growth outside of the US and the USD carry trade to vanish on the back of more aggressive FED. Thus, we expect a non-linear evolution: moderate convergence initially followed by a speedier depreciation. On the long term we foresee a 12% DXY depreciation.

Nordic currencies expected to appreciate the most against the greenback together with GBP and JPY, whilst CHF and NZD are currently trading closer to fair valuation with limited upside.

EUR

With Europe leading the global cyclical slowdown, several unknowns related on politics and rates differential expect to remain high, we struggle to see a marked EURUSD appreciation in the short term. Such a scenario keeps on dampening deviation with the long-term fair value struggling to exit the technical downward sloping channel started in January 2019.

Long term valuation suggests the EUR is currently trading at 11% of discount vs the USD, with inflation differential the most supportive variable of EUR appreciation, whilst interest rates differential keeps on favoring the EUR as a funding currency for carry positions, thus partially offsetting the potential upside coming from PPP – i.e. 14% EURUSD undervaluation. As per the DXY section above, we expect short-term resistance not to be long lasting and thus to see stronger EUR in the long-term.

The GBP

Brexit-related uncertainties continue to drive the GBP risk premium in the medium to long term despite the significant decrease of the risk of no deal Brexit. Moreover, due to the risk stemming from the downturn of the UK economy, sterling remains the most difficult currency to assess within G10 countries.

On the other hand, GBP deviation from fair valuation is not negligible and despite government fiscal position deterioration from 2017 to November 2019, the almost halved rate differential vs US and the divergence in terms of trade dynamics would suggest GBP should trade around 1.53 in the long-run.

Safe Heaven currencies: the JPY and CHF

The JPY has cheapened again vs the USD in 2019 on the back of central banks turning globally dovish supporting the risk sentiment gyration from defensive to risky assets. Current undervaluation from fair value stands at 14%, thus making the JPY one of the most undervalued currencies in the G10 space. Despite subdued Japanese economic growth due to the depressed demographic outlook weighing on productivity and inflation, its fiscal position has deteriorated modestly since January 2018 Coupled with diminishing rates differential and improving terms of trades our analysis suggest USDJPY trading at 94.5 in the long-run.

On the other hand, CHF stands among the most fairly priced currencies in the universe, with our framework calling for only 2% appreciation vs the USD. Price dynamics and a vigorous government fiscal position would point to higher appreciation, balanced by low productivity growth trade openness and low rates are pointing towards the opposite direction.

Returns by asset class and asset allocation implications

Rest of G10 currencies: Nordics, CAD, AUD and NZD

With expectations of 22% and 18% appreciation for SEK and NOK respectively vs the USD, Nordic currencies take the lead in our universe. Both currencies suffered in the recent past due geopolitical tensions, slowing Chinese growth and spurring protectionist measures across the globe. SEK the currency mostly impacted in such a scenario due to its status of a Small Open Economy.

Despite higher government consumption since December 2017, rates differential vs US turned positive in H2 2019 and terms of trade dynamics keep on suggesting CAD to trade around 9% higher in the long-run.

Both AUD and NZD lost their carry advantage vs the US in 2019 and US-China trade saga has forced both currencies to trade at discount. We foresee AUD having a higher long-term potential with low price dynamic and healthier government fiscal position,while NZD is to remain at 5% of discount vs long-term.

Convergence path towards equilibrium

The medium term dynamics to the long-term fair values is derived based on the interest rate differential simulated using our simulation engine (CASM).

While we expect EUR to appreciate on a 10-year horizon, the mean reversion speed will be stronger in the short to medium term fading thereafter. The strength of USD and interest rate dynamics may halt the adjustment dynamic during the economic slowdown allowing EUR to reach its long-term fair value only beyond the 10-year horizon, because of the interest rate dynamics used as mean reversion drivers. JPY is expected to appreciate towards USD on a 10-year horizon but, in the medium term, USD strength will materialise again. GBP will strengthen over a 10-year horizon to the long-term level. We expect the convergence path to be non-linear however, resulting in fast convergence in short to medium term assuming a smooth Brexit outcome coming to a halt in the medium term during the economic slowdown.

Tab 19: **Expected returns for the main currency on medium to long-term. It is based only on the change on the FX rate (the carry is not included).**

	3 yr	5 yr	10 yr
EUR/USD	1.4%	1.2%	0.7%
USD/JPY	-2.0%	-1.0%	-1.0%
GBP/USD	2.1%	2.3%	1.5%

Source: Bloomberg, Amundi Asset Management CASM Model as of 7th of January 2020

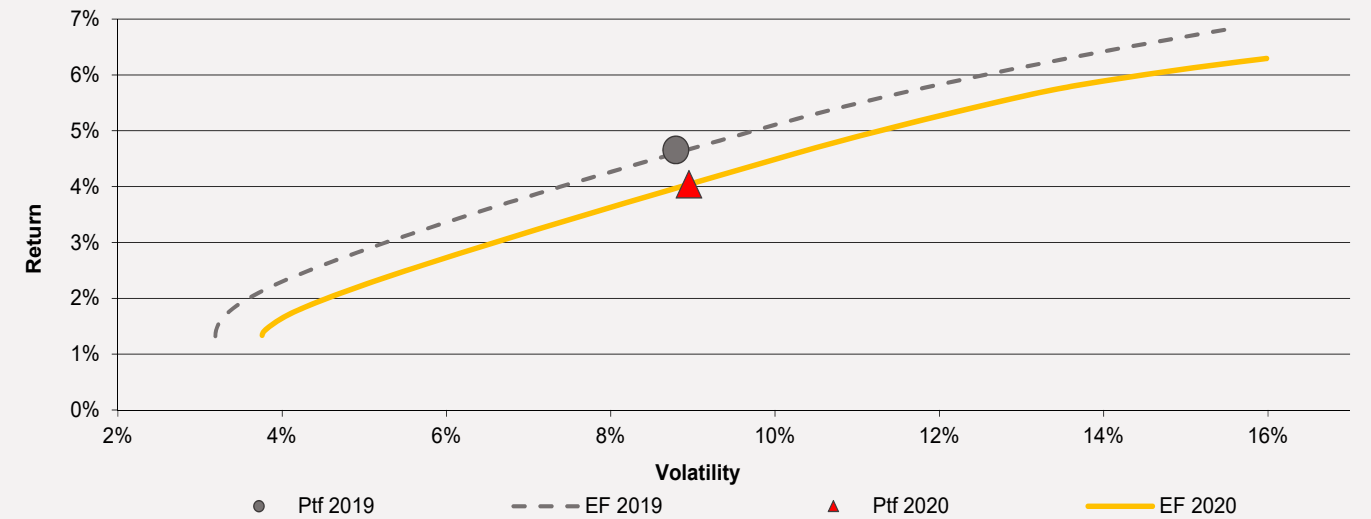
Asset Allocation Implications: worsening risk/return trade off on strategic horizon

VIVIANA GISIMUNDO, *Deputy Head of Institutional Advisory*, **JUNG HUN KIM MOON,** *CFA, Senior Quantitative Analyst*

We outline the details of the asset allocation analysis comprising the investment universe of developed and emerging market bonds and equities, reflecting our 10-year outlook for the assets considered:

- Overall, cross-asset ex-ante returns shifted downwards versus last year, accompanied by relatively stable correlation and volatility, with the resulting efficient frontier curve likewise showing a downward parallel shift.
- We maintain the maximum allowable allocation in assets with favourable risk/reward profiles, such as EM Hard currency bonds and European equities.
- Assets with a higher allocation relative to FY 2019 include US Corporate IG and EM equity.

Graph 30: **Efficient frontier for Unhedged Euro investor: current (2020) vs previous (2019)**



Source: Institutional Advisory calculations as of 3rd of January 2020. Casm Model, Historical correlation and volatility.

Assumptions

- *Investment universe composed of standard assets: developed and emerging market bonds and equities*
- *The case is that of an unhedged EUR investor*
- *Liquidity constraints of 20% for HY bonds and EM products*

The deceleration of global growth continues to be the dominant theme, leading to a domino effect of lower rates and lower valuation over the next 10 years. Therefore, we foresee lower cross-asset expected returns in relation to the beginning of FY 2019 and the inevitable downward parallel shift of the efficient frontier curve.

While we maintain overall lower allocations on DM fixed-income instruments in relation to 2019, we reduce exposure to EU Corporate IG by a margin equal to that of the increment to the US Corporate IG allocation, owing to the higher carry of the latter. Overall, we expect rates for both the EU and US to remain low with the inevitable normalisation further lowering expected returns for bonds in the medium to long term. As with FY 2019, EM Hard currency continues to show a favourable reward/risk profile amongst all assets in the investment universe and therefore we maintain maximum allowable exposure.

Even if overall bond/equity allocation remains unchanged at 50/50, results show a greater diversification among the equity assets is warranted. On equity, we confirm the preference for Europe and we add a slight option on EM, the first one because of more benign valuations, the second one for their growth potential. In the same vein, we decrease the exposure to Japanese equity reflecting the deteriorating reward/risk profile.

4

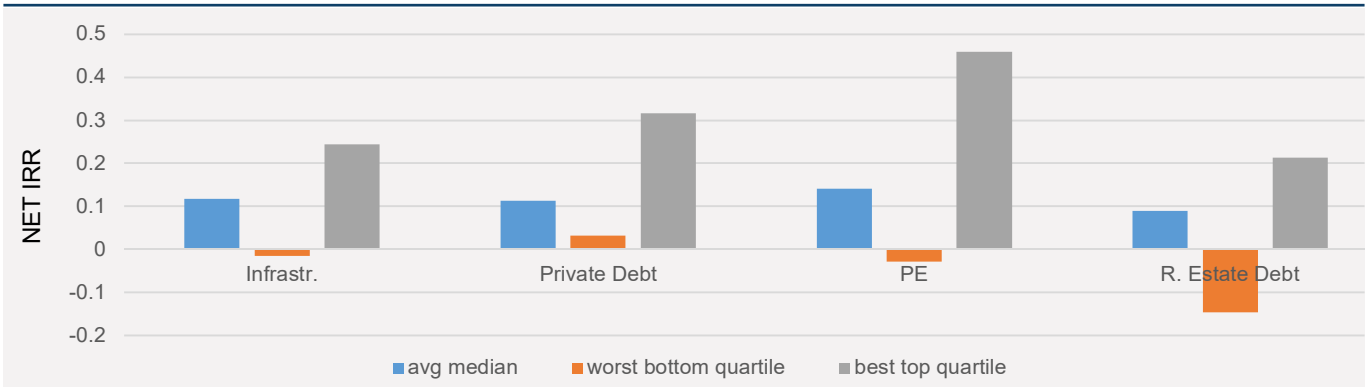
Long Term Thematic Readings

LORENZO PORTELLI,
Head of Cross Asset Research

Illiquid Alternative Asset Classes

Asset allocation has historically focused on traditional asset classes (fixed income, equities and cash primarily). Extremely low interest rates and a lack of significant diversification in the traditional universe has forced investors to explore other asset classes, such as the alternative asset classes due to their potential to outperform public market asset classes. The most relevant alternatives are: private equities, private debt, infrastructure, real estate and hedge funds. These extra returns are obviously related to the illiquidity premium as all these investments have a long-term horizon (typically 5-10 years) limiting the ability to tactically enter and exit the market. Illiquid Alternative asset classes are characterised to a large extent by cross sectional dispersion, meaning that asset performances can differ dramatically within the same category. Usually, the higher the illiquidity premium the higher the dispersion of returns delivered by managers and the potential for upside in the illiquid asset class is driven not only by exposure to some illiquid category (the beta part) but also by investing with the right managers. Graph 31 shows the dispersion of the returns for the major illiquid alternatives categories considering the historical cross median, worst bottom and best top quartiles of yearly returns.

Graph 31: **Net IRR Dispersion**



Source: Preqin, Analysis by Amundi Research. Internal calculation. December 2019.

For this reason, selection and a bottom-up approach are prominent when allocating them. Illiquid alternatives are not immune to exogenous factors or shocks. Although managers' skills can mitigate the impact, these asset classes are affected by the business cycle and public debt and equity market conditions. Moreover, alternatives have time-dependent volatility and behave differently depending on the prevailing economic and financial paradigm, as the following table shows.

Tab 20: **: Asset Allocation according to the economic cycle**

	Correction	Contraction	Reflation	Recovery	Late cycle
	Defensive phase	Defensive phase	Positive phase	Positive phase	Mild positive phase
REITS	--	=/-	=/-	++	=/+
Real estate	--	--	++	++	=/+
R. Estate Debt	=/+	=/-	=/+	-	=/+
Pr. Equity	-	=/+	=/+	=/+	=/+
Pr. Debt	++	++	=/-	--	--
Infrastr.	=/+	+	+	-	--

Source: Bloomberg, Preqin, Amundi Research.

Cyclicals (real estate and private equity) have outperformed during normal expansionary phases, while private debt, HF and infrastructure have outperformed in recessionary environments.

In the short term, cyclical alternatives (REITS, real estate and PE) should perform reasonably well as the late cycle is the most likely phase, while, from a more strategic point of view, the expected shift to negative phases favours more defensives, such as alternative debt (real estate debt, infrastructure, and private debt). The latter should deliver more limited losses than HY, considering the current low yield in the negative tail risks (Graph 32).

Graph 32: **Expected Yearly Shortfall Loss**

Source: Analysis by Amundi Research. Internal calculation. October 2019. Exp yearly Losses: expected average yearly losses occurring when the alternative asset classes perform negatively according to the estimated historical Internal Return Rate (IRR) distributions

MARIE BRIÈRE, *PhD, Head of Investor Research Center*

Impact of low interest rates: consequences for institutional investors and individuals

What are the long-term consequences of a prolonged period of low interest rates on investors' risk-taking? Recent research has analysed these effects. For institutional investors, insurers and pension funds, the low-interest-rate environment has had the dual effect of inflating liabilities and reducing returns on investments, putting their balance sheet under pressure. For example, at the European level, pension funds are around 20% underfunded (according to EIOPA's latest stress tests, conducted in 2017). This has led a large number of institutions to relax the guarantees offered. Insurers have been led to reorient their offer from so-called "euro" contracts to unit-linked contracts. In the case of defined-benefit pension funds, there has been a significant relaxation in the guarantees offered to participants, with, in some countries, the open possibility of indexing pension payments to market performance or the evolution of life expectancy. Another consequence of this prolonged low-interest-rate environment is the substantial increase in institutional investors' asset allocations to alternative asset classes, notably real estate and private equity, in a generalized movement of search for yield. For example, recent work by Ivashina and Lerner (2018) shows that, between 2008 and 2017, pension funds in developed countries increased the share of their assets invested in alternatives from 7.2% to 11.8%. The same phenomenon can be seen in emerging countries (from 0.97% to 6.6%), where pension funds were initially little invested in alternative assets.

A similar search for yield is found among retail investors. Daniel et al. (2018) found that, in the United States, retail clients of an online broker adjusted their equity portfolios as rates fell to include a higher proportion of high-dividend stocks, either through direct stock purchases or through diversified mutual funds. Within six

months, a 1-point decline in Federal Reserve rates led retail investors to increase the proportion of their portfolio invested in high-dividend stocks by 0.95% (5.2% in the following three years). This was especially true of retirees with modest incomes. In the end, the fall in interest rates has led to increased risk taking by individuals, whether through their direct investments or those of the insurers or pension funds to which they have delegated their investments.

VALENTINE AINOUZ, *CFA, Deputy Head of Developed Markets Strategy Research*

Corporate fundamentals are at the centre of the game

Central bankers have been the main player in town for the last decade. They have done a great job regarding financial stability but they failed to significantly stimulate investment spending and to bring inflation back to 2%. At the same time, easy financial conditions encouraged an increase in sovereign and corporate debt. Indeed, corporate debt has risen, and has been used for financial risk-taking to fund corporate payments to investors, as well as for mergers and acquisitions, particularly in the United States.

We need to take into consideration the risk of corporate debt, while we have moved into a new regime:

- **The global economy has entered a synchronised slowdown** after a synchronised pick-up in 2017. Momentum in manufacturing activity has weakened substantially, to levels not seen since the financial crisis, on the back of rising trade and geopolitical tensions, the slowdown of the Chinese economy and a slump in the auto industry. This year will see growth at its lowest rate since the beginning of the decade and the IMF expects slower growth in nearly 90 percent of the world.
- **The world's major central banks have returned to an easing stance this year** due to muted inflation and lower global growth expectations. Most of the major central banks have lowered borrowing costs in recent months and have restarted asset purchase programmes.
- **Political risks are expected to remain high with the upcoming US election.**

Credit Fundamentals

Net leverage reached an all-time high in Q3 for **US investment grade**, where 66% of the companies in our universe increased their leverage ratio in Q3 2019 compared to Q3 2018**.** The **Interest coverage ratio** declined in recent quarters but remained in a bright spot thanks to low financing costs. However, the **Cash ratio** across most sectors reached the lowest level since 2010. The sharp decline has coincided with a sharp increase in leverage. The main concern on the US IG segment is the high level of leverage. Unless earnings growth accelerates, the trade-off between maintaining share buybacks and the stability of debts is the main action that companies must take into consideration. Relative to the IG segment, **US high yield** issuers have focused more on balance sheet improvement over the last two years and reduced/stabilised their leverage. On the other hand**,** the **interest coverage ratio** has deteriorated and the sharp rise in the number of challenged firms is concentrated in B and C rated bonds. Moreover, the **cash ratio** also declined to the lowest level since 2010.

The net leverage of European firms deteriorated slightly in Q3. However, the fundamentals for EU IG are relatively stable due to the cash preservation mode maintained by firms. The **cash ratio** and **interest coverage ratio** also fell but remained in a bright spot due to the low cost of financing. No major concerns about the fundamentals of European names but at this stage of the cycle weak profit growth might limit the improvement in firms' balance sheets. As in the case of the US HY segment, the main concern regarding European HY is the debt service capacity of

low rated issuers. However, HY structures are more defensive in Europe than in the US.

To summarise, the recent stabilisation in the macro backdrop coupled with strong technical support will likely **prolong the cycle for higher quality issuers**. However, **risks remain skewed to the downside** and the outlook for weaker credit quality remains challenging in our view. We think the coming quarters will continue to test the most growth-sensitive segments as earnings are unlikely to experience a strong rebound. We see a sustained decline in **earnings as the main risk factor**.

ÉRIC MIJOT,
Head of Developed Markets Strategy Research

Equity markets: in the next decade, expect a shift in favour of Value stocks

Since the Great Financial Crisis of 2007, Value stocks have largely underperformed Growth stocks. Indeed, from January 2007 to January 2020, the MSCI World Value index increased by +80% in terms of total return while the MSCI World Growth index increased by +170%.

The sharp drop in rates (from 5% in 2007 to less than 2% at the start of 2020) may in itself partly explain this underperformance, as long-duration securities are becoming more attractive. But that does not exhaust the argument. Over a very long period, we can see that the rise in the indebtedness of private players is much better correlated with this ratio than the trend in long rates. This logic can be highlighted using MSCI data since 1975 (see graph 33); data from Fama & French even make it possible to demonstrate the phenomenon going back to the 1930s[1]. The most convincing explanation for this enthusiasm for Growth stocks therefore appears to be linked more to the scarcity of growth, penalised by deleveraging, rather than to the level of rates, with investors preferring what is rare.

As a result, the valuation of Growth stocks compared to that of Value stocks is very high today (see graph 34). On the basis of a Composite Valuation Indicator which combines Price Earnings Ratio, Price to Book Value and Dividend Yield, it stands at the level of February 2000, very close to its historic highs. This suggests a probable normalisation in the years to come.

Beyond valuation, the argument in favour of Value would be even stronger since growth would be less rare and players' debt would rise. In this respect, it should be noted that the proportion of the population aged 40-49 in the adult population, which has been steadily declining since 2000 in the United States, looks set to increase again in the decade that has just started[2]. This corresponds to the baby boom "echo". It should stabilise in Europe. This segment of the population is deemed to be the one that consumes the most. Similarly, the participation rate of people over 15 years of age provided by the OECD is initiating a positive change. The participation rate has a fairly strong relationship with the trend in the MSCI World Value / Growth ratio (see graph 35), and suggests a shift in trend or at least a stabilisation towards the middle of the 2020's.

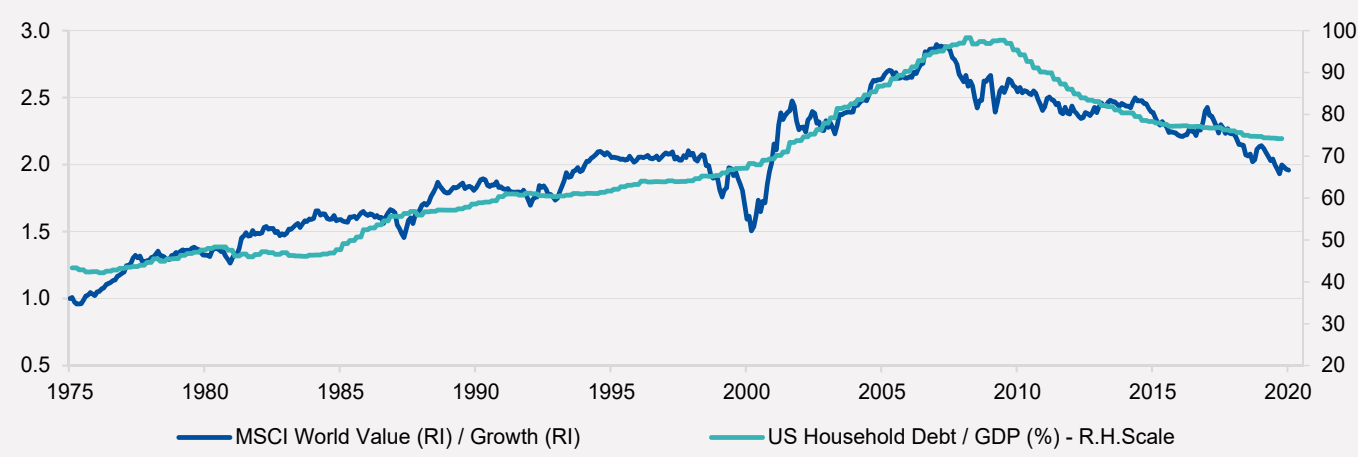
If end demand increases, then companies could also invest more, etc. Finally, while today certain sectors such as the automobile sector are "disrupted", with the arrival of new technologies and the technological choices linked to climate change, let us bet that the industry, beyond a period of transition, will also adapt and provide a new and attractive offer in the coming years, which could also end up stimulating demand.

In conclusion, on the scale of a decade, it seems to us that Value stocks will definitively be able to take revenge on Growth stocks.

[1] *"Investment Cycles and Asset Allocation", p 18 to 28, Eric MIJOT, Economica*
[2] *"Investment Cycles and Asset Allocation", p 38 to 41, Eric MIJOT, Economica*

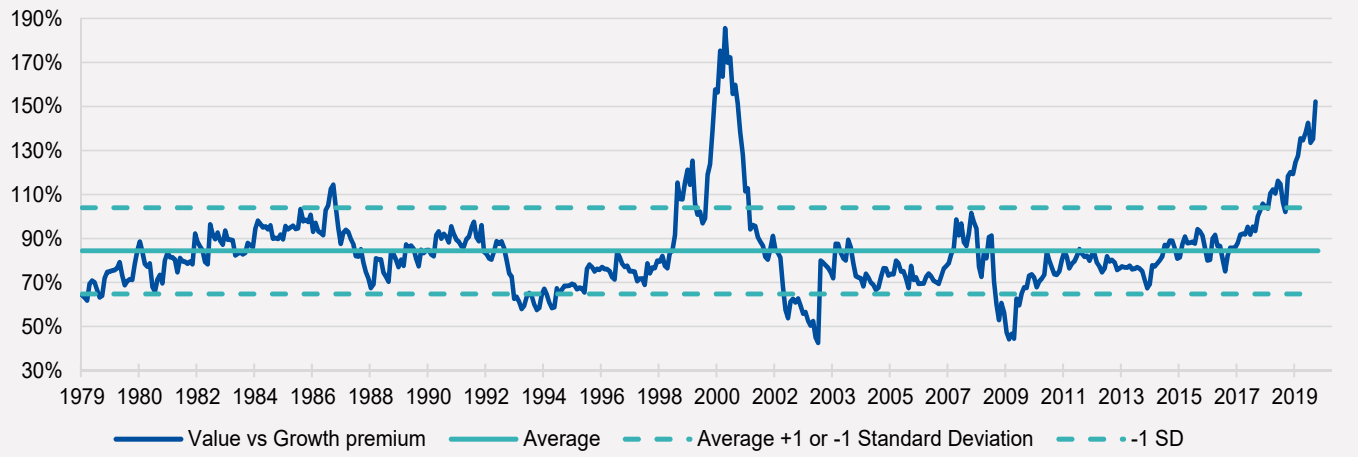
Long Term Thematic Readings

Graph 33: **MSCI World Value / Growth and US Household Debt / GDP**



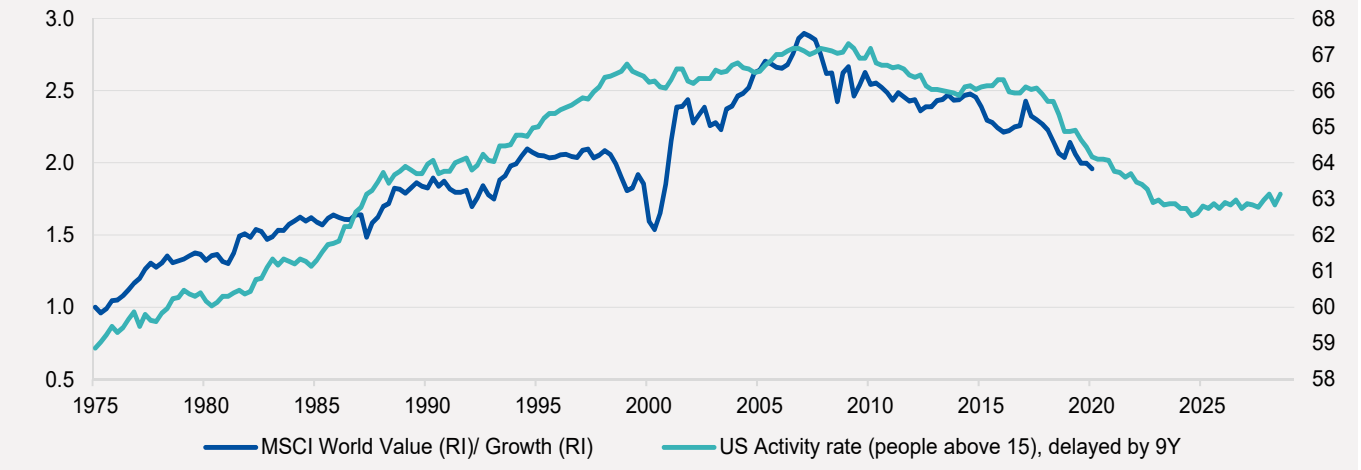
Source: Refinitiv, Fed Flow of Funds, MSCI, Amundi Research. Data as of 8/01/2020

Graph 34: **MSCI WORLD CVI (P/E, P/BV, DY) Growth / Value**



Source: Refinitiv, MSCI, Amundi Research. Data as of 8/01/2020

Graph 35: **MSCI World Value / Growth and US Activity Rate**



Source: Refinitiv, OECD, MSCI, Amundi Research. Data as of 8/01/2020

References

A.D. Wilkie. (1984). A stochastic investment model for actuarial use [with discussion]. Transaction of the Faculty of Actuaries, 341-403.

Amann Edmund and Virmani Swati. "Foreign direct investment and reverse technology spillovers: The effect on total factor productivity" OECD Journal: Economic Studies, Volume 2014.

Ang Andrew, Bekaert Geert. "How do Regimes Affect Asset Allocation?" NBER Working Paper No. 10080, November 2003.

Balassa, Bela. 1964, "The Purchasing Power Parity Doctrine: A Reappraisal," Journal of Political Economy, 72, 584–96.

Cassel, Gustav. "Abnormal deviations in international exchanges." The Economic Journal 28.112 (1918): 413-415.

Cassel, Gustav. Money and foreign exchange after 1914. Constable and Company Limited, London, 1922.

Clark, Peter B., and Ronald MacDonald. "Exchange rates and economic fundamentals: a methodological comparison of BEERs and FEERs." Equilibrium exchange rates. Springer, Dordrecht, 1999. 285-322.

Daniel K., Garlappi L., and Xiao K., "Monetary Policy and Reaching for Income", NBER Working Paper No. 25344, 2018.

Davies Ron. "Industry 4.0: Digitalisation for productivity and growth" European Parliament September 2015.

D Dempster, M., Germano, M., Medova, F., Murphy, J., Ryan, D., & Sandrini, F. (2009). Risk Profiling Defined Benefit Pension Schemes. Journal of Portfolio Management, Summer (2009)

Glasserman, P. (2004). Monte Carlo methods in financial engineering. New York: Springer-Verlag.

Hastie, Tibshirani and Friedman. "The Elements of Statistical Learning: Data Mining, Inference, and Prediction." Springer-Verlag. (2009).

Hegwood, Natalie D., and David H. Papell. "Quasi purchasing power parity." International Journal of Finance & Economics 3.4 (1998): 279-289.

Obstfeld, Maurice, and Kenneth Rogoff. "Exchange rate dynamics redux." Journal of political economy 103.3 (1995): 624-660.

Solow, Robert M. "A contribution to the theory of economic growth" the quarterly Journal of Economics 70.1 (1956): 65: 94.**Takatoshi Ito** "Japanization: Is it endemic or epidemic?" NBER, February 2016.

Uhlenbeck, G., & Ornstein, L. (1930). On the theory of Brownian Motion. Physics Review 36, 823-841.

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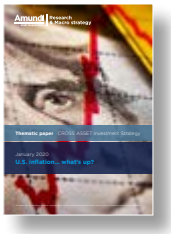

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Detecting Tipping Points

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