Research & Strategy Insights

## 2022-2023 Outlook

# Pandemic effects to recede, policy starts to tighten

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## From the Core Investment Macro Research team

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# Macro outlook – Compression, decompression, absorption

By Gilles Moec

## Key points

- We expect pressure on global supply to gradually decline, contributing to a slowdown in inflation
- This would allow central banks to maintain a prudent approach to the pace of policy normalization
- It has become impossible to think about the macro outlook without considering the impact of the fight against climate change. Over 2022-2023, we expect a positive contribution to GDP, thanks to tangible investment efforts

## Receding pressure on supply

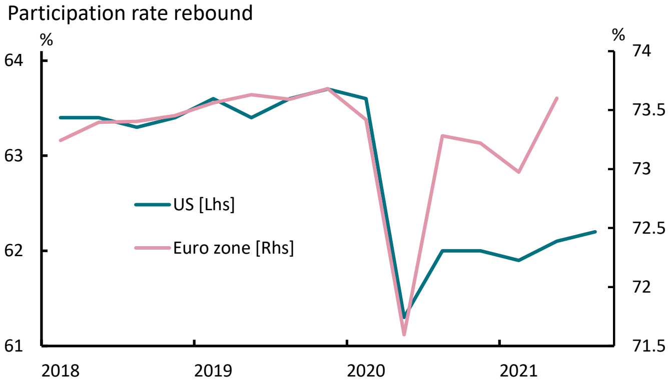
2020 was a year of massive compression of economic activity. 2021 was a year of fast decompression, with demand catching up quickly as we were reopening, exerting significant pressure on supply, triggering a rise in consumer prices unseen in decades. Under the assumption – of course uncertain as we write those lines – that the Omicron variant does not trigger a generalised return to far-reaching sanitary restrictions, we believe 2022 will be a year of gradual absorption of the pandemic shock, with robust but less spectacular GDP numbers, as much of the catch-up is now behind us, and a normalisation of supply conditions allowing inflation to slow down.

Lingering sanitary-related supply-side disruptions played a large role in the emergence of global bottlenecks but demand also played a major role. Everywhere, individuals shifted their consumption from services towards tradable goods, which often depend on long and tortuous international value chains. This has been particularly acute in the US. There, as of the third quarter of 2021 (Q3 2021), household spending on goods had risen by 15% relative to its pre-pandemic level, the steepest gain since data has been available in 1947. Given the US dominance in world consumption – 30% in nominal terms in 2019 – this "goods glut" had a massive impact on global supply. Assuming the pandemic no longer forces widespread compression in services activity, this phenomenon should be behind us by now. Consumption of goods in the US has receded – finally – in Q3 2021.

Some key international prices are already abating – e.g., iron ore, of the cost of sea freight – and talks of releasing strategic reserves seem to have finally capped oil prices. The capacity of this improvement in upstream inflationary pressure to dampen consumer prices will depend on the result of a "race" with second-round effects transiting via the labour market.

A normalisation of the US participation rate, easing the pressure on wages, is a key assumption in our baseline. Indeed, we think that a significant share of the persistent decline reflects lingering COVID-related issues – in particular around childcare. In Europe, the rebound in hiring difficulties is still to a large extent a return to structural flaws, most often skills mismatches, but contrary to the US no sign of wage acceleration can be observed (Exhibit 3).

Exhibit 1: No drop in participation in Europe




*Source: Bureau of Labor Statistics, OECD and AXA IM Research, November 2021*

## North/South policy divergence

In the advanced economies, economic policies will remain accommodative. True, the new fiscal packages, especially in the US, are much smaller than in the last two years. But much of the past fiscal push has been "stored" in the form of excess savings by households, creating a welcome reserve of demand.

While central banks are starting to phase down their stimulus, our baseline is that they will remain prudent, in line with our scenario of gradual convergence of inflation towards their target after still elevated year-on-year prints in the first half of 2022 (1H 2022). The first hike would come only at the end of 2022 in the US, reflecting the Federal Reserve (Fed)'s commitment to tolerate some inflation over-shooting. With even less endogenous price pressure and less advanced in the cycle than the US, we think this will take even more time in the Euro area and we don't expect the European Central Bank (ECB) to hike before 2023.

Regarding the ECB, focus is probably less on policy rates and more about the phasing out of quantitative easing. In our baseline, the Pandemic Emergency Purchase Programme (PEPP) would be terminated in March 2022 but partly offset by a recalibration of asset purchase programme (APP) to EUR40bn per month until the end of 2022 "at least".

In the emerging world though, the credibility of central banks is not as strong and has forced them to engage in a significant monetary tightening, dampening demand. In some of the countries which are for now bucking the trend – such as Turkey, where the central bank is cutting rates – the fallout is massive in terms of currency depreciation. Emerging Markets will also be facing the headwind of less supportive Chinese demand, to which they are more sensitive than most advanced economies.

Indeed, China for once is not playing the role of a "global engine of growth". Instead, Beijing is trying to address years of excess in the real estate sector, and this will slow GDP growth, while its "zero case" Covid policy is potentially very costly to the recovery. While 5% is probably a "floor" to GDP growth – and we expect some policy loosening into 2022 – the world economy will have to deal with an unusually tepid Chinese demand.

In our baseline, while COVID remains an issue, with the continuation of regular "flare-ups" in one or another key economic regions of the world, we consider that the pattern established in 2020-2021, with each new pandemic wave being less damaging to economic activity than the previous one, would continue to be observed. In the European Union (EU) specifically, we think that the "Franco Italian" model of making access to key activities conditional on the vaccinal status will be adopted in more and more initially sceptical member states as a way to both protect the economy from far-reaching lockdowns and nudge hesitant citizens towards vaccination including boosters).

On the political front, the next two years will be active. In our baseline, in 2022 the current policy stance would not be materially affected by the electoral outcomes (no "upset" in the French presidential elections), but of course in the US the outcome of the midterm elections could be "policy paralysis" for two years if Republicans take back Congress, which is consistent with the polls at the time of writing. In 2023, elections in Spain and Italy will be on the watchlist, but we currently doubt speculation surrounding an early UK General Election.

Beyond COVID, risks around this baseline are probably balanced. Inflation could prove harder to curb in the advanced economies, which would force a much bigger policy tightening detrimental to demand. Symmetrically, a faster-than-expected normalisation of excess saving could deliver another bumper year for consumption.

## The fight against climate change to boost growth (for now)

Finally, we think it has become impossible to elaborate a macroeconomic outlook without taking into account the impact of the fight against climate change.

COP26 has not delivered enough. The intermediate targets pledged by the governments for 2030 are still consistent with an average rise in temperature of 2.4 degrees by the end of the Century according to Climate Action Tracker. With the exception of the deal on methane, which will create new constraints for the oil & gas industry, and possibly the one on forests, none of the announcements in Glasgow have any tangible impact on corporate behaviour, and hence on economic activity. The most glaring hole is the failure to make progress towards carbon pricing at the global level. Indeed, investors and corporates need visibility on the future trajectory of carbon price.

Still, it would be wrong to consider that the fight against climate change is not already having an impact on the economy. It is often seen as a cost. But the notion of cost is ambiguous when it comes to decarbonising the world. An essential part of the process is to reallocate capital towards the sectors and businesses which are transitioning to a net zero economy. This would result in some destruction of capital in the sectors and firms which did not adapt, but GDP cares only about gross investment. And the investment effort needed to get to net zero is going to be massive and is becoming tangible. Thanks to the Next Generation EU programme, of which 30% of the funds are dedicated to the green transition, coupled with national initiatives, we can expect an investment effort of between 2 and 6% of GDP in the key countries of the Euro area between now and 2026 towards the fight against climate change.

Now, looking ahead, some measures detrimental to GDP growth will also need to be taken down the line. It is going to be tempting to try to nudge reluctant emerging and developed countries towards making more efforts to decarbonize by imposing a carbon "border tax" on European Union (EU) imports. This will have a detrimental impact on purchasing power. The same applies to the extension of carbon pricing to more sectors in the EU. It will be impossible to avoid a detrimental effect on household purchasing power. Germany' shift to renewables is often praised, but the development of these energies was paid for by a levy on households' electricity bills which at its peak stood at a full 1% of disposable income. Yet, for our current forecasting horizon, the fight against climate change is likely to bring a positive contribution to GDP.

# Investment outlook – Coping with modest rate increases

By Chris Iggo

## Key points

- COVID will remain an issue for markets
- Inflation is more of a concern however
- Modest interest rate increases in some economies need to be built into the investment outlook
- However, a lot is priced in
- If actual moves are in line, then bond market losses need not be significant
- Equity markets can cope with modestly higher rates so long as earnings keep growing

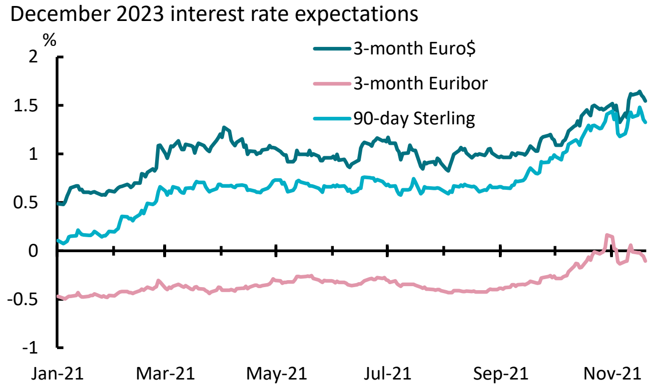
### Inflation brings focus on low bond yields

As we head towards the second anniversary of the outbreak of the COVID-19 pandemic the disease remains one of the key worries for investors. It continues to have the ability to disrupt demand and supply and for this to be reflected in bouts of "risk-off" behaviour in financial markets. Typically, unexpected shocks tend to raise questions about the ability of the global economy to sustain its pace of recovery. This in turn triggers buying of assumed safe-haven assets, generating counter-intuitive moves in bond yields when the macro narrative is one of inflationary growth and higher interest rates.

The coming year is likely to see this pattern of market behaviour continue. However, while COVID will remain an issue, the increase in inflation rates around the world is likely to be the key concern. Policy makers dealt with the potential impact of COVID on the global economy by aggressively cutting interest rates and loosening fiscal purse strings. This first supported and then boosted economic growth and was reflected in higher valuations for corporate assets. The remedy for inflation is not so benign. Central banks have been trying to increase inflation in recent years and are now faced with potentially having to reduce it. To do that, interest rates will need to go up in several economies and that will have very different implications for bond and equity market returns, and economic growth.

Through the second half of 2021, markets have increasingly priced a higher probability of interest rates going up. The rapid increase in inflation rates drove these expectations and allowed them to become dislodged from the prevailing forward guidance that central bankers had used as one of their post-crisis monetary policy tools. Looking to 2022, investors need to contemplate a number of issues over the likely trajectory of inflation itself, whether central banks will need to do more than what is already priced in, and how portfolios should be adapted to hedge against a worse outcome. That worse outcome would be even higher inflation, a more aggressive tightening of monetary policies and a subsequent downgrade to growth prospects.

Exhibit 2: Rate expectations move higher




*Source: Bloomberg and AXA IM Research, 19 November 2021*

Our base case scenario on inflation described in the 2022 Outlook is consistent with what is priced in bond markets. So far, that has prevented a significant increase in long-term yields which, in turn, has allowed equity markets to deliver strong returns. Yet several major central banks could start to increase policy rates from their pandemic-crisis levels over the next year or so. These moves would start from very low levels and, if market assumptions are correct, would be limited in nature. However, the era of pandemic-crisis monetary policy is coming to an end.

As we approach the shift in the stance of monetary policy globally it is important to consider different scenarios and how they will impact on different return expectations across asset classes. A negative bond and then equity shock would only come if it appeared that policy makers were changing their long-term equilibrium rate views. If incoming data pushes the Federal Reserve to concede that its terminal policy rate is not 2.5% but something higher, long-term bond yields and, importantly, real yields could move significantly above levels seen in the market over the last two years. That would undercut growth and earnings momentum. Negative returns in bonds would quickly be followed by large corrections across equity markets.

In the 1980s, it was the unexpected decline in inflation that drove real returns higher. There is a risk that the opposite situation is seen in 2022-2023. However, for now this remains a risk rather than the central expectation. Inflation is likely to be transitory even if elevated rates persist well into 2022. The idea of reverting to wage-price spirals in the US and other major economies appears somewhat fanciful. If we are right on that, bond markets can cope with some modest tightening so long as inflation does appear to be receding. A 100 basis points or so of higher rates would not be cataclysmic for equity investors who have been rewarded for being in an asset class driven by super-charged earnings. Slightly higher rates and a little easing in earnings growth across equities is hardly the stuff of bear markets. Ongoing recovery, innovation around climate change and re-purposing supply chains should be strong tailwinds for equity investors for some time.

However, some insurance in portfolios is not a bad thing. Inflation linked bonds have outpaced actual inflation in this cycle and should continue to do so in 2022. Other fixed income assets will struggle but even then, actively managed duration and credit exposures can deliver positive returns for investors. It is worth keeping in mind that it is very rare to get two consecutive years of negative returns in developed government bond markets. Forecasts of significantly higher bond yields have been wrong in the past - they could be wrong again. On the equity side, firms with less leverage, with strong pricing power and innovative product lines will prosper.

Very low interest rates and central bank quantitative easing have been the norm since the Global Financial Crisis in 2008-2009. As the world economy exits the pandemic period, central bankers are rightly adjusting the policy mix. We will see less bond buying and a gradual normalisation for rates. Many financial market commentators have all too easily made the link between loose monetary policy and signs of excess in financial markets. Yet to get very bearish on markets we would need to believe the following. Risk-free rates will rise as central bank interventions subside; this will have some portfolio re-balancing effects as investors move back out of risk assets into government bonds; and risk premiums will need to rise in credit and equities to reflect a more uncertain economic outlook in a world where central banks are less active.

In short, if monetary support is removed too quickly, the business cycle becomes shorter as tighter conditions in the short to medium term lead to a slowdown in growth. The extent to which this could happen really depends on inflation. The impact of the pandemic on global economic trends – supply disruptions, potential long-term changes to supply chains (just-in-case replacing just-in-time), labour markets and fiscal policy – will take some time to really understand. For now, however, central banks will err on the side of caution and will need to be convinced – by evidence of persistent second round effects – that the decades long period of low inflation is coming to an end. In the meantime, investors should still enjoy decent returns as companies continue to respond to structural forces like digitalisation and the energy transition.

On that final point the progress towards decarbonisation will increasingly determine capital allocation and investment opportunities. Investors are playing a key role in supporting de-carbonisation through asset allocation decisions, in engagement with companies on transition plans, and by supporting new technologies and business models that rate highly in terms of Environmental, Social, and Governance (ESG). Energy prices rose in the second half of 2021 – a key reason why broader inflation has also increased – yet, there has been no global approach to pricing carbon, which could push energy prices even higher. When it comes, and it will, the economics will swing sharply in favour of renewably produced energy and that will quickly allow upstream activities to benefit. Investors will be faced with opportunities to profit from the growth that will stem from this.

Price increases will be a necessary part of the energy transition, but it need not be something that brings back significantly higher interest rates and more macroeconomic volatility. In 2022, investors will be keenly focussed on the peak in inflation and how insidious it’s impact on pricing and wage behaviour will be. The bullish scenario is that inflation will peak, and the flexibility of the modern, still very interconnected global economy will allow expectations to once again be firmly anchored. This would be the distinction between relative and general price adjustments in this context of internalising carbon in a range of production processes and should continue to present central banks with broad room for manoeuvre in delivering their inflation mandates. However, when many prices make relative adjustments, they create a general adjustment – or inflation - and that could challenge investor confidence in medium-term low inflation economies.

# US – Structural realignment to ease pricing pressures

By David Page

## Key points

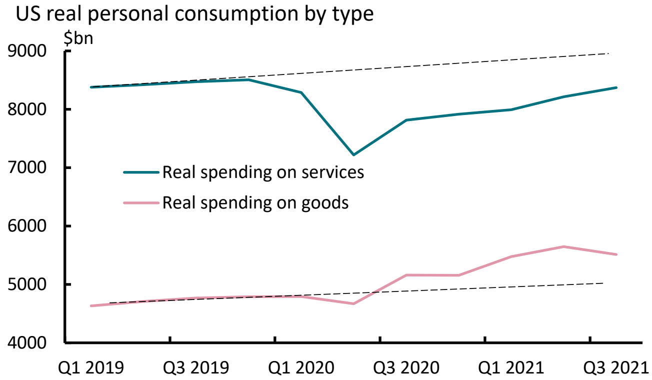
- Supply chain pressures should ease if COVID is brought under control. Inflation is on track for a 40-year high, with a peak expected in end-2021, then a material fall from Q2 2022
- GDP growth should continue at a robust pace, though likely decelerate. We forecast growth of 5.5% in 2021, 3.5% in 2022 and 2.7% in 2023
- The Federal Reserve looks set to start a material tightening cycle at the end of 2022. Doubts about managing longer-term inflation risk an earlier start

### Supply constraints and inflation

The rapid rebound in demand across 2021 gave rise to severe bottlenecks in the supply chain. This has been evident in markets like lumber and iron ore, where prices have surged and then fallen. More persistent shortages – including in semiconductors – look set to remain into H2 2022. More recently, global natural gas demand has provided an indirect boost to gasoline prices, which have risen further. This rolling series of supply shocks has contributed to rising prices. We expect supply restrictions to ease in 2022, both as supply adapts – particularly if emerging markets better contain COVID-19 – and as consumer demand reverts towards services, easing demand for durables (Exhibit 3), again assuming domestic virus concerns abate.

Exhibit 3: Unwinding the consumer goods binge

US real personal consumption by type




*Source: Bureau of Labor Statistics (BLS), AXA IM Research, November 2021*

The impact on inflation has been stark and more extreme than we had expected. CPI inflation rose to 6.2% in October – a 30-year high, and well above 2008's 5.6% peak. With increases in second-hand autos, airfares and particularly rents set to persist, the outlook is for inflation to peak below 7% in December. This sees us revise our near-term forecasts further to average 4.7% in 2021 and 4.1% in 2022. Yet a series of price-level adjustments must surely end with inflation attenuating and then reversing sharply. This appears likely from Q2 next year and should be compounded by a now-softer growth outlook, with price increases eroding consumer spending power. Inflation should only be self-sustaining if household incomes can continue to grow, which is why markets reacted to signs of sharp wage growth in Q3 2021. We continue to forecast CPI inflation falling back sharply in 2022 to average 2.9% in 2023, consistent with the Federal Reserve (Fed)'s Personal Consumption Expenditure inflation target at 2.5%.

### Fiscal spend, excess saving and growth

The bipartisan infrastructure bill, adding $550bn (2.4% of GDP) in new money, was a key milestone, but should be joined by a further $1.6tn (6.5% of GDP) bill, boosting growth in the coming years. Even so, previous packages have been larger, with a combined spend of 12% of GDP in March/April 2020, 4% in December 2020 and 9% in March 2021. Moreover, these latest packages include revenue raising measures – that are expected to raise around $1.5tn. The net fiscal stance should tighten to -5% of GDP next year.

This appears a significant headwind to growth. Yet previous fiscal support included direct transfers to households, a large proportion of which still exists as excess saving – estimated to be around $2.25tn (9.7% of GDP). This would be sufficient to cushion the drop in government spending. However, these savings are not evenly distributed. The Fed estimates that around two-thirds are held by households in the top 20% of incomes, and the remaining third by the bottom 80%. For the latter group, we expect savings to be a useful buffer against the expected income squeeze. However, the top income deciles are more likely to treat this as wealth – spending relatively little. Excess savings should fall but are unlikely to fully cushion the economy.

### Growth outlook

With supply pressures likely to persist through H1 2022 and inflation elevated, we expect pressure on income growth (and saving) to dampen activity. While excess saving should provide a buffer, a broad-based employment recovery should bolster labour income next year. We expect US GDP to grow by 5.5% in 2021, then decelerate to 3.5% in 2022 – softer than the consensus view of 4% – and 2.7% in 2023 (2.4% consensus). We forecast that supply constraints will dampen growth relative to expectations over the next few quarters, but an easing of constraints, and a rebuild of inventory, should underpin firmer growth beginning in H2 2022.

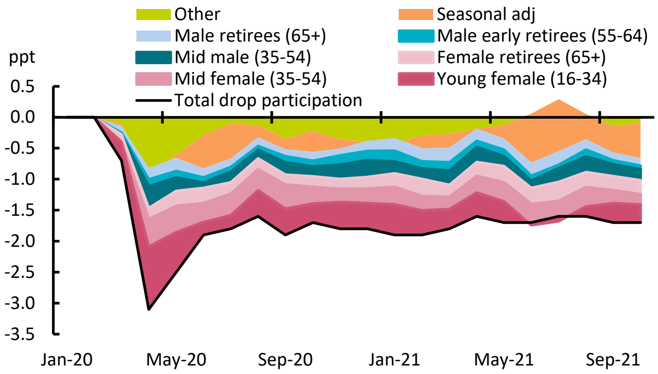
## Labour market and longer-term inflation outlook

The labour market should enjoy rapid job growth. We estimate an average monthly payroll increase of 350k across 2022 – with pent-up demand suggesting upside risk. This will drive unemployment lower, but how quickly will depend on labour supply. Weak labour supply growth – flat on average over the past 12 months – exaggerated the fall in unemployment in 2021, down over 2ppt to 4.6% in October from December 2020's 6.7%. In 2022, we expect labour supply to rise, dampening the fall in unemployment.

This should include an increase in labour force participation. Participation rose to 61.7% in August 2020 but has not improved since. Exhibit 4 shows that some of this decline (0.4ppt) is attributable to older workers (55 years old plus) having left the workforce. These may have retired permanently. Yet the bulk of the drop is from workers aged 16 to 55, primarily female. Difficulties around caregiving and healthcare appear to account for this withdrawal. If COVID-19 continues to fade across 2022, it should facilitate a return of these prime age workers. Moreover, a return of some workers is also likely (already adding 0.2ppt above H1 2021). We expect participation to recover significantly next year.

Exhibit 4: Most of labour force drop temporary

Decomposition of the fall in US labour participation




*Source: BLS, AXA IM Research, November 2021*

A recovery in labour supply would have a key impact on the medium-term inflation outlook. A shortage of labour supply contributed to Q3's 20-year record increase. Rising supply should help meet the significant labour demand and cool wage and unit labour cost growth – key drivers of core inflation. By contrast, if labour supply remains subdued, the risk of more persistent inflation will emerge.

## Federal Reserve – holding the line

The Fed is committed to reducing its asset purchases by \$10bn in US Treasuries and \$5bn in mortgage-backed securities per month for the rest of 2021. It then suggests a similar pace in H1 2022, to end asset purchases by mid-2022. After this it will consider raising the Fed Funds Rate (FFR), subject to its forward guidance conditions that inflation is 2% and expected to be modestly in excess of that over the coming years, and that the labour market should be "consistent with full employment".

Yet the Fed is not clear what full employment will look like. Uncertainties around permanent shifts in the labour force question what level of unemployment or labour force participation is consistent with full employment. When change occurs on both demand and supply sides, price developments become important. The Fed will watch wage growth as the key barometer of labour market capacity.

The Fed may also have to act in the face of rising inflation. Emerging market central banks typically respond to transitory price shocks because inflation expectations are not well-anchored. Developed economy central banks tend to have the luxury of "looking through" such shocks. With inflation elevated for a prolonged period, many see the 'transitory' explanation as stretching credulity. The market currently considers three FFR hikes in 2022 to reinforce its credibility.

We still expect inflation to retrace sharply from Q2 next year and the labour market to heal more slowly than the Fed considers. As such, we forecast the Fed leaving policy unchanged until end-2022. However, we then expect a full tightening cycle to lift rates to 1.001.25% by end-2023 and continue through 2024. If inflation expectations rise further, the Fed may have to begin a tightening cycle sooner.

## A pivotal phase for US politics

The US holds midterm elections in November 2022. Recent elections in Virginia and New Jersey delivered significant Republican swings, beating the incumbent Democrat in Virginia, which had voted solidly for President Joe Biden last year. Such a swing is consistent with downbeat Presidential approval ratings, which group Biden with other Presidents that have gone on to lose control of Congress in midterms, than those who have held on to majorities[1].

President Biden no doubt hopes that the delivery of major infrastructure deals will change the mood of the nation. Perhaps more importantly, an improvement in economic conditions, including significant job gains and a retracement from exceptional levels of inflation, will improve the public perception. However, with tight margins in both Houses of Congress, the outlook appears for a loss of both majorities in November. This would deliver political gridlock. In economic terms, this may not alter the outlook much, with the rollout of recent spending bills still to dominate. But it would set the stage for a potentially era-defining 2024 Presidential election.

[1] The apparent outlier is President Carter who despite weak approvals still held both the House and Senate after midterms. That said, Jimmy Carter did lose 15 seats in the House, which if this were repeated would be sufficient to see a Republican majority this time.

# Eurozone – Short-term headwinds insufficient to derail momentum

By Hugo Le Damany

## Key points

- After a buoyant summer, the short-term outlook is threatened by another COVID-19 outbreak, rising prices, supply shortages and China's slowdown.
- Beyond these, some tailwinds should support Eurozone activity with gradual progress in the labour market, easing prices over the course of 2022 and continued support from governments and the central bank.
- The political landscape looks positive for the region, but our three-pillar scenario is subject to threats.

## Short term weaknesses

After a strong rebound at the end of the second quarter (Q2) 2021, the Eurozone economy had been on track to regain its pre-pandemic GDP level by year-end. However, the re-emergence and strengthening of some headwinds now threatens this short-term outlook.

Following a buoyant summer, bottlenecks accumulated, goods prices surged in some sectors, and global oil prices rose with recovering demand. Additionally, China's coal policy and geopolitical issues in Europe generated significant natural gas wholesale price increases, feeding through to increased electricity costs. Those pressures pushed inflation higher and have started to impact household purchasing power. In parallel, China's economy has started to weaken as it struggled with energy shortages, wobbles in the real estate sector and fragile domestic demand further impacted by COVID-19 outbreaks. More recently, Eastern European countries have been hit by new spikes in virus cases and have reimposed strict restrictions. This trend appears to be drifting westwards.

These headwinds should sharply lower the Q4 GDP growth outlook, but the effect should ease thereafter. The marginal economic impact of each virus wave has fallen over time, and this should continue as the government/private sector response has become more efficient. Successful booster and vaccination campaigns, accompanied by passes confirming vaccinated status, should help alleviate the impact. In terms of shortages, we expect progress – excess demand should gradually normalise as supply improvements emerge, including in semiconductors where production is progressively scaling up. The auto sector appeared to hit bottom during the summer and should start to recover even if a return to the norm is unlikely in 2022. Beyond those supply shortages, the outlook in the industrial sector is still rosy – order books are full and we believe China's weakness will be managed by more supportive policy over 2022.

Looking at individual countries, we believe Germany will be the most impacted economy as it lies on the front line for all those headwinds. We have adopted a more conservative outlook until Q2 2022 but expect reacceleration thereafter. We are also closely monitoring Spain as there is a strong dichotomy between Q3 GDP weakness and labour market improvements or consumer surveys.

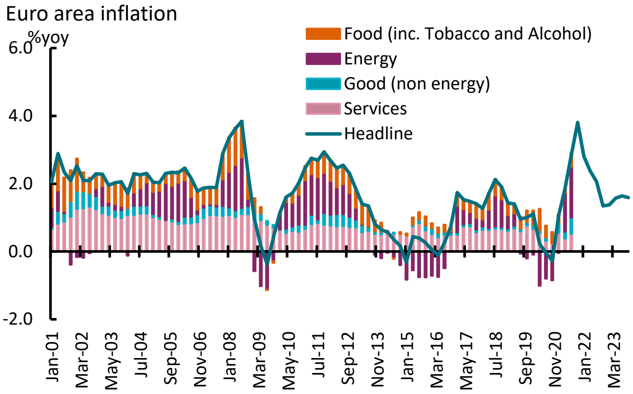
Beyond these short-term weaknesses, some tailwinds should support Eurozone activity in the medium term. We believe that domestic demand has not fully recovered, and that savings accumulated during the crisis may provide an additional boost. There is some caution around this, as excess savings are unlikely to be evenly distributed across households, and the longer they remain in bank accounts the less likely they are to be spent.

Overall, we are optimistic on the Eurozone growth outlook (3.9% in 2022 and 2.1% in 2023) as current headwinds should dissipate, while domestic demand should remain elevated. Our outlook is lower than the consensus in 2022 (4.3%) but this is mostly explained by our expectations for lower Q4 GDP growth and a delayed recovery in Germany.

## Persistent inflation, but still transitory

We believe inflation will soften in 2022. This should start as soon as January 2022 with the end of the German VAT contribution before accelerating later in the year with the normalisation of energy prices, removing the current strong positive contribution. On the other hand, core inflation (excluding volatile components such as energy and food) should continue to rise with improving domestic demand, boosted by gradual improvement in the labour market. Overall, we anticipate that inflation would average 2.0% in 2022 and 1.6% in 2023 (Exhibit 5).

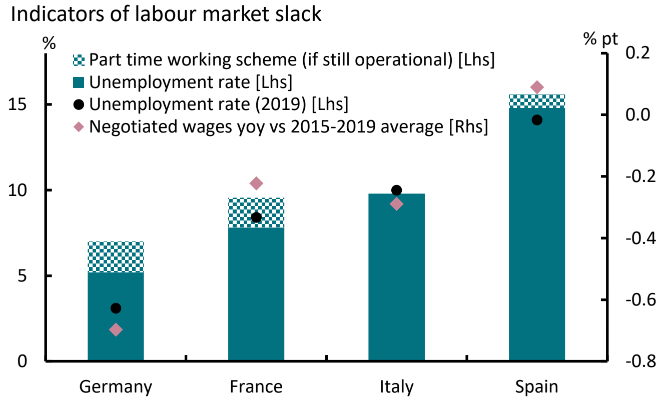
Exhibit 5: Peak in Q4, then deceleration




*Source: ECB and AXA IM Research, 22 November 2021*

At present we do not see medium-term inflationary pressure, with wage increases likely to remain subdued as slack is still evident in several individual markets. In Q3, employment stood 0.5 percentage point below the pre-pandemic level while augmented unemployment rates (including workers under the part-time working scheme) are still above pre-pandemic levels, except Italy (Exhibit 6). Lastly, negotiated wages are not higher than pre-pandemic levels. In total, wage inflation should rise, but strong pressures seem unlikely.

Exhibit 6: Labour market slack is still ample



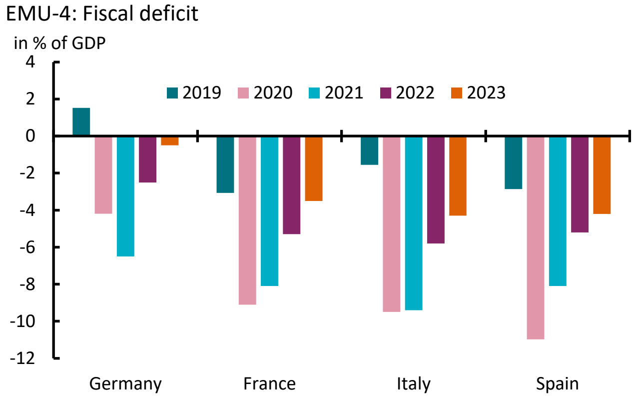

*Source: INSEE, Destatis, Istat, Instituto Nacional de Estadística, European Commission and AXA IM Research, as of Q3 2021*

## Fiscal and monetary waltz will continue

The fiscal stance has shifted drastically during the crisis and European governments now recognise that fiscal policy should not be tightened too fast to avoid jeopardising the recovery (Exhibit 7). As a reminder, fiscal rules were suspended until 2022, but should resume in 2023. Thus, most governments are using this largesse to further support their economy. Some countries, such as Italy and Spain, should also benefit from the Next Generation EU (NGEU) funds even if Spain currently chooses to rely on the grants only. The pace of reforms in Italy is compatible with NGEU objectives, but Italy does not have a good track record of channelling money into projects and remains a risk to monitor.

The ECB meeting in December will be key for the recalibration of quantitative easing and should include details on steps towards normalisation. We continue to expect the end of the PEPP from March, and a scaling up of APP to €40bn (from €20bn currently) to avoid a sharp step change. Ongoing purchases are likely necessary to return inflation to the 2% inflation target, from an expected undershoot in 2023 and 2024. We also believe the ECB will introduce more flexibility to cope with potential threats by allowing a small deviation from the capital key or an extension of the APP with a small envelope to use “if needs be”. Amid a firmer macro-outlook and a desire of some of the Governing Council to exit super-accommodative monetary policy, we expect the ECB to hike rates in September 2023.

Exhibit 7: Governments maintain their support




*Source: European Commission and AXA IM Research, 22 November 2021*

## Three-pillar political scenario

With recent and upcoming elections in Europe, we expect Germany’s Olaf Scholz, Italy’s Mario Draghi and France’s Emmanuel Macron to take centre stage in Eurozone politics in 2022. This would be relatively positive, and policy would likely be progressive. However, in terms of fiscal reform next year, we remain cautious as the tone will be set by the choice of the next German Finance Minister.

In Germany, coalition negotiations have advanced well and Social Democratic Party (SPD) leader Scholz’s wish to have a government in place before Christmas appears likely. The SPD, Greens and Free Democratic Party (FDP) have outlined some details in a joint paper agreeing to no tax increases, a minimum wage rise, more ambitious climate policy and higher public investment, but without resorting to public debt. More details should be unveiled once the coalition concludes, but some disappointments should be expected as the SPD/Greens' agenda was hard to reconcile with the FDP's or was blocked by strict domestic fiscal rules.

The Italian presidential election could trigger important changes if Draghi is nominated. For the time being, there is no official candidate and Draghi remains silent. We do not underestimate the role of Italian President during political crises, but we believe Draghi’s real value lies in pursuing reforms and channelling NGEU funds into projects until the next legislative elections in May 2023.

French presidential and legislative elections are held in April. A re-election of Macron is the most likely result, but alternative outcomes may emerge as the campaign gets underway. As usual, legislative elections will be at least as important, but Macron’s party has failed to develop a presence in the regions, risking a very fragile majority.

# China – Striking a finer balance between growth and sustainability

By Aidan Yao

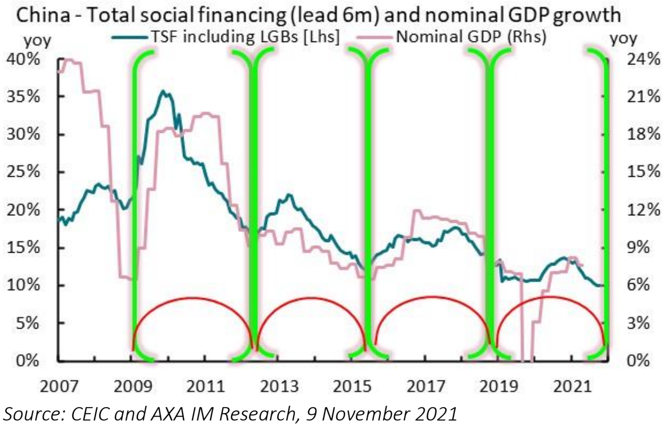
**Key points**

- A confluence of shocks which plagued the economy this year will continue to exert influence in 2022-23
- Macro policy that has exacerbated the pain will be recalibrated to better support growth next year
- The biggest risk to the anticipated recovery stems from Beijing's failure to strike a delicate balance

## Post-pandemic rebound fails to impress

2021 has been an unusual year for the Chinese economy. As it recovered from the most catastrophic shock in modern history, annual growth rates in the first half of the year appeared buoyant but simply reflected favourable base effects. As the year progressed, the economy was battered by a series of natural and man-made shocks. Resurgences of COVID-19, severe flooding, a cooling housing market, soaring commodity prices and a severe power shortage all took their toll on the post-pandemic rebound that was already losing steam due to lacklustre domestic demand. A series of punitive regulatory actions added to the economic woes and posed a setback for financial markets (Exhibit 8). Hence, rather than a triumphal return to trend growth, the economy weakened for a second time.

Exhibit 8: Unusually tight policy adds to growth pains




*Source: CEIC and AXA IM Research, 9 November 2021*

Looking ahead to 2022, the Chinese economy will likely be buffeted by many of the same factors – albeit not necessarily in the same direction. Lying at the core of our forecast is the assumption that the worst of the policy tightening is over, and that Beijing has started to recalibrate policies to foster growth stability. We explain the rationale of this policy shift and its likely efficacy in counteracting prevailing headwinds.

## Three forces shape the outlook

We categorise the three major drivers of the economy next year as transitory, persistent, and uncertain. In the transitory camp lies the adverse weather effect, which has already diminished, and the impact of power shortages. The latter contributed to the sharp growth slowdown in Q3-2021 by disrupting industrial activity with power rationing and blackouts that affected many in the worst-hit regions. Thankfully, the authorities responded in a swift and forceful manner. A concerted effort to raise coal production for thermal power generation, widening the electricity price band, and a forceful crackdown on coal speculation all helped alleviate the shortage. High-frequency data shows that major power plants have started to rebuild coal inventory after coal price collapsed and supply increased. Household electricity usage also normalised with the government pledging a stable power supply for the winter. Even though the most energy-intensive users – including steel, cement, and aluminium producers – may still face lingering power rationing, the bulk of the economy should see its power demand met, limiting the impact of the transitory shock beyond end-2021.

In contrast to the short-lived power crunch, the housing market correction is set to exert persistent pressure on the economy next year. In retrospect, the introduction of the "three red lines" may have marked a turning point in Beijing's attitude towards the sector under "housing is for living, not speculation". Its perseverance to continue the market curbs despite rapidly falling activity and growing financial stress suggests that this time is different from the typical 'run-of-the-mill' property crackdowns in the past.

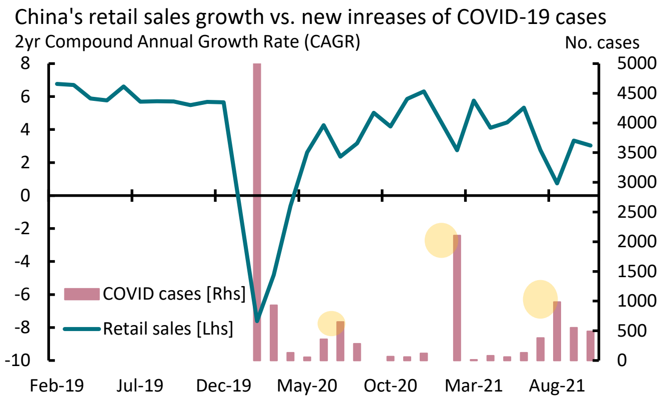
Underscoring this attitude shift is likely a recognition that the current housing development model – characterised as reckless and debt-fuelled – has become increasingly incompatible with many of China's long-term strategic goals. As an amplifier of wealth inequality, the growing housing bubble is a major impediment to common prosperity. Housing construction, along with its upstream industrial sector, are the two biggest emitters of greenhouse gases, making them a target for the decarbonisation push. Finally, housing is an unproductive asset that produces no output and employment after completion. This contrasts with building a factory which creates jobs and productivity thereafter. Hence a reallocation of resources away from housing to other productive sectors should prove beneficial for the whole economy.

We think the recent regulatory tightening, combined with the fast tracking of a nationwide property tax, confirms that such a change is underway. However, reallocating resources from a sector, which accounts for a quarter of the economy and 70% of household wealth, necessitates careful planning and execution. In light of rising economic risks, the authorities have started to fine-tune policies to ensure that the pursuit of long-term objectives does not imperil short-term stability. This is no policy U-turn, but more a "two steps forward and one step back" approach to balancing objectives across horizons. We expect real estate policies to become incrementally less punitive to help stabilise, not revive, the market next year. The risk is that Beijing fails to strike such a fine balance, resulting in further suffering for the economy.

Finally, the outlook for exports and the pandemic remains highly uncertain. As one of few bright spots in the economy, China's exports have benefitted from a strong demand recovery in developed markets (DM) and still fractured supply in emerging markets (EM) due to lingering COVID-19. The outlook for next year is clouded by the evolution of external demand, which may weaken somewhat as DM growth softens. China may also relinquish some export market share as EM production resumes, although the sharp increase in foreign direct investment since 2020 suggests that Chinese exporters may have regained a lot of competitiveness. Finally, there are encouraging signs from recent US-China trade talks, which could lead to tariff exemptions that in turn bolster Chinese exports to the US. Overall, we expect export growth to fall from the astronomical 20% plus rate this year to a more normal, but still solid, high single-digit to low-teens rate.

The uncertainty around COVID-19 remains the biggest domestic risk. This is not limited to how the virus will evolve by itself and in relation to vaccines, but also how China's virus-fighting strategy will change as more countries adopt a "learning to live with it" approach. Periodic lockdowns against even a small flare-up of infections have come at great cost to the economy, inhibiting consumption and services recoveries (Exhibit 9). The more frequently such restrictions are imposed, the greater the risk that the domestic recovery is permanently impaired.

Exhibit 9: "Zero-COVID" strategy comes at a cost




*Source: CEIC and AXA IM Research, 9 November 2021*

However, despite the apparent costs of the "zero-COVID" strategy, we do not expect Beijing to change it any time soon for social and political reasons. Recent experiences of countries moving towards living with the virus have all resulted in a sharp surge in local infections. While that may be necessary to achieve collective immunity, such a cost could prove grave for a Chinese population living effectively COVID-19-free since mid-2020. Any drastic policy shifts that reignite public fears of the pandemic could be seen a colossal mistake by the government. We, therefore, think that Beijing will be very careful about deviating from the status quo unless further major medical breakthroughs against COVID-19 are achieved. This implies downside risks for our consumption forecast, which assumes a steady recovery to trend growth.

## Policy turns the corner, followed by growth

To balance the three groups of economic shocks, Beijing's policies will prove critical. Contrary to the stated stance at the beginning of the year, the actual operation of countercyclical, regulatory, and deleveraging policies has been much tighter in 2021. We think Beijing's surprisingly high pain threshold reflects its recognition that the structural developments which China is undergoing – including the pursuit of common prosperity and higher quality growth – will inevitably create short-term pains. Those pains are better faced through a strong, cyclical economic rebound from a low base. 2021 thus offered a rare opportunity to pursue these reforms despite their known side effects.

However, the macro environment has changed significantly from a year ago and that demands an urgent rethink of policies for 2022. With growth slowing sharply and base effects turning unfavourable, Beijing cannot afford to continue with current policies that risk driving the economy into a hard landing. We therefore expect a wholesale recalibration of macro policies next year, which could consist of 1) more lenient regulatory policies, 2) more accommodative monetary policies – focusing on targeted liquidity injections and credit growth stabilisation – alongside 3) greater frontloading of fiscal stimulus.

With the waning of transitory shocks, these policy changes should help to put a floor under the economy. As growth momentum gradually recovers from a cyclical trough in Q4 2021, we expect full-year growth to be at 5% for 2022 before rising gently to 5.3% in 2023. The risks around our forecast are large and biased to the downside. Besides those already discussed, conditions in the labour market bear close watching for signs of genuine weakness in consumption. We also continue to monitor commodity prices as persistent cost pressure can erode corporate profits that inhibit business investment and limit monetary policy easing.

# UK – A post-Brexit economy emerges from the pandemic

By Modupe Adegbembo

## Key points

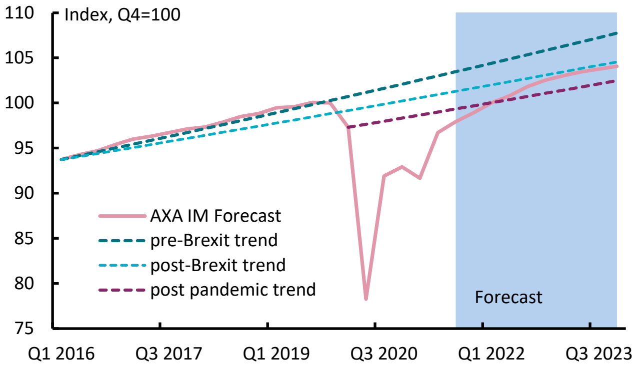
- Supply chain pressures and energy prices are driving the current inflation spike. We expect it to reach 5% in Q2 2022 before receding 2022.
- After a robust rebound in Q2 GDP growth has begun to normalise. We forecast growth of 6.9% in 2021, 5.2% in 2022 and 2.3% in 2023.
- Given signs of labour market tightness and elevated inflation, we expect Bank Rate to rise to 0.25% in December, 0.75% by end-2022 and 1% by end-2023.

## A supply-constrained recovery

2021 saw the UK continue to emerge from the pandemic. But uncertainty surrounds how much further the recovery can go. This is particularly acute given the combined impacts of Brexit and the pandemic weigh on the potential and actual outlook – and then there is the increasingly fractious political backdrop.

Exhibit 10: UK economy suffers larger supply shock

UK Real GDP level




*Source: Office for National Statistics and AXA IM Research, 21 November 2021*

The initial rebound from the pandemic was more robust than expected. The successful vaccination rollout allowed for a full economic reopening in the second half of 2021 and reduced hospitalisations relative to cases. However, virus cases remain elevated and some downside risks will persist during the winter. Moreover, the economy remains impacted by the global consequences of the pandemic with goods supply chains being disrupted by overseas outbreaks and supply shortages. For the UK, these disruptions have been compounded by domestic issues, including labour shortages and delays at ports. While both issues have also been a feature elsewhere, the scale of impact in the UK has likely been compounded by Brexit.

We forecast GDP growth of 6.9% for 2021 and expect the rebound to continue with solid quarterly growth into 2022, where we forecast 5.2%. However, households are facing several challenges including rising utility bills, increasing inflation, benefit cuts as well as a tax increase in the Spring. Spending will likely be bolstered by drawing on savings accumulated during the pandemic but these are unlikely to be evenly distributed. For 2023, without a significant re-emergence of the virus, the economy should continue to normalise, and we forecast growth of 2.3%.

Supply chain disruptions and a significant energy shock, in the form of rising natural gas prices have driven up inflation. While the gas price has slightly retreated, we expect this level adjustment to be a transitory factor. Yet inflation looks set to rise from 4% to peak in Q2 2022 at around 5%. On average, we expect inflation to record 2.4% this year, 3.8% in 2022 and 2% in 2023, with CPI likely reaching 1.8% in H2 2023.

The furlough scheme successfully bolstered the labour market through the pandemic. It ended with more than one million still on the scheme, but initial evidence suggests a smooth transition. We forecast a mild unemployment rise in Q4 2021.

Given the emerging signs of labour market tightness and elevated inflation, the Bank of England (BoE) has signalled that tighter policy is imminent. We expect the MPC to raise the Bank Rate by 0.15% in December once it has a clearer picture of the post-furlough labour market. We forecast a further 0.25% hike in May, triggering the passive unwind of the BoE's balance sheet, starting with £9bn over Q3 2022. We then forecast a rise to 0.75% in November 2022 and to 1% in November 2023, which would open a more active unwind of the balance sheet in 2024. We consider greater supply constraints in the UK as driving a relatively faster monetary policy response.

Politics will continue to influence the outlook. An early General Election has been discussed and we expect a Spring 2024 election, but an early October 2023 vote could happen if the government had a strong lead. To help this happen, we anticipate the 2022 Autumn Budget will deliver tax cuts for April 2023, if there is fiscal room. Brexit also remains a downside risk to growth with the UK and EU currently renegotiating the Northern Ireland Protocol. Given the sensitivity of the border and upcoming elections (May), we see an adjusted agreement reducing trade barriers as the most likely outcome. However, there is a material risk that negotiations will not be successful. If Article 16 is triggered, the EU will likely apply retaliatory measures which could include tariffs or a broader suspension of the FTA.

# Japan – Latecomer to the recovery party

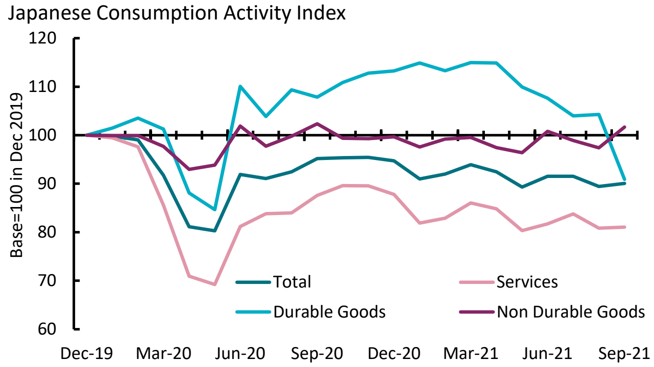
By Hugo Le Damany

## Key points

- Japan recorded subdued economic growth in 2021 as a late vaccination campaign delayed the reopening.
- The outlook is brighter, however, and we see more tailwinds than headwinds in the coming months, especially on the domestic demand side.
- Inflation should move higher but remains far from 2% so our monetary expectations are unchanged.

Despite milder restrictions, Japan recorded subdued GDP growth in 2021 as a relatively late start to its vaccination campaign delayed the reopening. The services sector and especially activities with social interactions paid a large price (Exhibit 11) while the industrial sector also underperformed as the auto industry faced strong supply shortages.

Exhibit 11: Services never recovered from 1st virus wave




*Source: Bank of Japan and AXA IM Research, as of 30 September 2021*

## Imminent take-off

The outlook for 2022 is brighter. Approximately 80% of the population is now vaccinated and the government declared an end to the state of emergency in late September. Some restrictions persist, but these should be removed quickly. In other words, we see more tailwinds than headwinds in the coming months and these should start to support growth from the fourth quarter (Q4) with a strong mechanical catch-up. This should persist into 2022 for several reasons.

First, the recovery of domestic demand is largely incomplete and excess savings have reached about 3.7% of GDP. We are cautious on how these savings will be spent, as distribution is skewed to higher income households where they are less likely to be spent. Second, the government has released “very” supportive measures, including cash handouts for young people under the age of 18 ($890); shopping vouchers for “My Number” digital ID cardholders; subsidies to small- and medium-sized business (SMEs) impacted by the virus; and a resumption of the “Go to” campaign. The size of the package reached ¥56trn (10% of GDP) but a lot of the details are missing. The package also mentions COVID-19 prevention measures and recycles measures such as enhancing domestic semiconductor production or digitalisation. Due to such limited disclosures, it is difficult to assess its impact on GDP and the government estimate of around 5.6% of GDP seems (very) optimistic. We believe most pay-outs could end up in savings and note that some 30% of COVID-19 emergency funds have so far not been used.

Industrial production and export performance should improve as a peak appears to have passed in the auto sector supply shortages that undermined activity in 2021. Any improvement should mechanically boost activity, even if we do not anticipate a complete recovery soon. In the short term, China’s weakness also poses another downside risk, but we believe this to be only transitory, while sustained demand elsewhere should partially compensate.

The medium-term outlook relies on investment and reform. Once again, the government is pushing to address low productivity in SMEs and the heavy administrative burden. It has made digitalisation a priority, which should boost public and private investment. Japan has also pledged to tackle climate change and the debate should move beyond restarting nuclear to global energy and industrial policies including hydrogen, renewables and storage. Greater incentives should boost investment in the coming years even though we may not see any impact before 2023. Overall, we expect a more distinct recovery to emerge, even if we do not expect growth to ‘blow the doors off’. We forecast GDP growth to average 3.5% in 2022 and 1.6% in 2023, above consensus (3%/1.3%).

Rising energy and transport costs and a weaker yen have lifted prices, but the net inflation effect is complicated by one-off factors, including a large fall in mobile phone charges. This effect will fall out in April 2022, but a resumption of the “Go to” campaign would further complicate the reading. Our strong conviction remains that inflation is unlikely to breach 2%. Consequently, we believe the Bank of Japan (BoJ) should maintain its accommodative monetary policy at least until 2024, while steadily tapering government bond and risk asset purchases. The bar is likely too high to taper faster. BoJ Governor Kuroda’s mandate ends in Spring 2023 and a more hawkish outlook is a succession risk.

Finally, recent legislative elections granted legitimacy to newly appointed Prime Minister Fumio Kishida, but the summer Upper House elections will be important in stabilising the government. November’s big fiscal push is not trivial in this regard.

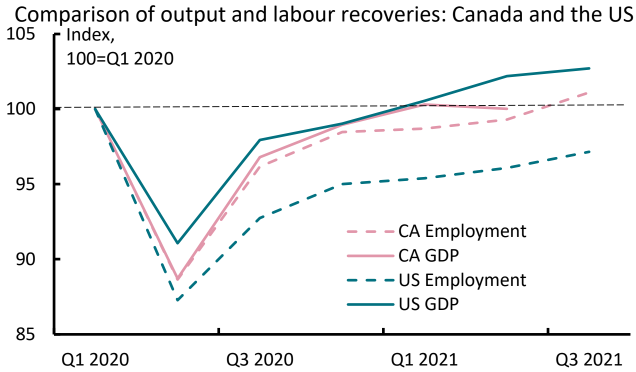
# Canada – Internal dynamics spur on Bank of Canada

By David Page

**Key points**

- Despite supply chain pressures, Canada's reopening has delivered an economic rebound. We forecast GDP growth of 4.8% for 2021, 3.6% for 2022 and 2.5% for 2023
- Inflation has been spurred by supply chain issues which should fade. Longer-term labour market concerns persist. We forecast inflation to average 3.4% in 2021, 3.1% in 2022 and 2.3% in 2023
- The Bank of Canada has been amongst the quickest to withdraw stimulus. We expect a gentle policy tightening cycle to begin in April 2022.

Exhibit 12: Canadian labour recovery more advanced




*Source: Statistics Canada, Bureau of Labor Statistics and AXA IM Research, November 2021*

## Rebound to drive through supply chain headwind

The COVID-19-driven disruption to Canadian growth in Q2 should be the last material impact that the virus has on the economy – barring a more material mutation ahead. Canada is now 75% fully-vaccinated but like other large trading economies, it has struggled with supply chain issues, which have been dampening growth since the summer. We forecast that Canada will achieve economic growth of 4.8% in 2021.

However, supply chain issues look set to persist at least until the middle of next year. Moreover, elevated inflation both at home and in the US – Canada's main destination for exports – threaten to dampen demand over the coming quarters. As such, we forecast growth to face headwinds into the first half of next year, before starting to fade in the second half. This should leave quarterly growth broadly constant across the year. We forecast full-year growth of 3.5% in 2022, below the market consensus, and 2.5% in 2023.

## Labour market capacity

The evolution of the Canadian labour market will be key to the outlook for longer-term growth and inflation. Job growth recovered quickly after the pandemic. Exhibit 12 highlights that Canadian employment returned to pre-pandemic levels far more quickly than in the US. However, this presents its own challenge – illustrating lacklustre productivity growth and suggesting more limited headroom for future employment growth. In previous years, Canada has relied on a strong contribution from skilled migration to bolster its workforce – particularly over the last decade. However, COVID-19 may continue to constrain inward migration flows over 2022 and potentially into 2023. This would create relative labour scarcity and exacerbate wage pressures.

This dynamic will be a key driver for the inflation outlook. In the short term, Canada's inflation figures have been buffeted by global supply chain disruption, mounting pressure in energy prices and more domestically-fuelled pressures, including significant house price growth. Yet, as elsewhere, much of the pressure which drove CPI inflation to 4.4% in September is a price-level adjustment that will not be repeated next year. We expect the annual rate of inflation to decline in 2022 – although expect inflation to peak closer to 5% by end-2021. We forecast inflation to average 3.4% in 2021, 3.1% in 2022 and 2.3% in 2023. However, the persistence of inflation into 2023 will depend more materially on labour market developments and the monetary policy response.

## Domestic pressure to prompt early BoC

The Bank of Canada (BoC) is tasked with targeting inflation at the 2% midpoint of a 1% to 3% inflation control target range. Inflation is currently far above this level and is expected to deviate further. Like other developed central banks, the BoC should not respond to transitory price shocks, i.e. shocks which are likely to dissipate before the impact of monetary policy actions can be felt. However, concerns around the labour market threaten a more persistent supply shock.

As such, the BoC has been amongst the vanguard of developed central banks to pare back its policy accommodation – reducing its asset purchase programme across 2021 to simple reinvestment from October. We also expect it to be amongst the first to tighten monetary policy. Having moved ahead of expectations to end quantitative easing, we expect the BoC to raise the overnight policy lending rate by 0.25% in April 2022 and again in November, taking it to 0.75%. However, our growth outlook is softer than the BoC's, and given our expectation that inflation pressures will recede across 2022, we anticipate that it will tighten just once in 2023 – to 1.00%.

# Emerging markets – From rebound to recovery

By Irina Topa-Serry, Shirley Shen and Luis Lopez-Vivas

**Key points**

- Emergency policy response to the pandemic successfully limited the extent of the 2020 recession and supported the economic rebound in 2021. This will be less prominent in 2022 when recovery will rely more on domestic engines.
- Emerging Asian domestic-oriented economies are expected to catchup into 2022. Growth in Latin America should soften to lacklustre levels. Central Europe should see a soft landing towards potential in 2022 after overheating in 2021.
- Inflation rates have been rising, often beyond central banks' targets, triggering front-loaded interest rate hikes in Latin America and Central Europe. Asia may follow suit in 2022, albeit very gradually.

## From rebound (2021) to recovery (2022)

Emerging markets' (EM) economic performance during the COVID-19 crisis was better than initially expected: 2020's recession was less steep than feared and the 2021 rebound stronger than anticipated. Swift policy response – first and foremost from developed markets (DM) but also from EM authorities – proved forceful. Intergovernmental institutions such as the International Monetary Fund (IMF) and the World Bank also provided many emerging and developing nations with financial assistance and debt service relief. A historical $650bn additional Special Drawing Rights (SDR) allocation was approved and deployed, supporting the most vulnerable countries by rebuilding reserves and fostering confidence and resilience. All in all, after a contraction of "just" 2.1% in 2020, EM GDP growth is expected to rebound to 6.2% in 2021 and continue to recover into 2022 with 4.4% growth. Quarterly growth rates should normalise into 2023, to an average of 4.3%.

External drivers that supported the economic rebound in 2021, such as strong exports, are likely to fade into 2022, particularly if developed market demand reverts more towards domestic services and away from imported goods. The fiscal impulse will also be reversing globally from exceptional levels in 2021. Meanwhile ultra-easy global financial conditions are likely to start normalising as the US Federal Reserve (Fed) has started tapering asset purchases and is expected to raise rates next year.

China's slowdown should also affect global supply chains, increasingly involving the EM Asia region and an additional threat to EM exports more generally. Conversely, domestic demand in EM should continue to recover as economies reopen, thanks to increased vaccination coverage and possible additional treatments becoming available.

On a regional basis, Asia should catch up into 2022 after the Delta variant-induced disruption this year, with consumer-oriented economies benefitting. Growth in Latin America is likely to soften to lacklustre pre-crisis levels. Central Europe should also deliver a soft landing towards economic potential in 2022, after overheating in 2021. More specifically, Turkey remains hostage to self-inflicted macro-volatility which triggered renewed weakness of its currency, while Russia continues to be driven by the direction of commodity prices. The key risk to our scenario remains the potential for additional sanctions.

## Policy normalisation, capital flows and currencies

Inflation tensions are visible globally, but particularly in EM where food and energy costs are a larger share of the consumer basket. As inflation rates exceeded official inflation targets and bands, credibly anchoring inflation expectations became paramount. So far in this cycle, 28 emerging market central banks, mostly in Africa, Latin America and EM Europe, have hiked policy rates, with increases ranging from 25 basis points (bps) to 575bps. Nevertheless, real rates have not risen as far, as central banks are not yet matching the increase in inflation expectations, suggesting monetary policy tightening has further to run. Asia is likely to lag in this process, only gradually starting to hike rates as the economic recovery gains ground.

EM currencies remain relatively weak. A cumulative total of USD75bn inflows have returned to EM since November 2020, still short of the USD125bn outflows reported after the pandemic. As global growth moderates and Fed tightening approaches, the bias will remain for further depreciation.

## Risk assessment

Failure to contain the pandemic will undeniably hold back the consumption-driven recovery, particularly in Asia where "zero covid" policies have led to strong macro volatility. A further rise in developed markets (particularly the US) rate expectations could trigger another bout of EM portfolio outflows. More structurally, EM fiscal firepower has been reduced by the accumulated debt load. Governments have little ability to further support the recovery in case of additional shocks, or to drive costly structural reforms needed in the medium to long term. Fiscal slippage in countries where electoral agendas are pressing is an idiosyncratic risk.

## Emerging Asia: Going from export-led to consumption-driven

2021 has been a year of surprises. While economic growth rebounded from rock bottom, the region continued to struggle from the pandemic as the Delta variant spread. This stifled consumption and tightened supply constraints, weighing on growth. More recently, rising commodity prices have provided additional headwinds. Some of this year's trends look set to continue into 2022. Export-dependent economies – Korea, Singapore, and Taiwan – should enjoy another year of above-trend growth, albeit at a slower pace as we expect global demand to revert towards services. In contrast, domestic-oriented economies – India, Indonesia, and the Philippines – with low vaccination rates could continue to struggle against lingering COVID-19-related disruptions.

Overall, we forecast economic growth for Asian ex-China countries to soften slightly to 5.0%yoy from 6.1%yoy this year and normalise further to 4.8%yoy in 2023.Overall, we forecast economic growth for Asia excluding China to soften slightly to 5.0% year-on-year (yoy) from 6.1%yoy this year and normalise further to 4.8%yoy in 2023.

## Growth slows but drivers expand

Export growth has been a key driver of Asia's recovery in 2021, underpinned by strong demand for technology-related products, in particular semiconductors. However, this factor should weaken in 2022 as the rest of the world recovers from the pandemic, revitalising supplies from outside the region and reducing demand for household items and electronics from Asia.

The 2022 recovery should be supported by firmer consumption growth, supported in turn by receding COIVD-19 disruptions, a normalisation of domestic activities, tightening labour markets and recovering wage growth. But the degree of virus containment will be the key differentiator across the region. Countries with higher vaccination coverage, such as Korea and Singapore, will likely see a faster switch of growth drivers than countries that are far from achieving collective immunity, such as India, Indonesia, and the Philippines.

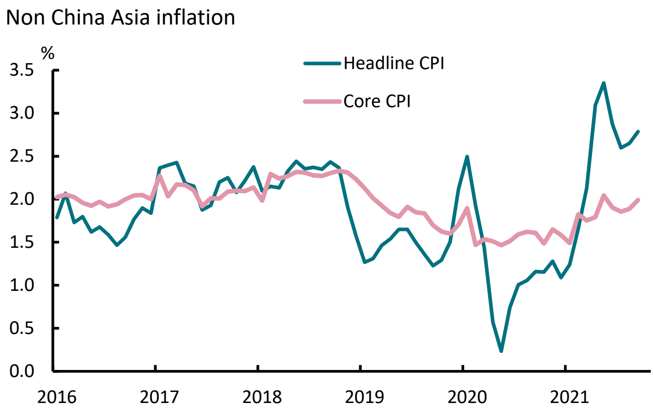
As COVID-19-related impacts lessen, global demand should start to shift from goods to services. Tourism was a major source of services revenue for Asia until the onset of the pandemic. Thanks to recent government efforts, border controls have started to ease for selected countries. Singapore has opened borders to the US, Canada, Europe, and Korea under the Vaccinated Travel Lane programme. Thailand, India, and Indonesia have also reopened, at least partially, to tourism. Malaysia has recently announced an intention to ease travel restrictions. These improvements – though far short of fully restoring activities, not least with Chinese tourists still absent – can undoubtedly bring some much-needed relief to this beleaguered sector.

## Limited monetary reaction to transitory inflation

Price pressure is also rising across the region. This is not limited to energy and raw material prices, but food prices are climbing too. This has prompted concerns and discussion about potential disruptive monetary policy tightening across Asia. While we believe there are plenty of upside risks to inflation in the near term, most Asian central banks are unlikely to react aggressively (Exhibit 13).

The recovery in Asia is expected to be gradual thanks to slowing external demand, particularly from China, COVID-19 still impeding growth, and energy price spikes. Moreover, Consumer Price Index (CPI) inflation remains largely within acceptable ranges of Asian central banks and is expected to normalise after the base effect fades. Finally, higher prices – driven by the energy crunch and supply bottlenecks – should prove transitory, removing the need for aggressive monetary policy tightening. Hence, although some central banks – such as the Bank of Korea and Monetary Authority of Singapore – have spearheaded policy tightening in response to strong local economic recoveries, we expect most central banks in the region to refrain from policy tightening to foster resilience in their economies.

Exhibit 13: Upside risks to inflation in the near-term



*Source: CEIC and AXA IM Research, 15 November 2021*

In a similar vein, with supporting a sustainable recovery a major focus, fiscal consolidation for the region should also proceed cautiously. We expect only gradual reductions in fiscal expansions for most Asian economies in 2022, leaving plenty of stimulus to aid growth.

On the political front, potential and scheduled elections could form a major part of the news flow next year with general, state and/or presidential elections to be held in Korea, India, and the Philippines, and possibly Malaysia and Thailand. While such a high number of potential elections could pose event risks, in general we expect policy continuity with containing COVID-19, boosting vaccination rates and preserving growth being the top priorities. As such, we see a relatively low level of political risk for the foreseeable future.

## Emerging Europe: Slowdown from elevated level

Despite very diverse country structures (Central Europe, Russia, Turkey), the Emerging European region is set to see a broad slowdown in economic growth into 2022-23, albeit from relatively high levels in 2021. A less sanguine global trade environment, a tighter policy mix combining the phasing-out of the pandemic stimulus and the ongoing monetary policy tightening (excluding Turkey) will also slow growth, although in the main these should remain above pre-pandemic levels. Furthermore, capacity constraints, such as the tightness of the labour market for Central Europe and oil output capacity for Russia, could also weigh. The region's GDP growth could settle somewhere below EM Asia, but better than Latin America.

In our projections, we assume a gradual economic reopening from mobility restrictions imposed since the start of the pandemic. Yet for now, an increasing number of new COVID-19 infections are again resulting in tighter restrictions, particularly in Russia and Romania – both countries are facing their biggest wave of the virus so far. Conversely, Central European countries have so far appeared less inclined to impose restrictions. Turkey too has been recording an increasing number of new COVID-19 cases since July, but still has not responded with fresh restrictions, partly due to the tourist season. Failure to contain the virus spread and any consequent increase in mobility restrictions more generally are an obvious downside risk to our economic scenario.

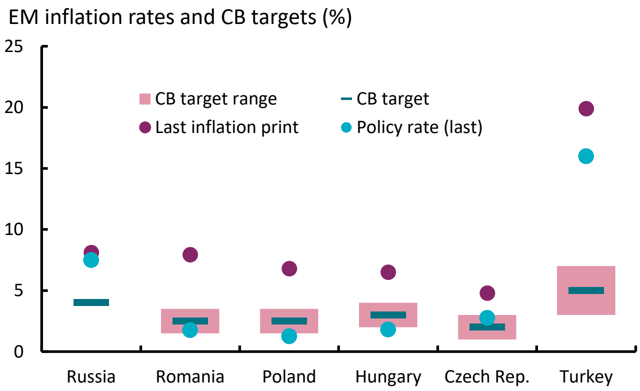
Central and Eastern European (CEE) economies should enjoy support from European Union (EU) funds, in particular the supplement coming from the gradual absorption of the Recovery and Resilience Facility (RRF), predominantly the grants. These will be a key growth driver into 2022. The Czech Republic received its initial RRF disbursements, but these have been delayed for Poland and Hungary, both in dispute with the EU over the rule of law, which they have been increasingly flouting in recent years. The European Commission now has the ability to request concessions before signing off the RRF payments. The population remains largely pro-European in both countries, which will be holding parliamentary elections in April 2022 (Hungary) and November 2023 (Poland). From a timeline perspective, the switch to the next EU budget would see a drop in the EU's regular structural funds to the CEE in 2023. From a timeline perspective, the switch to the next EU budget would see a drop in the EU's regular structural funds to CEE in 2023. National budget deficits will also be narrowing from 2020-21 levels, although electoral agendas may deliver a looser fiscal stance, with the current spike in gas prices triggering public intervention in subsidising household energy prices in Hungary.

On the face of it, the starting point for Turkey may seem not that bad. GDP will likely grow a stellar 9.5% in 2021, alongside a stabilisation in the level of the dollarisation of the economy and an improved external backdrop with lower financing needs. The current account deficit has fallen thanks to better tourism revenues and higher foreign exchange reserves, mainly thanks to the IMF's additional SDR allocation. But other than the public finances, which should remain in a comfortable position, most of these improvements may be short-lived. A sustained fiscal stimulus (ahead of elections in June 2023) could trigger a quick deterioration in Turkey's shaky fundamentals. Meanwhile, the inflation outlook has worsened significantly, and the policy response has so far been inadequate, but will likely hit constraints relatively quickly. Growth is expected to slow to 3.6% and 3.2% in 2022 and 2023 respectively. Russia continues to benefit from strong external demand for oil and gas. But despite enduring its worst COVID-19 wave yet, we expect a relaxation of mobility restrictions across 2022, which should revive domestic demand. Structurally, budget prudence fails to drive economic diversification. Geopolitics remains the key market and macro risk for Russia, with the lingering crisis in eastern Ukraine and potential for more US sanctions.

## High inflation, divergent monetary policies

Inflation has been rising sharply in the region, well beyond central banks' inflation targets. While base effects should ease tensions in the second half of 2022, higher inflation expectations are building in Russia, while higher energy prices, tight labour markets and strong wage growth (as they were pre-pandemic) in CEE are increasing policy dilemmas.

Exhibit 14: Inflation and policy rates




*Source: Datastream and AXA IM Research, 30 October 2021*

Besides Turkey, a monetary policy tightening cycle has started in the region – and is relatively advanced in Russia – but has further to go in Central Europe until mid-2022. The upcoming end of the Polish, Czech and Russian central bank governor's terms add some uncertainty to the extent of the hiking cycle, but we think there should be no genuinely big shifts in policy orientation. As for Turkey, it runs the risk of seeing stickier inflation given the early start of its own monetary easing. The weakening of the currency it triggered, and its damaging effects on the country's fundamentals, are likely to limit the amplitude of the easing – we expect the policy rate to reach 12% by end-2023 (Exhibit 14).

## Latin America: Running out of steam

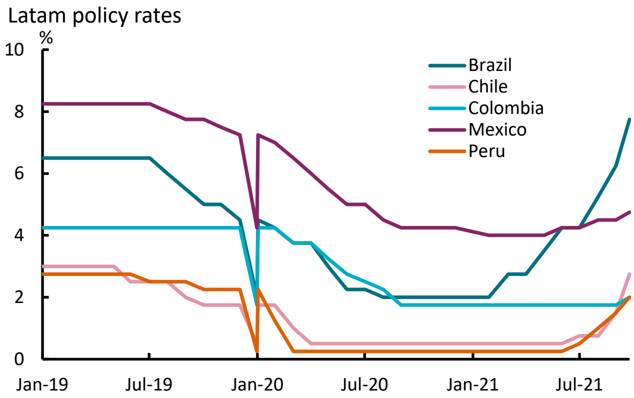
Latin America also performed better than expected in 2021, outpacing global growth for the first time in a decade (6.2% vs. 5.7%). This partly reflects a strong base effect as the 7% region's contraction of 7% in 2020 exceeded the global slowdown of 3.3%. Growth this year has been fuelled by expansionary fiscal and monetary policy, rising global trade and high commodity prices. However, there is little indication that this momentum will be sustained into next year. While the region will continue to benefit from the reopening of certain sectors, factors like a less favourable external environment (China's slowdown and a shift from goods to services consumption), tighter financial conditions and limited fiscal support will weigh on growth. Moreover, policy uncertainty, exacerbated by a complicated political calendar, will likely keep private investment at bay. In this context, Latin America looks set to lose steam and settle into a low growth path for 2022-23. In terms of individual countries, only Chile is back at its pre-pandemic GDP levels. Brazil and Colombia should reach this threshold in the first quarter (Q1) of 2022 and Mexico and Peru in Q3 2022. Nonetheless, Latin America will still be below its pre-pandemic GDP trend by the end of next year.

With this complicated backdrop, private consumption is expected to become an important growth pillar in 2022, as the economy continues to reopen and unemployment falls. Consumption collapsed as the pandemic caused supply and demand disruptions. Meanwhile, private sector saving increased in the region by an amount comparable to that in developed markets, but household indebtedness rose less. This indicates at least some potential for a boost from pent-up demand in Latin America. A faster vaccine rollout would be key to removing lingering mobility restrictions and allowing a full rebound in private consumption to be unleashed. For now, Latin America vaccination rates are still only around 50%, except for Chile, at 83%. This broadly reflects vaccine supply constraints, rather than anti-vaccine sentiment, and these are hoped to ease next year.

## Aggressive hikes to anchor inflation expectations

While inflation has accelerated across emerging markets, Latin America has led the pack. Headline inflation in the region is above central bank targets, as are inflation expectations in some cases. Although temporary factors like high energy prices, supply bottlenecks and rising food prices are important, core inflation is also rising quickly. In response, central banks have started to raise policy interest rates in many countries, often combined with forward guidance signalling further hikes in meetings to come (Exhibit 15). For example, Brazil has hiked by more than 500bps, more than any other country in the world. Despite remaining negative output gaps, the ongoing hiking cycle was needed to preserve central banks' credibility and prevent a further de-anchoring of inflation expectations, which is particularly important in countries where price indexation mechanisms are common, capital outflows a threat and currency depreciation a reality. Headline inflation should peak in the first half of 2022, and then start to gradually moderate as shocks to non-core items fade. Still, inflation is unlikely to converge to central bank target ranges until 2023.

### Exhibit 15: Policy rates lift off




*Source: Datastream and AXA IM Research, 17 November 2021*

Fiscal policy will also likely weigh on growth in 2022, as countries roll back stimuli and, in some cases, introduce new taxes to pay for pandemic relief measures. As the withdrawal of fiscal support begins to hit private consumption, there will be a temptation to keep lax fiscal policies in place, particularly in a year with a heavy election schedule. Brazil and Colombia will both hold presidential elections, while Chile will hold a constitutional referendum. As such, the risk of fiscal slippage in 2022 is significant, given the combination of slowing economies (and tax revenue growth) and rising social pressure for more policy support. In fact, there is already evidence of this in Brazil. The government is currently trying to circumvent the country's fiscal cap to introduce a new cash-transfer programme.

Looking ahead, the balance of risks to our outlook is tilted to the downside. More contagious strains of COVID-19 that require strict lockdowns or further vaccine supply constraints would be a blow to the private consumption outlook, a key growth driver for Latin America in 2022. Similarly, persistently high inflation would also be detrimental for consumption, reducing real income growth and threatening tighter financial conditions. Social unrest is another important domestic risk, particularly in an inflationary environment. The region has recently experienced bouts of social turmoil in Chile and Colombia, and the upcoming electoral cycle could fuel further episodes. In terms of external risks, a faster-than-expected monetary policy normalisation in the USU.S. would be highly disruptive for Latin America. The ensuing repricing would widen spreads and limit market access for high-risk borrowers. Finally, if the Chinese property market crisis deepens, it could dampen the country's demand for commodities and heighten risk aversion towards emerging market assets.

# Currencies – Anticipation moves from tapering to hikes

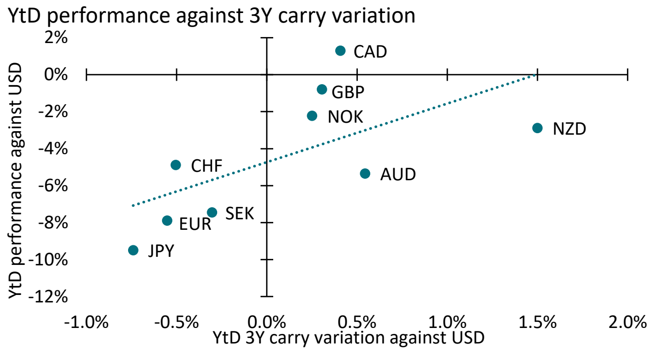
By Romain Cabasson

## Key points

- Short-term interest rate differentials are now driving currency movements and should continue to do so.
- US Federal Reserve market pricing may go further, triggering new dollar strength. Euro weakness versus the dollar could see a turning point in mid-2022.
- The yen and Swiss franc may prove more resistant to further weakness than the euro.
- Central bank expectations are rising for commodity currencies as well as sterling.

### Monetary policy getting exciting again

Exhibit 16: Monetary policy expectations now in charge



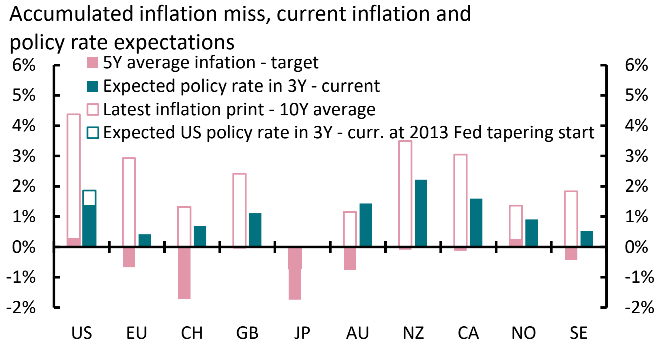

*Source: Bloomberg and AXA IM Research, November 2021*

The coronavirus crisis compressed all developed market rates to the zero lower bound, and value became the primary driver of currencies. Subsequently, the sharp economic rebound, following unprecedent fiscal stimulus while supply was still constrained, revived inflation. As the strength of the rebound grew, the focus shifted to the growth differential as a proxy for future policy tightening. Although the effective short-term currency carry across the G10 remains muted, rising short-term interest rate differentials are now driving currency moves and should continue to do so (Exhibit 16). Indicatively, our quantitative signal based on the Behavioural Equilibrium Exchange Rate (BEER), which exploits mis-alignments of currencies to two-year interest rate differentials and other cyclical indicators, has had a Sharpe ratio of 0.27 since 2011. When hikes are finally delivered – starting next year – carry itself should take over as a currency driver. Market strategies that favour currencies with rising or higher carry have delivered Sharpe ratios of 0.44 and 0.55 respectively since 1998.

### Further US dollar strength still reasonable

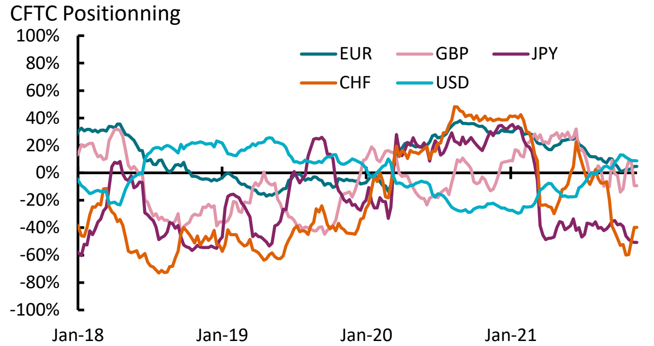
Market consensus anticipates the US Federal Reserve (Fed) to hike sooner than we forecast, but the overall cycle still appears under-priced for 2024-25, with expectations for other central banks looking aggressive by comparison. This may reflect the Fed's more dovish average inflation targeting policy. But inflation pressures in the US look more resilient than other jurisdictions, with the economy close to absorbing all spare capacity and with new fiscal stimulus in the pipeline (Exhibit 17). Compared to the start of the previous taper (2013-2014), the current level of Fed market pricing may move further, triggering more dollar strength, especially as long dollar positioning is not stretched yet (Exhibit 18).

Exhibit 17: Federal Reserve expected to be less hawkish; inflation pressures higher




*Source: Bloomberg and AXA IM Research, November 2021*

Exhibit 18: Short euro and long dollar – room to extend

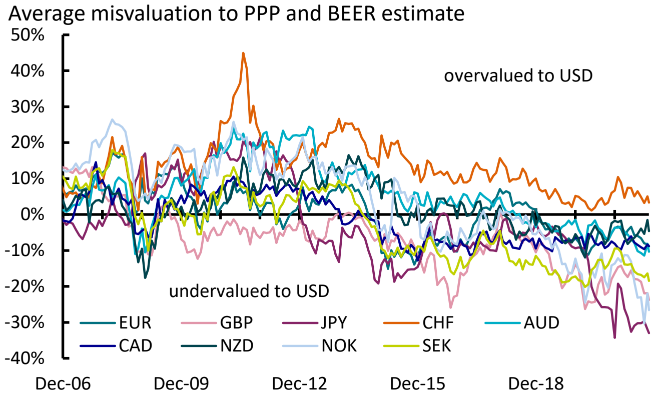



*Source: Bloomberg and AXA IM Research, November 2021*

### Don't get carried away: watching the turn

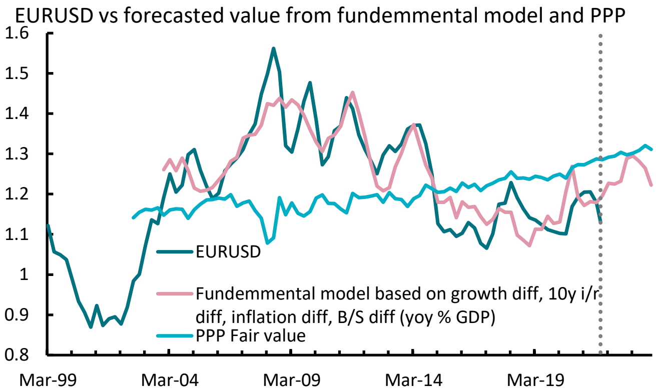
Short term US dollar strength may be limited however, as the dollar already started this rebound looking overvalued (Exhibit 19). The exceptions may be against the euro, given that the European Central Bank still faces lower inflation pressures and a higher cumulative inflation shortfall in the past. In addition, the euro is less undervalued than other currencies, and euro positioning is not that negative yet. The euro/dollar rate could continue to slide as a result. Beyond the near term, our valuation model points to a rebound above $1.20 to the euro over the coming years. In fact, higher US growth, faster balance sheet normalisation and higher long-term interest rates combined do not compensate for the impact of higher US inflation on our fair value in purchase parity terms (Exhibit 20). Timing the turn in favour of the euro will be difficult. It could come in mid-2022, after French elections are over as US political noise rises ahead of mid-term elections, and Fed normalisation slows as inflationary pressures recede.

### Exhibit 19: Virus rebound too sharp for dollar to weaken




*Source: Bloomberg and AXA IM Research, November 2021*

### Exhibit 20: Better US fundamentals do not offset lower Euro area inflation in euro/dollar fair value




*Source: Bloomberg and AXA IM Research, November 2021*

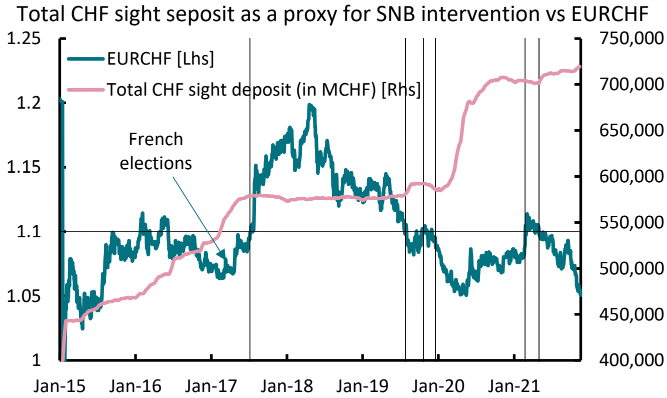
## Inflation: the haves and the have nots

Despite facing a yet larger cumulative inflation miss, the Japanese yen and Swiss franc may prove more resistant to further weakness than the euro.

The yen is the most undervalued major currency and hence has limited room to depreciate. Below-average inflation in Japan anchors the long-term parity value higher, cancelling out more dovish Bank of Japan expectations.

Swiss inflation has picked up (Exhibit 17) and may gain in any uncertainty ahead of French elections. However, the Swiss National Bank appears to be feeling less constrained in intervening on Swiss franc strength (Exhibit 21).

### Exhibit 21: Swiss franc holds off as euro exchange rate crosses key levels




*Source: Bloomberg and AXA IM Research, November 2021*

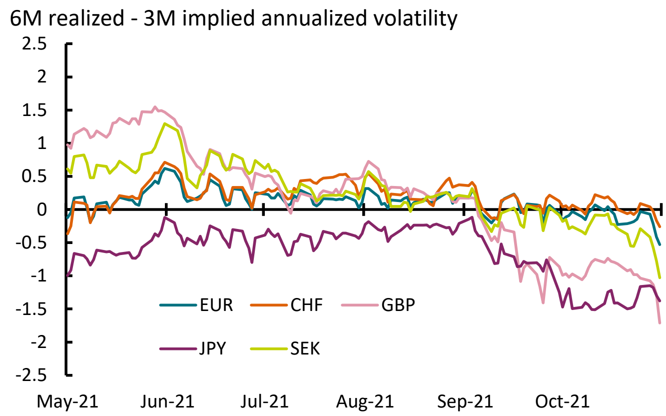
## Other hawks may fly: Sterling uncertainty

Central bank expectations are also rising for commodity currencies as well as sterling, implying positive performance. The New Zealand dollar has actually lagged the repricing in the central bank policy (Exhibit 16) which has been aggressive but justified. A sharp growth rebound erased the 2020 drop; unemployment is at historic lows; inflation is strong; house prices are up 29% year-on-year, and the vaccinated population will soon reach 90%.

On the other hand, expectations for the Bank of England still look excessive after the repricing that followed the recent Monetary Policy Committee perceived miscommunication over November policy tightening. The UK growth outlook is uncertain due to labour shortages and fiscal and monetary tightening. Revived Brexit tensions around the Northern Ireland protocol are also making market sentiment less confident (Exhibit 22).

Markets also overreacted to the Reserve Bank of Australia dropping its yield curve control, with less acute domestic inflation pressures.

### Exhibit 22: Rising concerns about sterling




*Source: Bloomberg and AXA IM Research, November 2021*

# Cross Asset – 'Steady as she goes' policy key for risky assets

By Gregory Venizelos

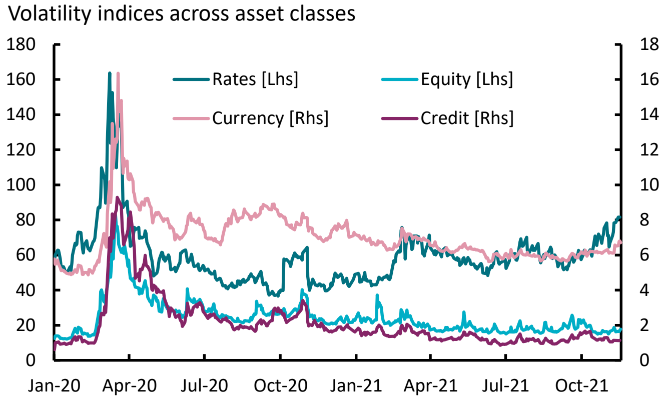
**Key points**

- Uncertainty over transitory inflation and the associated reaction function by central banks has dominated investor concerns in 2021.
- Risky assets have remained insulated from the gyrations in interest rates. Steady and predictable policy removal is key in sustaining this regime.
- Investors face a potential erosion of the diversification benefits of holding government bonds within fixed income in portfolios.

## A year of bifurcation across asset classes

The uncertainty about the transitory, or otherwise, nature of inflation and the associated reaction function by central banks has dominated investor concerns in 2021. This has been evident in the bifurcation between the volatility in equity and credit markets and the volatility in interest rates and currencies.

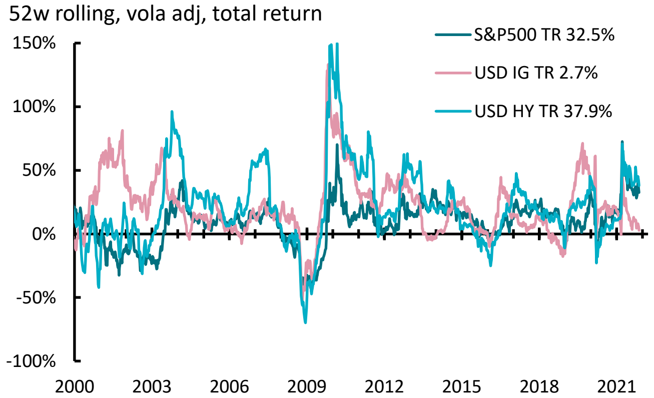
Exhibit 23: Bifurcation in volatility across asset classes – equity and credit remain immune to gyrations in rates




*Source: ICE, Bloomberg, and AXA IM Research, November 2021*

Risky assets have remained insulated from the gyrations in government bond yields and the ebb and flow of monetary policy expectations (Exhibit 23). By contrast, interest rate volatility is at its highest since the start of the pandemic, and currency volatility has been picking up too. In credit, the absence of volatility has been particularly striking. Adjusted for volatility, US dollar high yield (HY) has actually outperformed the S&P 500 index over 12 months, while US dollar investment grade (IG) has been undermined by its longer duration exposure (Exhibit 24). This bifurcation in cross-asset behaviour could well persist for the first half of 2022, while the transitory inflation argument remains unresolved.

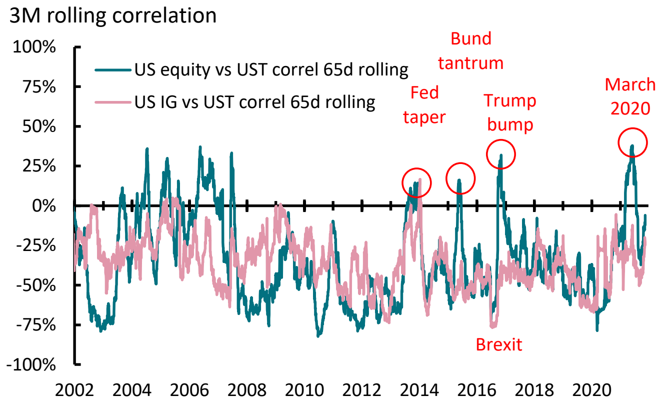
Exhibit 24: US dollar high yield has outperformed S&P 500 while US dollar investment grade underperformed




*Source: ICE, Bloomberg, and AXA IM Research, November 2021*

At the same time, investors are grappling with a potential erosion in the diversification benefits of holding government bonds in portfolios. The correlation between equities and government bonds jumped into positive territory after US Treasury yields reached the year's highs at the end of March, as each asset class rallied in tandem (Exhibit 25). A similar move appears underway now, following the recent upheaval in policy rate expectations. At a time when the hedging benefit of government bonds has waned, investors can potentially take advantage of the low levels of equity and credit volatility when aiming for downside protection.

Exhibit 25: US equity and credit correlation to Treasuries has been venturing into positive territory




*Source: ICE, Bloomberg, and AXA IM Research, November 2021*

# Rates – Upward Pressure

By Alessandro Tentori

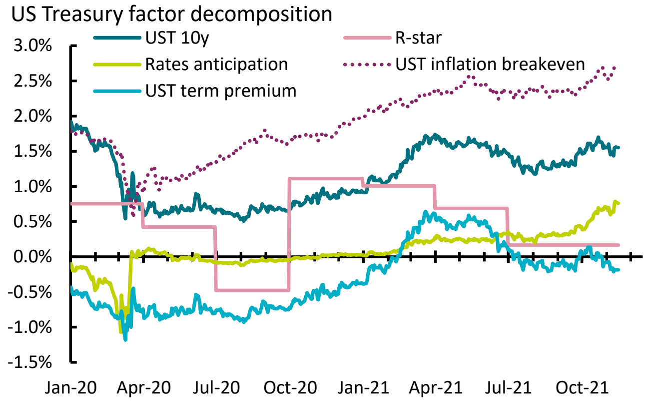
### Key points

- The effect of interest rate and inflation expectations on 10-year US Treasury yields has been rather modest in 2021, as the Federal Reserve remains in control of market volatility and the term premium
- However, inflation dynamics could – if proven more structural – accelerate the process of monetary policy normalisation, with consequences not only for government bond markets, but also for riskier asset classes and currencies
- Overall, our analysis suggests that several factors might contribute to higher Treasury yields over the course of 2022.

## The last line of defence: The term premium

During 2021 we have seen a positive contribution to US Treasury yields both from interest rate and inflation expectations, while the term premium is only marginally higher. Exhibit 26 shows the 75 basis-point rise in both 10-year breakevens and Federal Reserve (Fed) rate expectations. Ex-post, the real equilibrium rate (R-star, which cannot be observed directly) may also have risen somewhat, reflecting productivity-augmenting public investments. As a result, US Treasuries have delivered a -2.9% performance year-to-date, against a 6.2% return for the Treasury Inflation-Protected Security index.

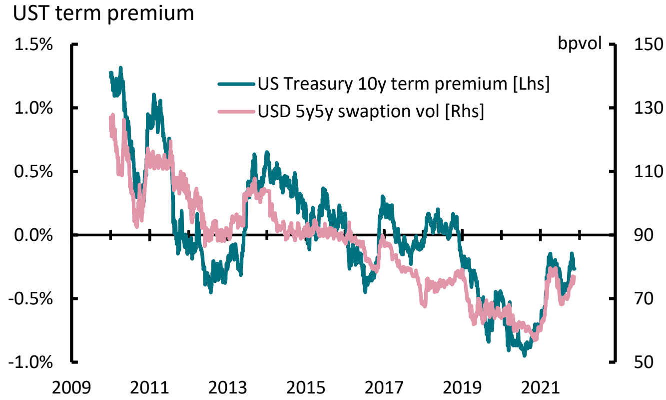
Exhibit 26: Factors driving Treasury yields




*Source: Bloomberg and AXA IM Research, 15 November 2021*

The term premium merits our special attention, not least because of its sensitivity to unconventional monetary policy. Market participants have long shared the view that the Fed might be the largest seller of volatility in the world. In our view, this is the longer-term function of quantitative easing (QE), equivalent to saying that the Fed is implicitly conducting a form of yield curve control by preventing the term premium from reflating back to its historical averages. The relationship between US dollar swap option implied volatility and the Treasury term premium (Exhibit 27) provides us with an empirical validation of the theoretical foundations of bond risk premia. It is reasonable to expect the Fed to conduct a smooth tapering in order to avoid a quick normalisation of market volatility and hence of term premia across the curve.

Exhibit 27: The relationship between volatility and yields

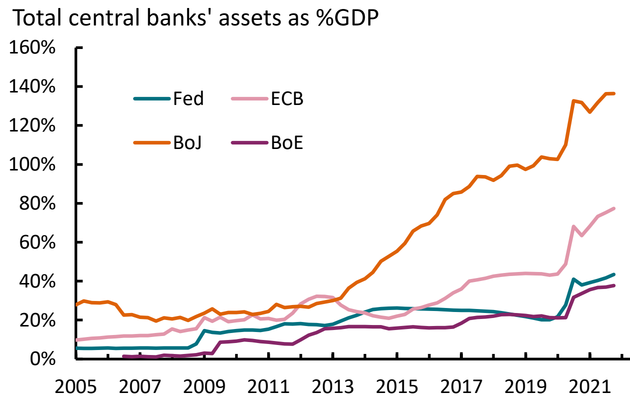



*Source: Bloomberg and AXA IM Research, 15 November 2021*

## Global QE: One step closer to the cliff

The process of tapering is by no means unique to the Fed, as all systemic central banks – except the Bank of Japan – are currently discussing their own form of transitioning to a lesser QE world. The unprecedented level of synchronisation between macroprudential, monetary and fiscal policies has had its effect on the size of central banks' balance sheets (Exhibit 28). In contrast to the policy mix put in place in response to the global financial crisis, the strategies implemented to cope with COVID-19 have been designed to partially bypass the banking sector in reaching out to the real economy, thus reaching firms and households directly with more direct consequences on inflation.

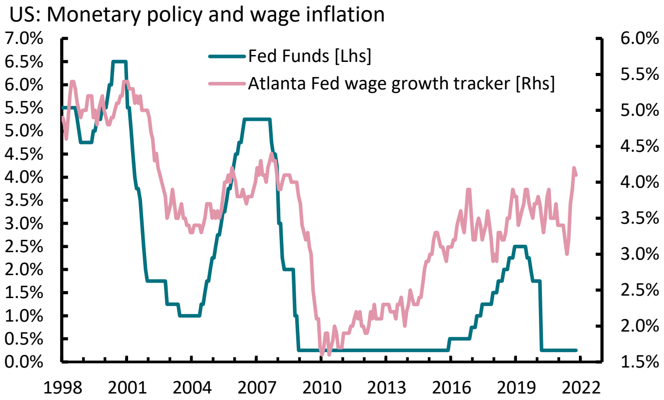
Exhibit 28: Unprecedented policy co-ordination




*Source: Bloomberg and AXA IM Research, 15 November 2021*

Without entering into a lengthy discussion on the various drivers of inflation, we stress that the contribution of wages to overall price pressure has been modest so far. Of course, surveys suggest that wage pressure is building rapidly in some regions and might pass through the price pipeline. Central banks might have to hike rates as soon as policy normalisation criteria are met, thus narrowing the gap between wages and policy rates (Exhibit 29). The risk is that the longer they appear to fall behind the inflation curve, as now explicitly required by some policy strategies, the faster they might have to unwind accommodative policy stances.

Exhibit 29: Wage pressure mounting

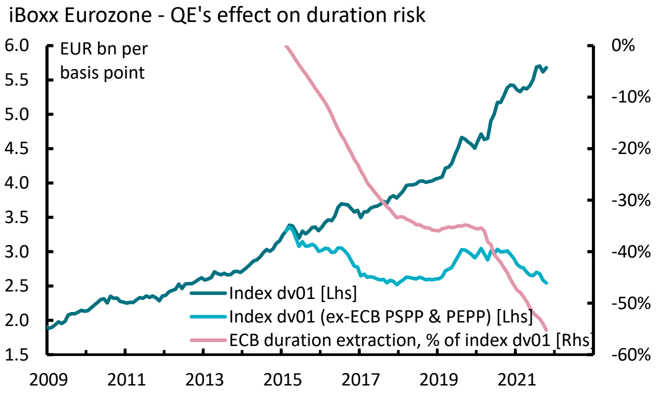



*Source: Bloomberg and AXA IM Research, 15 November 2021*

## The changing structure of the European government bonds market

It is not unreasonable to believe that unconventional monetary policy may at times distort bond markets' price signalling function, given the size of central banks' balance sheets relative to the economy. The effect of QE on the bond markets can also be seen in the Eurozone, where the combination of the European Central Bank's (ECB) Public Sector Purchase Programme and the Pandemic Emergency Purchase Programme has extracted something like 55% of the government bond market's duration risk (Exhibit 30).

Exhibit 30: Duration extraction going too far?




*Source: ECB, IHS Markit and AXA IM Research, 15 November 2021*

Unfortunately, the ECB balance sheet's extraordinary size might introduce a new breed of risks linked to liquidity into euro government bond markets. Therefore, we cannot rule out more frequent collateral scarcity episodes in the months to come, which could require the ECB to intervene on repo markets, as is often the case going into year-end. These events are partly also related to the interplay between the primary market and investors' risk management needs.

## Putting the pieces together

To conclude our brief overview and outlook of the rates space, we list the main factors determining our view for the direction of Treasury yields (Exhibit 31): Given the current market and macro setup, Treasury yields are more likely to rise than to fall within a medium-term horizon.

Exhibit 31: Qualitative Treasury yield scorecard

| Factor | Direction | Effect on 10-year yields |
|---|---|---|
| R-star | Up | Higher |
| Rate expectations | Up/Stable | Higher/Neutral |
| Inflation expectations | Stable | Neutral |
| Term premium | Up | Higher |
| Net supply | Up | Higher |
| Regulated demand | Staggered | Lower |
| Positioning | Short | Neutral |

*Source: Bloomberg and AXA IM Research, 15 November 2021*

We conclude with three additional observations:

1. The absolute yield level matters for regulated bond demand, i.e. flows originating from compliance with financial regulation. One example is the complex relationship between asset/liability valuations and the demand for government bonds by insurance companies. Therefore, we believe that this type of demand is going to be staggered at best and won't be a permanent force acting upon bond prices.

2. The speed at which yields rise also matters for overall risk appetite/aversion. The Fed's 2013 tapering and the German bund's 2015 value-at-risk shock are perfect examples of the effect of fast markets on dealers' ability to warehouse and to process risk. A similar scale variation, albeit spanning over a longer time horizon, might have had only a limited spill-over into other asset classes.

3. Almost by definition, lags between central banks will affect cross-market spreads as well as currencies' valuation and hedging costs. We are already observing a close link between the widening two-year Treasury versus Schatz spread and the declining euro/dollar exchange rate. The precise sequence and timing of central banks lifting off their rates floor is therefore key in understanding and capturing the relative value between international bond markets in 2022.

# Credit – spread hibernation can extend into 2022

By Gregory Venizelos

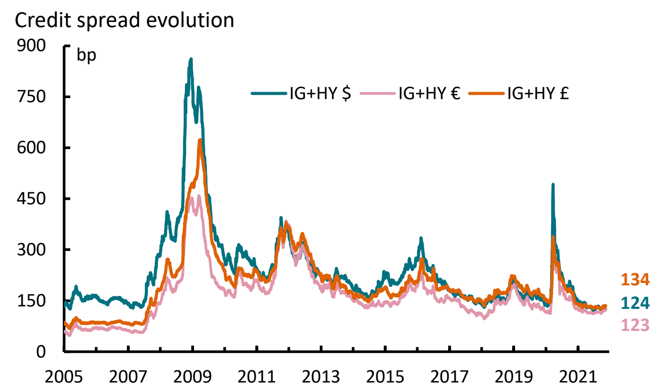
### Key points

- The rangebound spread regime could extend into next year, still favouring the higher-beta carry trade
- By contrast, 2022 may also turn out problematic for duration risk
- Credit spreads are not at risk from inflation breakevens, including any move lower
- Low interest rates have kept growth in the cost of debt at bay. This is a tailwind, but also a hazard
- Rating migration and default cycles have turned benign – a further tailwind for credit spreads

## From frantic mad to dead calm

Credit markets have been immune to exogenous market jolts for the past 12 months. Neither bouts of interest rate angst about central bank policy and inflation, nor equity market wobbles in the first quarter have dislodged spreads from their hibernation (Exhibit 32). This has been the longest period of calm for spreads since before the global financial crisis – and is in stark contrast to 2020's pandemic shock.

Exhibit 32: Credit spreads have enjoyed their longest period of calm since the global financial crisis



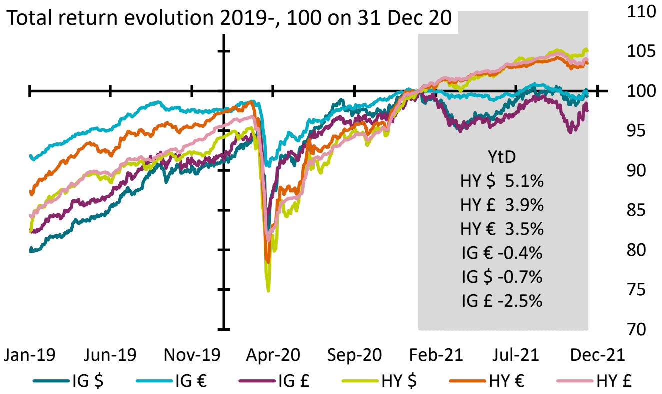

*Source: ICE and AXA IM Research, November 2021*

The current market correction due to the Omicron variant notwithstanding, the range-bound regime could extend into 2022, even as monetary policy accommodation begins to be withdrawn, for two reasons. First, spreads tend to react more to announcements than actual flows of quantitative easing (QE). The tapering sequencing by both the Federal Reserve (Fed) and the European Central Bank (ECB) is already generally understood by markets. Second, economic activity and thus earnings growth should continue to underpin credit fundamentals.

## Years of living dangerously for duration

The near zero spread volatility has been a boon for high yield (HY), which has accrued spread carry in a near straight line (Exhibit 33). Investment grade (IG) returns, by contrast, have been undone by their exposure to duration, posting negative returns so far. 2022 may turn out similarly problematic for duration risk, as market uncertainty about inflation and central banks' response lingers.

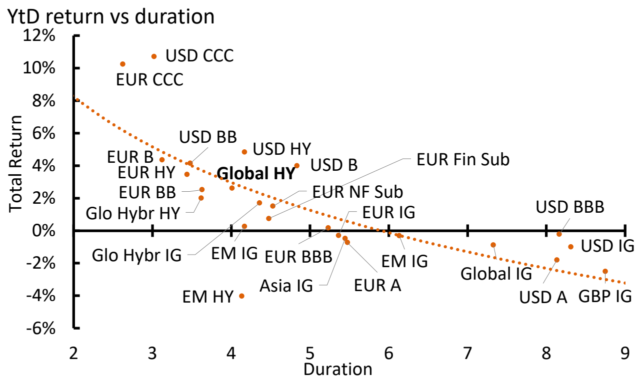
Exhibit 33: Duration has been a headwind for IG credit in 2021. 2022 may turn out similar.




*Source: ICE and AXA IM Research, November 2021*

In a reflection of the duration-negative theme, year-to-date returns across the credit index spectrum have been inversely proportional to index duration (Exhibit 34). The sole outlier is emerging markets HY, which has been affected by the correction in the China property sector (circa 10% of emerging market HY). We think this pattern, where lower duration credit outperforms – the higher beta carry trade in other words (wider spread indices tend to be of shorter duration) – has further room to run if risky asset volatility remains contained.

Exhibit 34: Returns in 2021 have consistently been inversely proportional to index duration

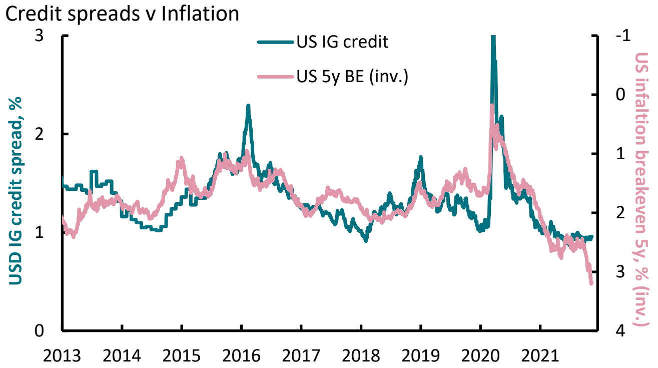



*Source: ICE and AXA IM Research, November 2021*

## Spreads and inflation can get along

The constructive view for spreads into 2022 incorporates expectations of elevated inflation pricing for at least part of 2022. Higher inflation tends to support corporate earnings, which is consistent with the benign relationship between spreads and inflation. Credit spreads and inflation breakevens have moved reversely to each other over the past few years (Exhibit 35). Furthermore, any softening of the inflation breakeven level back towards 2% is still associated with spreads staying near the tighter end of their historical range.

### Exhibit 35: Credit spreads co-move inversely with inflation breakevens

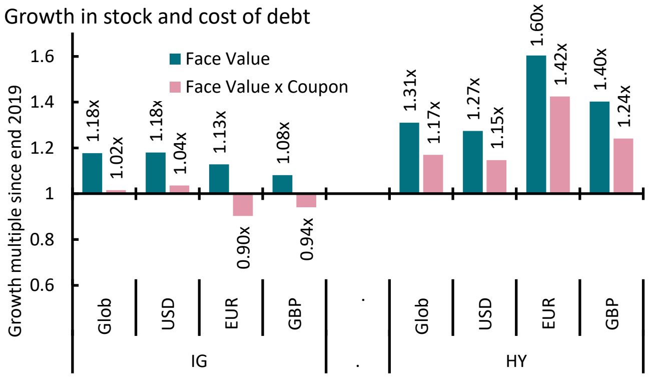



*Source: Bloomberg and AXA IM Research, November 2021*

## Corporate debt growth: Cost trails stock

The COVID-19 shock brought about a material increase in corporate debt. The face value of the Global IG index has grown by 18% since the end of 2019 (Exhibit 36) and the Global HY index by 31% (the latter a combination of issuance and debt downgraded into HY). Yet, the global policy response has suppressed interest rates and so contained the rise in the cost of servicing the higher stock debt. The 'dollar' amount of coupon payments has risen by only 4% in USD IG and has even fallen by 10% in EUR IG (-6% in GBP IG). This has created a twofold issue going forward – limiting the credit income pool for credit investors while also making low interest rates a necessary condition for borrowers in credit.

### Exhibit 36: IG debt stock has grown by a fifth and HY by a third during the Covid crisis; debt cost by much less

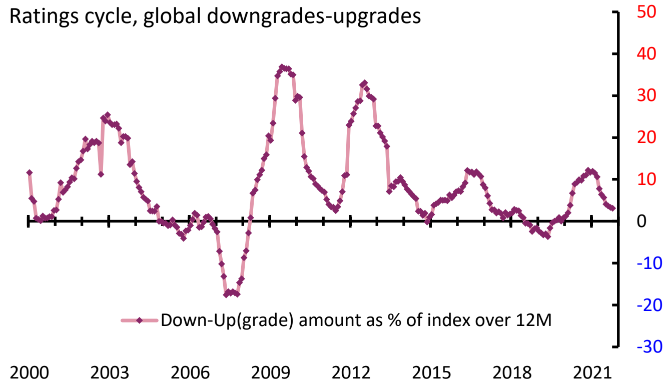



*Source: ICE and AXA IM Research, November 2021*

## Rating migration and default cycles benign

The rating migration and default cycles offer another element of support for a constructive view of credit in 2022. The stronger than expected rebound in earnings in 2021 has brought about a faster than expected repair in corporate leverage. Rating agencies have reacted accordingly. The downgrade cycle appears all but complete as a result – after peaking at 12% of net downgrades as a share of the global IG index in late 2020 (Exhibit 37). Expectations are for net upgrades to accelerate in pace in 2021, providing a tailwind to spreads. Any setbacks in activity due to COVID-19 flare-ups, as the one currently underway in Europe, are unlikely to reach such a magnitude as to reverse the positive rating migration trends.

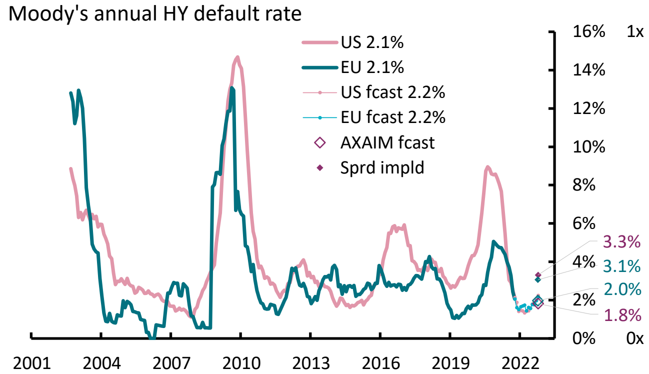
### Exhibit 37: Covid downgrade cycle all but complete




*Source: ICE and AXA IM Research, November 2021*

Similarly, the pandemic default cycle appears complete after peaking at just under 9% in US HY and at just under 5% in Europe HY in 2020. Twelve-month trailing default rates are currently running at 2.1% (Exhibit 38) and default rate expectations appear anchored also around 2% (both by Moody's and our own model). This is below spread-implied default rates which are at approximately 3%, assuming a 30% recovery rate and an expected loss-spread multiplier of two times. This flags HY spreads as cheap on a default valuation basis, with a reasonable downside buffer of over 1%, were realised defaults to exceed the 12-month forward expectations of circa 2%.

### Exhibit 38: Default outlook very benign historically




*Source: Moody's, ICE, Fed, ECB, and AXA IM Research, November 2021*

# Equities – Lost in transition

By Emmanuel Makonga

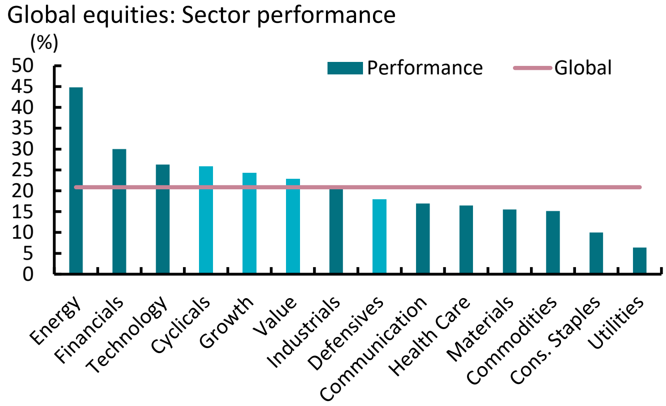
## Key points

- The strong earnings surprises experienced in 2021 are set to diminish in 2022 as economic activity reverts towards trend rates.
- Real rates may pose a threat to stocks, and so 2022 equity performance may depend on the behaviour in the rates complex.
- Despite a negative balance of risks for next year, the broader growth outlook should provide some relief.

## Healthy growth for equities

Equity investors have been well rewarded in 2021. At the time of writing, the global benchmark for the asset class is up 20.9% (Exhibit 39). The evolution of vaccination campaigns in the US and Europe allowed the softening of pandemic-related constraints to stimulate demand. The accommodative stance by the major central banks continued, while they tried to balance the risks of the transitory inflation narrative. On top of that, in the US the Democrat party's (slim) majority in the Senate helped reduce uncertainty around President Joe Biden administration's large spending bills. This environment has been conducive to a strong performance in equities.

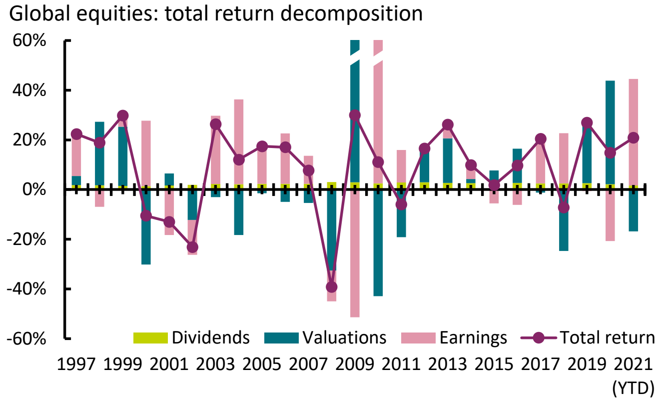
Exhibit 39: Energy sector clearly stood out




*Source: MSCI, Datastream and AXA IM Research, 18 November 2021*

On a sectoral basis, cyclicals have stood out. Energy delivered striking returns (+45%), well supported by commodity prices trending higher since the beginning of the year. Financials (+30%) were second best, helped by rising interest rates. Technology also did well (+26%) but is losing momentum compared to last year. At the other end, defensives like utilities (+6%) and consumer staples (+10%) lagged. The rotation from growth (+24%) to value (+23%) was sporadic, as sticky real rates continued to favour the former.

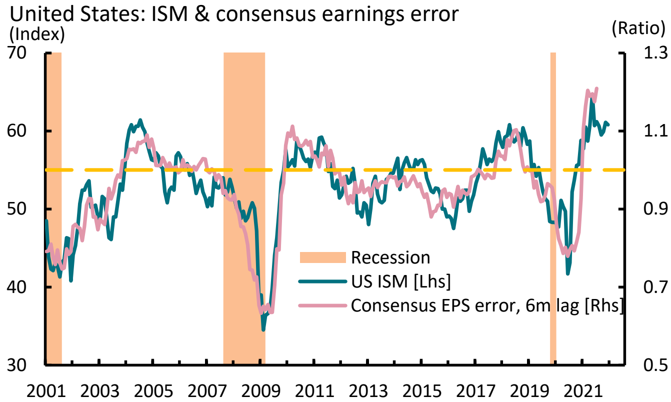
Exhibit 40: Earnings drove it all




*Source: MSCI and AXA IM Research, 18 November 2021*

Equities' performance in 2021 was largely driven by earnings growth (+43%), while the valuation multiple contracted by -16.8% (Exhibit 40) - although it remains historically elevated. The contribution from dividends in 2021 was historically low at +1.7%, the lowest since 2001.

Exhibit 41: Is the earnings party over?




*Source: MSCI, Institutional Broker's Estimate System ISM, National Bureau of Economic Research and AXA IM Research, 18 November 2021*

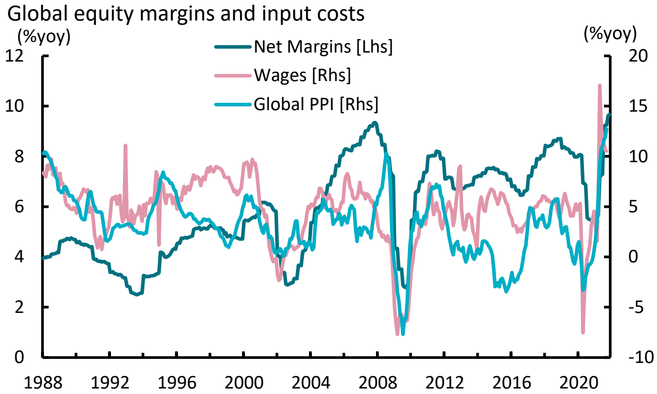
All good things coming to an end and we do not expect earnings growth to continue at this pace through 2022. The consensus expects 8% bottom line growth in 2022, far from the stellar earnings outcome experienced in 2021. In 2022, massive earnings surprises should start to subside – this year saw the consensus error reach an all-time high with actual earnings 1.2 times higher than expected at the end of 2020. However, the US ISM is already quite elevated (98$^{th}$ percentile) and a 'back to normal' economic performance would dampen earnings' upside, according to the relation between earnings error and the ISM (Exhibit 41). It is worth noting that in the recession after the 2008/2009 global financial crisis, the path for activity recovery and the US ISM index was similar and consensus error started fading even earlier than economic activity back then.

## Bottom-line jitters

An outstanding concern has been the impact of rising input costs on profit margins. Stronger consumer demand has exacerbated supply chain disruption and added to producer price pressure. On top of that, tight labour markets have increased workers' remuneration in some areas. This mix has created concerns around the sustainability of the current high levels of corporate profit margins. Historically, margin levels have had a positive relation with input costs, perhaps reflecting corporate abilities to pass on rising costs in an inflationary environment. Some risk will persist given the scale of adjustment to date and uncertainties around its persistence (Exhibit 42).

### Exhibit 42: Margin seem not to suffer from rising costs

Global equity margins and input costs

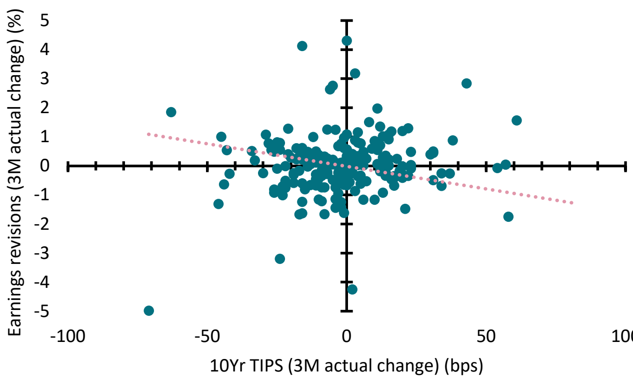



*Source: Worldscope, BEA, OECD and AXA IM Research, 18 November 2021*

A broader threat comes from the outlook for real rates. With valuation levels already stretched and interest rates expected to rise, the upside potential for multiples is limited. In 2022, the performance of equities should continue to be dependent on earnings. Our view is that real rates should start to rise in 2022 from persistent lows, risking downwards earnings revisions and an adverse impact on the 2022 equity performance outlook. Indeed, Exhibit 43 shows that the relation of three-month changes of US 10-year real rates and global equity earnings revisions is negatively sloped.

### Exhibit 43: Rising real rates penalise earnings expectations

Real rates and earnings revisions



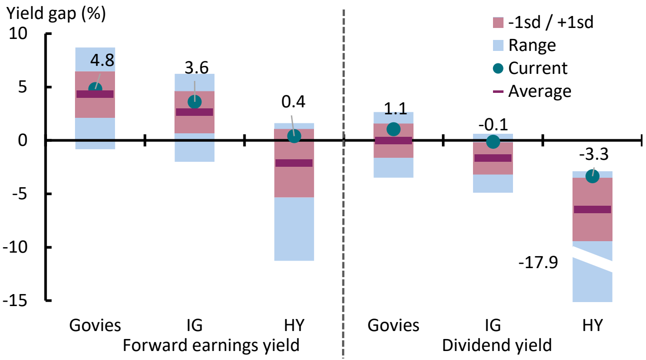

*Source: MSCI, Federal Reserve and AXA IM Research, 18 November 2021*

## A glimmer in the mist

The relative valuation of equities has allowed us to overlook high absolute valuations in recent periods, but this argument is likely to be more difficult to defend next year. The earnings yield gap between government bonds and investment grade credit is now closer to the historical average while the gap with high yield remains more favourable (Exhibit 44). The picture is similar for the yield gaps in terms of dividend yields. As interest rates continue to rise next year, yield differentials between equity and fixed income are likely to become more critical to investors' appetite for equities over other asset classes.

### Exhibit 44: Challenging relative value

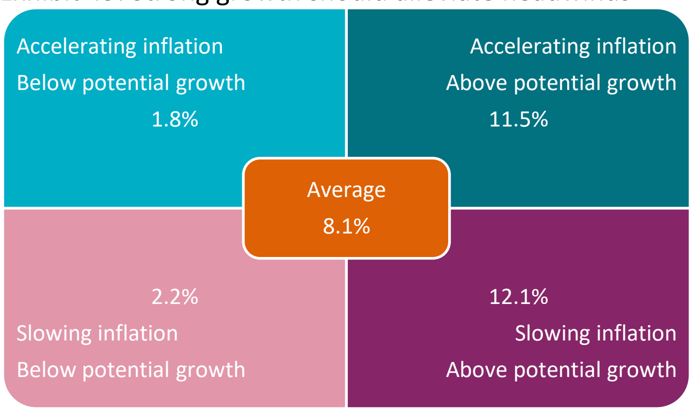
Global equities: yield gaps vs. bonds (since 1998)




*Source: MSCI, ICE BofA and AXA IM Research, as 18 November 2021*

The concerns over inflation and interest rates almost make us forget the importance of economic growth for equities. Historically, equities have performed above their annual average when economic output rises above its potential (Exhibit 45). In 2022, our team forecasts US gross domestic product to grow above potential at 3.5% for 2022, which should help to mitigate any headwinds in terms of earnings revisions and valuation considerations for the equity asset class.

### Exhibit 45: Strong growth should alleviate headwinds




*Source: Congressional Budget Office, MSCI and AXA IM Research, 18 November 2021, inflation regime: actual-12M average.*

# Forecast summary

| Real GDP growth (%) | 2020 | 2021* | | 2022* | | 2023* | |
|---|---|---|---|---|---|---|---|
| | | AXA IM | *Consensus* | AXA IM | *Consensus* | AXA IM | *Consensus* |
| **World** | -3.2 | 5.7 | | 4.2 | | 3.6 | |
| **Advanced economies** | -5.0 | 5.0 | | 3.8 | | 2.4 | |
| US | -3.4 | 5.5 | 5.7 | 3.5 | 4.1 | 2.7 | – |
| Euro area | -6.7 | 5.0 | 5.1 | 3.9 | 4.4 | 2.1 | – |
| Germany | -4.9 | 2.6 | 2.8 | 3.5 | 4.4 | 1.9 | – |
| France | -8.0 | 6.7 | 6.1 | 3.6 | 3.8 | 2.0 | – |
| Italy | -8.9 | 6.2 | 5.9 | 3.7 | 4.3 | 1.9 | – |
| Spain | -10.8 | 4.3 | 5.6 | 5.5 | 6.1 | 3.0 | – |
| Japan | -4.9 | 1.9 | 2.3 | 3.5 | 3.0 | 1.6 | – |
| UK | -10.0 | 6.9 | 6.9 | 5.2 | 5.1 | 2.3 | – |
| Switzerland | -2.5 | 3.5 | 3.4 | 3.0 | 3.1 | 1.6 | – |
| Canada | -5.3 | 4.9 | 5.1 | 3.5 | 4.1 | 2.6 | – |
| **Emerging economies** | -2.0 | 6.2 | | 4.4 | | 4.3 | |
| **Asia** | -0.8 | 6.8 | | 5.1 | | 5.1 | |
| China | 2.3 | 7.9 | 8.2 | 5.0 | 5.5 | 5.3 | – |
| South Korea | -0.9 | 4.0 | 4.1 | 2.6 | 3.2 | 2.1 | – |
| Rest of EM Asia | -4.6 | 5.8 | | 5.5 | | 5.3 | |
| **LatAm** | -7.1 | 6.2 | | 2.6 | | 2.5 | |
| Brazil | -4.1 | 5.1 | 5.0 | 1.2 | 1.7 | 2.0 | – |
| Mexico | -8.5 | 6.0 | 6.1 | 2.6 | 2.8 | 2.2 | – |
| **EM Europe** | -2.1 | 5.9 | | 3.8 | | 2.8 | |
| Russia | -3.0 | 4.5 | 4.2 | 3.2 | 2.5 | 2.0 | – |
| Poland | -2.7 | 5.1 | 5.2 | 5.0 | 5.1 | 3.6 | – |
| Turkey | 1.8 | 9.5 | 8.7 | 3.6 | 3.6 | 3.0 | – |
| **Other EMs** | -2.4 | 4.2 | | 4.1 | | 3.9 | |

*Source: Datastream, IMF and AXA IM Macro Research – As of 30 November 2021*

* Forecast

| CPI Inflation (%) | 2020 | 2021* | | 2022* | | 2023* | |
|---|---|---|---|---|---|---|---|
| | | AXA IM | *Consensus* | AXA IM | *Consensus* | AXA IM | *Consensus* |
| **Advanced economies** | 0.7 | 3.1 | | 2.9 | | 2.1 | |
| US | 1.2 | 4.7 | 4.4 | 4.1 | 3.4 | 2.9 | – |
| Euro area | 0.3 | 2.4 | 2.3 | 2.1 | 2.0 | 1.6 | – |
| Japan | 0.0 | -0.2 | -0.2 | 0.7 | 0.5 | 0.6 | – |
| UK | 0.9 | 2.4 | 2.3 | 3.8 | 3.3 | 1.9 | – |
| Switzerland | -0.7 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | – |
| Canada | 0.7 | 3.4 | 3.1 | 3.1 | 2.7 | 2.3 | – |

*Source: Datastream, IMF and AXA IM Macro Research – As of 30 November 2021*

* Forecast

**Central bank policy**

**Meeting dates and expected changes (Rates in bp / QE in bn)**

| | | Current | Q4-21 | Q1-22 | Q2-22 | Q3-22 |
|---|---|---|---|---|---|---|
| **United States - Fed** | Dates | 0-0.25 | 2-3 Nov<br>14-15 Dec | 25-26 Jan<br>15-16 Mar | 3-4 May<br>14-15 June | 26-27 July<br>20-21 Sep |
| | Rates | | unch (0-0.25) | unch (0-0.25) | unch (0-0.25) | unch (0-0.25) |
| **Euro area - ECB** | Dates | -0.50 | 28 Oct<br>16 Dec | 20 Jan<br>10 Mar | 14 April<br>9 June | 21 July<br>8 Sep |
| | Rates | | unch (-0.50) | unch (-0.50) | unch (-0.50) | unch (-0.50) |
| **Japan - BoJ** | Dates | -0.10 | 27-28 Oct<br>16-17 Dec | 17-18 Jan<br>17-18 Mar | 27-28 April<br>16-17 June | 20-21 July<br>21-22 Sep |
| | Rates | | unch (-0.10) | unch (-0.10) | unch (-0.10) | unch (-0.10) |
| **UK - BoE** | Dates | 0.10 | 4 Nov<br>16 Dec | 3 Feb<br>17 Mar | 5 May<br>16 June | 4 Aug<br>15 Sep |
| | Rates | | +0.15 (0.25) | unch (0.25) | +0.25 (0.50) | unch (0.50) |

*Source: AXA IM Macro Research - As of 30 November 2021*

# Calendar of 2022 events

| 2021 | Dates | Events | Comments |
|---|---|---|---|
| November | 27-28 Nov | BoJ Meeting | Unchanged (0,10) |
| December | Early Dec | US debt ceiling | |
| | Dec | China Central Economic Work Conference | |
| | 3 Dec | US: Continuing resolution to avoid government shutdown ends | |
| | 14-15 Dec | FOMC Meeting | Unchanged (0-0.25) |
| | 15 Dec | Treasury Secretary Yellen identifies debt ceiling impact from this point | |
| | 16 Dec | ECB Meeting | Unchanged (-0.5) |
| | 16 Dec | BoE Meeting | Unchanged (0.1) |
| | 16-17 Dec | BoJ Meeting | Unchanged (-0.1) |
| | 31 Dec | LIBOR fixings discontinued | |
| **2022** | **Dates** | **Events** | **Comments** |
| | Q3-Q4 2022 | Chilean Constitutional Referendum | |
| January | Jan | Italian Presidential Elections | |
| | 1 Jan | EU introduces Rules of Origin requirements | |
| | 20 Jan | ECB Meeting | Unchanged (-0.5) |
| | 25-26 Jan | FOMC Meeting | Unchanged (0-0.25) |
| February | Feb | BoE Meeting | Unchanged (0.1) |
| | 6 Feb | Costa Rican General Elections | |
| March | March | FOMC Meeting | Unchanged (0-0.25) |
| | March | China Annual National People’s Congress | |
| | 9 March | South Korea Presidential Elections | |
| | 13 March | Colombian Legislative Elections | |
| | 31 March | UK Business rates relief ends | |
| | 31 March | UK Reduced VAT for hospitality and tourism ends | |
| April | 6 April | UK National Insurance contributions increase 1.25ppt | |
| | 6 April | UK Dividend Tax increase by 1.25ppt | |
| | 6 April | UK Super-deductibility for UK investment begins | |
| | 10 & 24 April | French Presidential Elections | |
| May | May | Philippines Elections | |
| | 5 May | UK Elections in Scotland, Wales, and Northern Ireland and UK Local Elections in England | |
| | 29 May | Colombian Presidential Elections | |
| June | 12 & 19 Jun | French Legislative Elections | |
| July | 1 July | UK border checks on EU imports scheduled to resume | |
| August | Aug | US Federal Reserve Jackson Hole Symposium | |
| October | Oct | China’s 20th National Congress- President Xi to be re-elected (expected) | |
| | 2 Oct | Brazil General Elections | |
| November | 8 Nov | US Midterm Elections | |

# Abbreviation glossary

| | |
|---|---|
| 1Q18 | first quarter of 2018 |
| 1H18 | first half of 2018 |
| [Lhs] | left hand scale (graph) |
| [Rhs] | right hand scale (graph) |
| a.r. | annualised rate |
| APP | Asset Purchase Programme |
| AUD | Australian dollar |
| BAML | Bank of America Merrill Lynch |
| BEA | US Bureau of Economic Analysis |
| BEER | Behavioural Equilibrium Exchange Rate |
| BIS | Bank for International Settlements |
| bn | billion |
| BoC | Bank of Canada |
| BoE | Bank of England |
| BofA | Bank of America |
| BoJ | Bank of Japan |
| bp(s) | basis point(s) |
| CAD | Canadian dollar |
| CEE | Central and Eastern Europe |
| CEEMEA | Central and Eastern Europe/Middle East/Africa |
| CHF | Swiss franc |
| CPI | Consumer price index |
| DM | Developed market |
| EBA | European Banking Authority |
| EC | European Commission |
| ECB | European Central Bank |
| EM(s) | Emerging market(s) |
| EMU | European Monetary Union |
| EPFR | Emerging Portfolio Fund Research, Inc. |
| EPS | Earnings per share |
| ERP | Equity risk premium |
| ESM | European Stability Mechanism |
| ETF | Exchange-Traded fund |
| EU | European Union |
| EUR/€ | Euro |
| Fed | US Federal Reserve |
| FFR | Fed fund rate |
| FOMC | Federal Open Market Committee |
| FTA | Free Trade Agreement |
| FY | Fiscal Year |
| GBP/£ | Pound Sterling |
| GDP | Gross Domestic Product |
| GFC | Global Financial Crisis |
| GVA | Gross value added |
| HKD | Hong Kong dollar |
| HP filter | Hodrick-Prescott filter |
| HY | High Yield |
| ICE | InterContinental Exchange |
| IG | Investment Grade |
| IIF | Institute of International Finance |
| INSEE | French National Institute of Statistics and Economic Studies |
| IMF | International Monetary Fund |
| ISM | Institute of Supply Management |
| JGB | Japanese Government Bonds |
| JPY/¥ | Yen |
| LatAm | Latin America |
| LBO | Leveraged buy-out |
| LTRO | Long Term Refinancing Operation |
| MBS | Mortgage-backed security |
| METI | Japan's Ministry of Economic Trade and Industry |
| mom | month on month |
| MPC | Monetary Policy Committee |
| MRO | Main Refinancing Operation |
| n.s/a | non-seasonally adjusted |
| NAFTA | North American Free Trade Agreement |
| NBER | National Bureau of Economic Research |
| NPL | non-performing loans |
| NFIB | National Federation of Independent Business |
| NOK | Norwegian krone |
| OECD | Organisation for Economic Cooperation and Development |
| OMT | Outright Monetary Transactions |
| P/B | price-to-book ratio |
| P/E | price/earnings |
| PBoC | People Bank of China |
| PCE | personal consumption expenses |
| PEG | price/earnings to growth |
| PEPP | pandemic emergency purchase programme |
| PMI | Purchasing Manager Index |
| pp | percentage point |
| PPI | Producer price index |
| PPP | purchasing power parity |
| QE | Quantitative easing |
| QE3 | Third quantitative easing |
| QQE | Quantitative and qualitative easing |
| qoq | quarter on quarter |
| REER | Real Effective Exchange Rate |
| RMB | renminbi chinois (yuan) |
| RRR | Required rate of return |
| s/a | seasonally adjusted |
| SEK | Swedish krona |
| SMEs | Small and medium size enterprises |
| SMP | Securities Markets Programme |
| SWF | Sovereign Wealth fund |
| TFP | total factor productivity |
| TLTRO | Targeted Longer Term Refinancing Operation |
| tn | trillion |
| UN | United Nations |
| USD/$ | US dollar |
| VAT | value-added tax |
| yoy | year on year |
| ytd | year to date |
| WTO | World Trade Organisation |

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