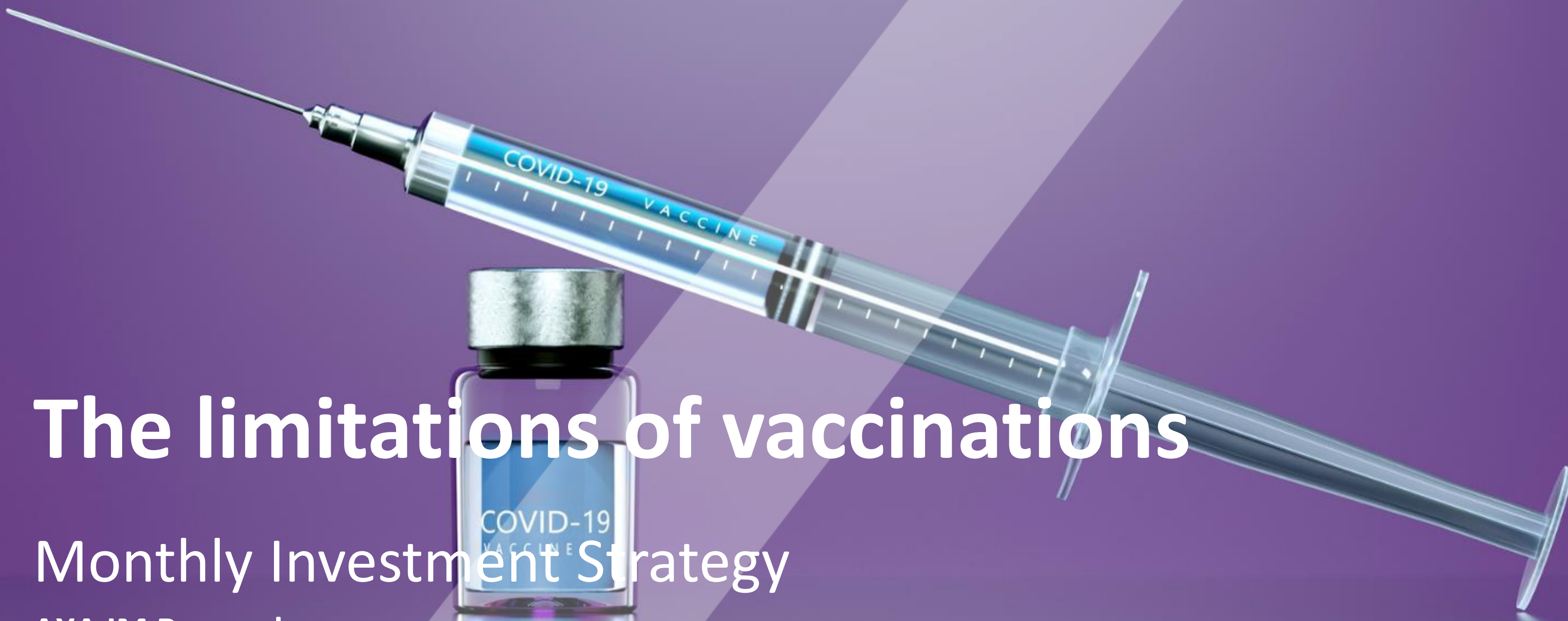
The limitations of vaccinations

Monthly Investment Strategy



AXA IM Research

May 2021

Summary: May 2021

Theme of the month: The limitations of vaccinations

- Vaccine focus to date has been on distribution, which has been patchy so far. We consider the medium term, when vaccine supply is abundant.
- We consider it unlikely that many (any) countries will achieve collective immunity against Covid over the coming year. The virus is likely to be endemic.
- Yet hospitalisations would likely still cause problems in many countries if the virus were allowed a free rein, with no other interventions.
- The re-emergence of the virus, even in highly-vaccinated populations is likely to cause alarm, encouraging precautionary behaviour and dampening the scale of rebound. We include this caution in our baseline forecasts. We treat the possibility of an immunity-evading variant as a separate risk case.
- Yet vaccinations will lower the virus' ability to reproduce. Simple, unintrusive restrictions should be sufficient to manage the virus over the medium-term.

Macro update: Inflation spikes

- Economic data continues to be governed by pandemic management. US growth recovered following a swift easing of restrictions across Q1. Eurozone, UK and Japanese growth all contracted, although private spending was not as severely impacted. Easier restrictions should lift output in Q2 and beyond.
- Inflation picked up sharply in many regions, even allowing for idiosyncratic features, for example China's falling pork prices. For most, inflation is expected to be transitory and to begin to soften over H2 this year. But inflation expectations are rising in the US and some EMs are experiencing price pressures.
- Central bank policy remains supportive. The Fed continues to expand its balance sheet, while the ECB has increased purchases. BoE and BoC have both announced a slower pace of purchases. PBoC is looking to normalise, but any adjustment is likely to be gradual.

Investment strategy: markets trying to make up their mind on inflation risks amid ambiguous macro data

- FX: USD has weakened against low yielders on the Fed's dial-down of tapering fears and US labour market's slow recovery of covid job losses. Yet, inflation pressures remain in place as expectations have risen further. So, risks for a renewed rebound in real rates remain, a threat to EURUSD in the short term.
- Rates: Bond markets, central bankers and private-sector analysts continue to shrug off the risk of structural inflation despite the strong upward surprise in April's US CPI. The other side of the coin is the potent and synchronized monetary and fiscal stimulus. The risk is a sudden adjustment in Fed expectations.
- Credit: The unprecedented monetary and fiscal intervention during the Covid crisis has curtailed the corporate default cycle very effectively. A key risk is a material relapse in Covid dynamics. The benign default outlook underpins our view for higher beta/lower duration credit to continue outperforming.
- Equity: Even with robust earnings results in Q1, the equity market performance has been muted as inflation risks weighed on markets. The reflation theme is key across sectors, styles and factors. Energy, utilities as well as defensives and value assets tend to outperform during high inflation periods.

Central scenario

Summary – Key messages

Monetary policy

Monetary policy to remain key policy support. Fed to unwind support only slowly. ECB to increase purchases "significantly".

Inflation

Energy, base effects and bottlenecks lift rates in 2021. Inflation in 2022 depends on spare capacity and unlikely outside US and some EMs.

Fiscal policy

Fiscal support extended in most areas. US passes exceptional stimulus. In Europe and UK fiscal support rolled out more slowly.

Growth

Consensus for faster growth: virus fades, vaccines grow and fiscal stimulus. Virus risk remains.

Our central scenario:

2021 rebound as virus controlled, recovery needs policy support

We forecast global growth to rise by 5.6% in 2021 and 4.3% 2022.

Economic rebound on vaccine and stimulus, must overcome labour market and indebtedness headwinds. Monetary and fiscal policy to support.

Emerging Markets

EM's see virus pressures mount with less vaccine access for now. Export economies to benefit. Less policy space for most.

Rates

Rates move higher on growth and inflation outlook. Real/breakeven balance weighs on CB response that opposes excessive real rates move.

FX

Rising real rates should unwind USD weakness. Strong vaccine rollout supports high beta currencies: GBP, CAD and NOK. GBP new variant risks

Credit

Tight spread levels belie yet higher corporate debt levels, implicitly locking-in central banks as an ultimate backstop.

Equities

Value/Growth rotation still at play. Corporate earnings 2021 rebound on track. Equity risk premium has compressed.

Alternative scenarios

Summary – Key messages

Persistent recession *(probability 20%)*

What could be different?

- Coronavirus mutations reduce vaccine effectiveness
- Labour market dislocation and business disruption create ongoing headwinds to demand recovery
- Fiscal policy fades amidst elevated debt and political opposition
- Geo-political tensions mount in post-Covid world

What it means

- Growth/inflation expectations weaken further, additional GDP disruption, corporates' earnings under more pressure
- Further monetary policy where space permits (including China). Government's continue with fiscal stimulus and divide between monetary financing blurs further.

Market implications

- Risk appetite deteriorates / equities sell off / credit widens
- Safe-haven rates rally resumes
- EM debt to come under pressure

Fast recovery *(probability 20%)*

What could be different?

- Vaccine rolls out more quickly than expected, spurring pent-up demand burst
- Labour market recovers, economies benefit from post-virus euphoria and faster consumption of 'excess saving'
- Virus-shock reshapes business practice, boosting productivity

What it means

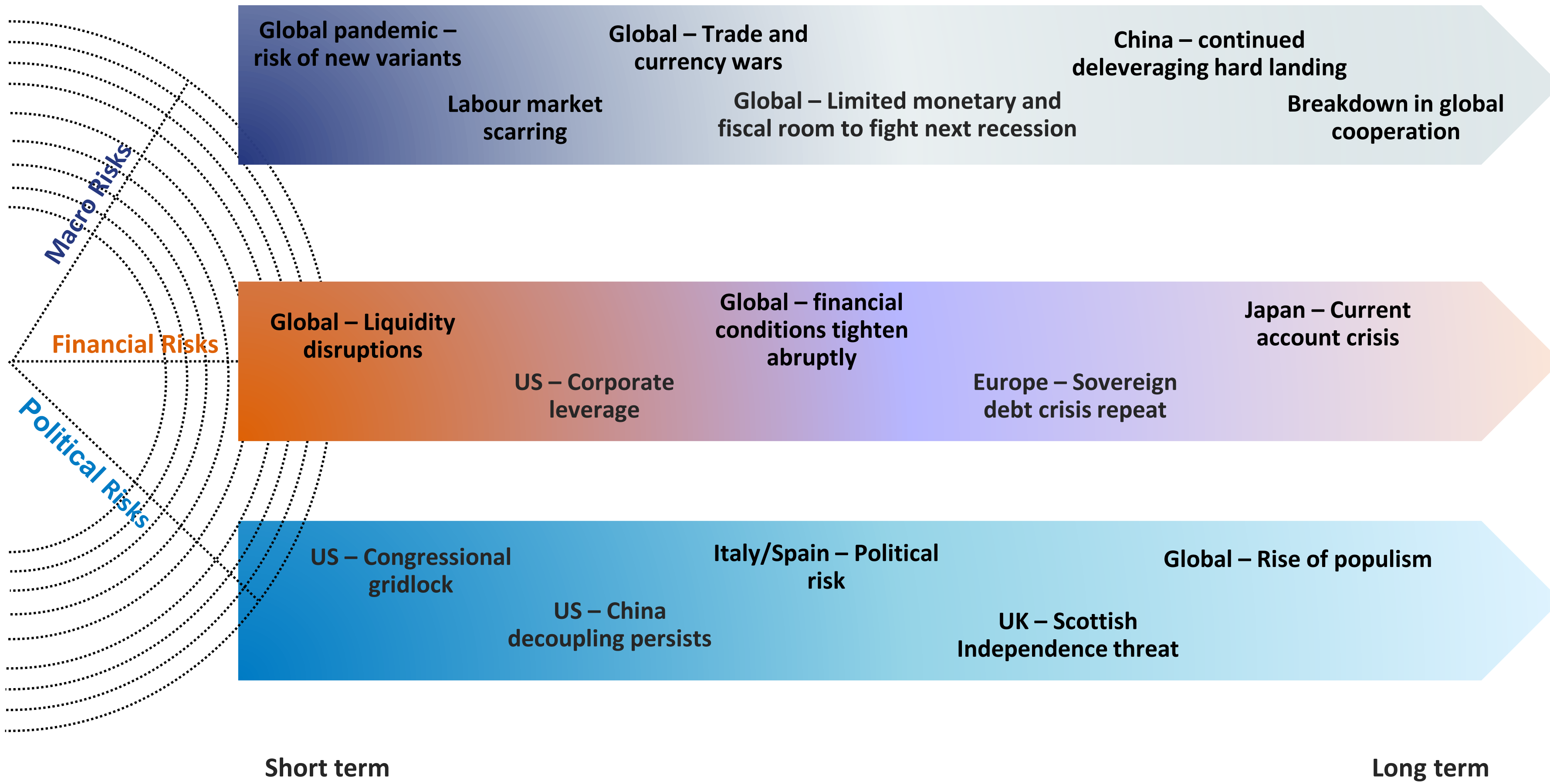
- Global/US/EMU growth surprise on the upside in a stronger and more persistent rebound from 2020
- Monetary policy fights expectations for swift tightening through forward-guidance

Market implications

- Risk-on environment with equities making further gains amidst broader rotation
- UST and EUR break-evens rise
- Spreads grind tighter

RISk Radar

Summary – Key messages



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AXA Investment Managers

Theme of the month

Theme of the month: The limitations of vaccinations

High hopes for vaccines

An endemic virus will still need managing

- Market and economic forecasts have risen on hopes that vaccines will allow a pre-Covid normality to return. Initial focus has been on distribution, which has been patchy to date. Here we focus on what the medium-term, end-state might be, when demands for vaccines can be easily met. We contend that in this end-state, few if any countries will achieve collective immunity; the virus will be endemic; and if left unchecked will once again raise hospitalizations that may challenge health systems.

Underlying assumptions are uncertain

- While simple models underpin much of this analysis, they are highly dependent on initial assumptions, which we fully recognize are highly uncertain. Estimating the underlying reproduction rates of new variants is difficult when they are not unique in the population and when measures to restrain the spread are already in place. Moreover, we are only now learning about vaccine efficacy and the reduction of severe cases post-vaccination in wide-spread real life trials, including as the Indian variant spreads in the UK. Finally, the actual number of cases of Covid remains unknown even in the most advanced economies.

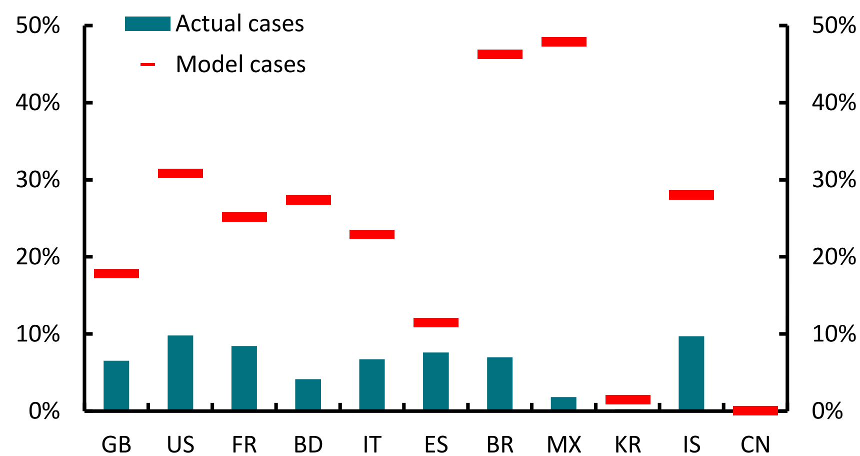
Estimated efficacy rates of different vaccines

Types	Efficacy
AstraZeneca (Vaxzevria)	76.00%
Moderna	94.10%
Pfizer (Comirnaty)	95.00%
BBIBP-CorV	86.00%
Sputnik V	91.60%
Sinovac	66.68%
Johnson	66.30%
Novavax	89.30%
Janssen	74.40%

Source: Astrazeneca, CDC, The Lancet, Global Times, FDA, Novavax and AXA IM Research, May 2021

The difference between modelled and recorded cases is high

Recorded and modelled cases (% population)



Source: Our World In Data, AXA IM Research, May 2021

Theme of the month: The limitations of vaccinations

The herd immunity gap

Collective immunity critical threshold

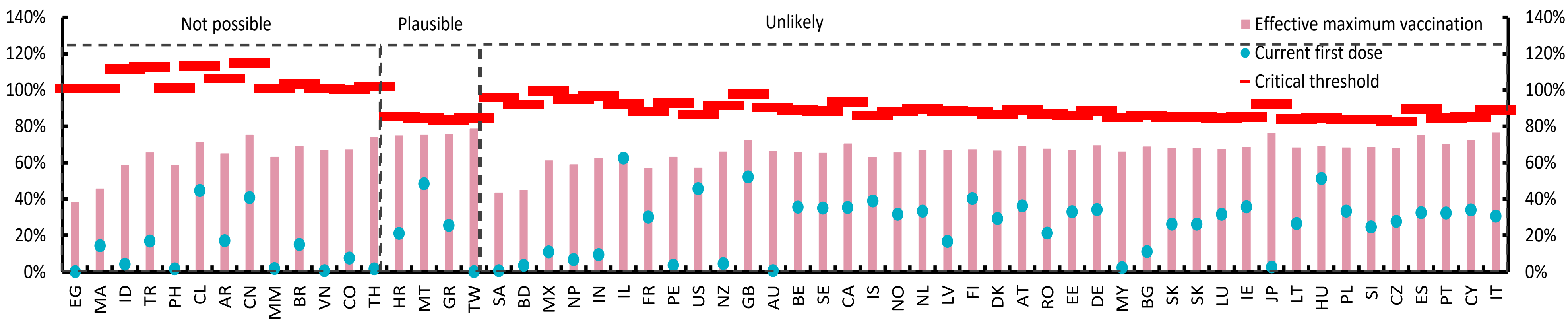
- In simple terms, the collective immunity threshold is a function of the transmissibility of the virus and the efficacy of the vaccines. COVID-19, and more recent variants are estimated to be highly transmissible. Vaccines available to many countries have efficacies that will leave large numbers of people still vulnerable. We estimate the critical threshold for 58 countries. Many suggest that a critical threshold cannot be reached (needs of more than 100% vaccinated). The rest require a high rate (80-100%) of vaccinations to achieve immunity.

Maximum vaccination rates to fall short of this threshold

- We then consider the maximum proportion of the population likely to be vaccinated. We estimate this as the total less the minimum vaccine age (18 in most, with the exception so far of the US, Canada and Algiers where it is now 12). Less those that are opposed to having the vaccine – we use survey evidence to estimate this number.
- The gap between the two (allowing for those that have caught the virus) equates to the shortfall in reaching collective immunity.

The estimated shortfall in collective immunity by country

Collective immunity metrics: % 1st dose, Critical Threshold, est max vaccination



Source: Our World In Data, AXA IM Research, May 2021

Theme of the month: The limitations of vaccinations

Efficacy not the main benefit ?

Reduced severity and hospitalizations after vaccination

- Beyond stopping people from catching and spreading the virus, another benefit of a vaccine is that it reduces the severity of cases. If the severity of Covid is materially reduced, then it will reduce the impact of catching the virus – we all still catch the common cold, but it does not disrupt economic activity.

Real world data to provide greater certainty around estimates

- In clinical trials AstraZeneca announced that its vaccine reduced severe cases by 100%. A large-scale trial in Israel drew to similar conclusions, with no severe cases or hospitalizations two weeks after the second dose. However, even though this study was carried out on 1.2m people, with only 3 people in the control group the 100% result may be a rounding issue. Reports from Brazil suggest Sinovac reduces severe cases by 85% - a very high reduction, but <100%. Moreover, early data on the spread of the Indian variant in the UK suggest 5 of 19 hospitalized cases had been inoculated (one with two doses). If vaccines reduce a high proportion of severe cases but are not perfect, meaningful numbers of hospitalizations will arise if the virus is endemic.

Israel results – 100% reduction in severe cases 2 weeks after 2nd dose

Large scale Pfizer results from Israel

		Documented	Symptomatic	Hospital	Severe	Deaths
Unvaccinated	28 days	5775	3433	244	157	27
	35 days	6053	3582	256	171	30
	42 days	6100	3607	259	174	32
Vaccinated	28 days	4405	2373	108	52	7
	35 days	4456	2387	110	55	9
	42 days	4460	2389	110	55	9
Unvaccinated	28d - 42	325	174	15	17	5
Vaccinated	28d - 42	55	16	2	3	2
Relative reduction (%)		-83	-91	-87	-82	-60
Unvaccinated	35d - 42	47	25	3	3	2
Vaccinated	35d - 42	4	2	0	0	0
Relative reduction (%)		-91	-92	-100	-100	-100

Source: New England Journal of Medicine (Feb 21), AXA IM Research, May 2021

Illustration of impact of Pfizer vaccine in Israel

Source: The Financial Times, Feb 2021

Theme of the month: The limitations of vaccinations

Unchecked, hospitals could still be overrun in an endemic scenario

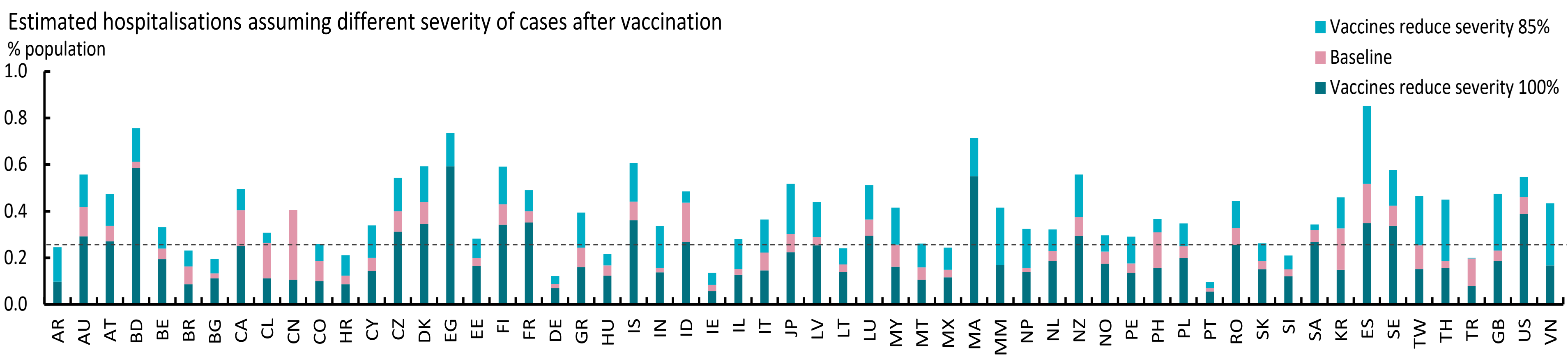
The unprotected

- Even if vaccines perfectly prevented severe cases, the unvaccinated would still be vulnerable. This would include children (although UK studies suggest child hospitalization rates are <5% adult rates) and those that choose not to be vaccinated. But in practice, if vaccines are not 100% effective in reducing severe cases, some portion of the vaccinated population will still be hospitalized.

The scale of the problem

- We estimate those likely to be hospitalized from each group, by country. We consider different scenarios for vaccine effectiveness, from 100% to 85% and one based on an estimated mix of the vaccines used in each country as a baseline forecast.
- For context, we consider the UK in detail. We estimate that the UK would see 200k-0k hospitalized from the vaccinated group (depending on assumption), <20k children and >100k from the unvaccinated group. This would total 156k. To date the UK has recorded 464k hospital admissions over the entire pandemic. We add a dotted line on the chart below as a reference to the UK outlook.

Estimated hospitalisations if the virus were endemic and unrestrained



Source: Our World In Data, Ipsos, PHE, AXA IM Research, May 2021

Theme of the month: The limitations of vaccinations

Retaining sensible precautions

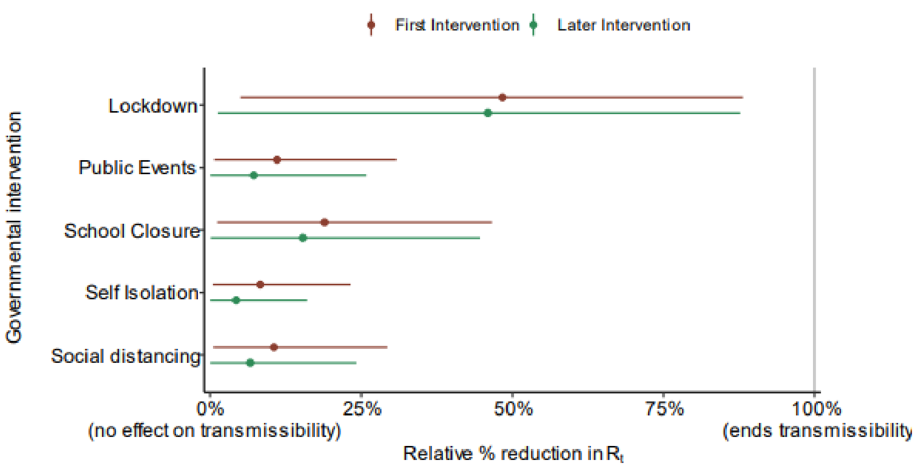
Reduced transmissibility

- The smaller vulnerable population in a post-vaccine world reduces the ability of the virus to spread (lowering its effective reproduction rate, Rt). Our estimates suggest Rt will be reduced <2. This is far lower than the current estimated initial rates of variants, >4. However, the estimated Rt in Q4 2020 in the UK as the UK variant spread was around 1.3-1.5. Left unrestrained, the virus will spread and cases will rise again.

Residual restrictions

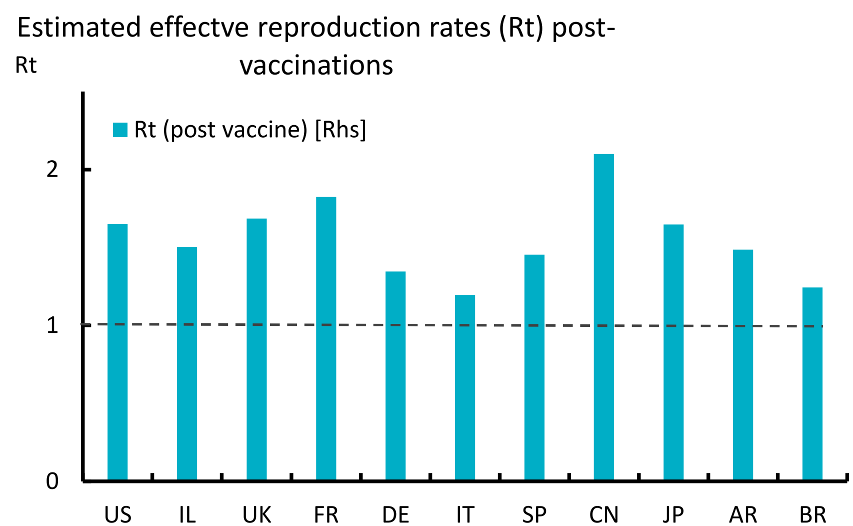
- Yet with Rt significantly reduced by vaccination, countries can choose from a variety of less restrictive measures to reduce Rt further, below 1. These could include, track & trace measures, mask-wearing, precautionary quarantine measures etc.
- However, a risk will remain that some countries remove restrictions too far. This would lead to the virus rising again and the need to reintroduce restrictions (again of the milder variety) further down the line

Previous estimates of non-pharmaceutical interventions on Rt



Source: Imperial College, Mar 2020

Estimates of Rt once countries achieve their maximum vaccinations



Source: AXA IM Research, May 2021.

Theme of the month: The limitations of vaccinations

A dynamic and evolving future

New variant risk – immunity skipping variant remains key risk

- The biggest risk to the economic outlook is the emergence of a virus mutation that is immunity resistant, reducing the effectiveness of vaccines materially or completely. We cannot assess the probability of this and retain independent risk-case scenario forecasts for this outcome.
- The risk of a new variant is positively correlated with the spread of the virus. If the virus becomes endemic, even with less severe cases for the vaccinated, the risks of new variants rise.
- Travel and quarantine restrictions could and should be imposed at short notice if variants of concern arise

Vaccine protection is likely to improve over time

- Vaccine production will increase and improve, increasingly availability of higher efficacy/greater severity reducing vaccines for more countries over time.
- (Annual) boosters are already planned to target new variants (with a lag, similar to the flu). This will address risks of new variants and any fading immunity over time.
- Trials for safety and efficacy of vaccines in children – already used in part in some countries – could raise the effective maximum vaccination proportion in many countries, bringing closer the plausibility of collective immunity
- Trials for vaccine cocktails could improve the efficacy and breadth of vaccines. Mature vaccination programmes, inc BCG, Hep A systematically use cocktails to boost efficacy.
- Those opposed to vaccines now may become less so if they are left at risk of severe cases of Covid.
- In the longer-term, vaccine incentives may increase. Longer-term safety data will become more available. The adoption of vaccine passports would create additional incentives for vaccination. Many countries already mandate vaccines for some diseases. In some countries, firms may mandate vaccination to ensure health and safety standards for other workers.

Macro outlook

Fast growth creates frictions

US

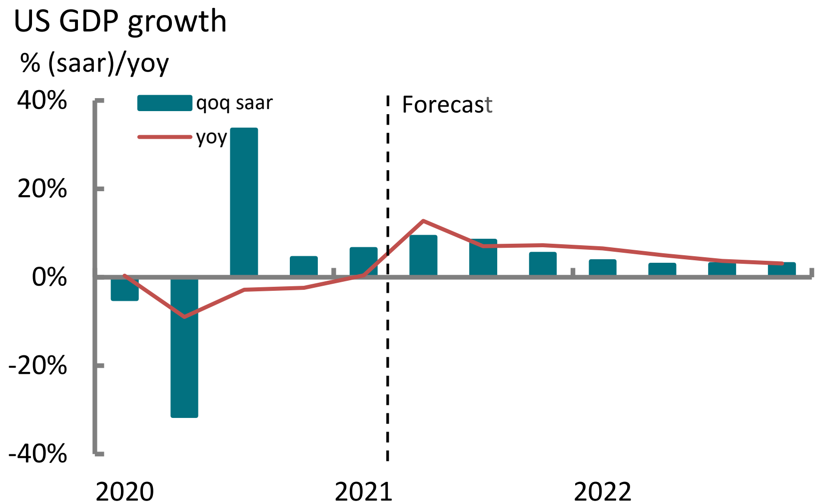
Easing restrictions and powerful stimulus

- The US posted Q1 GDP growth of 6.4% (saar). The outlook for Q2 is stronger still – although retail sales were flat in April, the upward revised surge to 10.7% in March provides a material left for spending in Q2 when we expect the bulk of lifted restrictions to be felt. We continue to forecast GDP growth at 6.9% for 2021 and 4.5% for 2022, still ahead of the consensus estimates of 6.3% and 4.0% - although these have converged with our view sharply in recent months.

Labour market restrictions

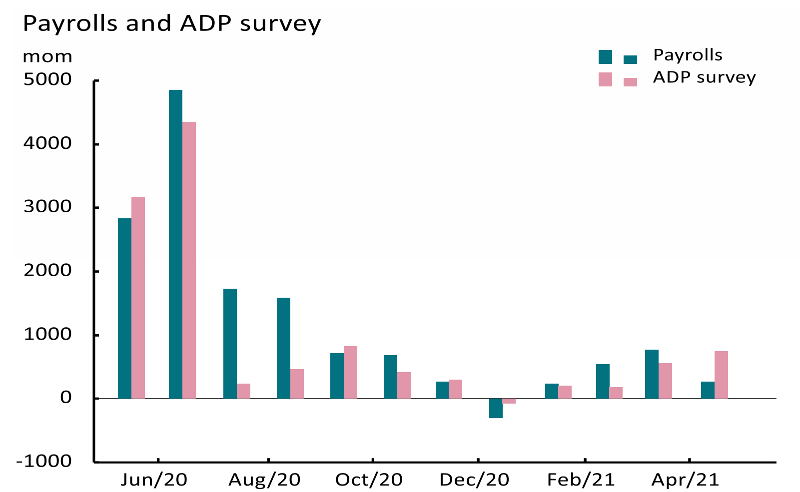
- The rise in payrolls in April disappointed, up by just 266k and far short of the 742k indicated by the ADP survey (although even after April's miss payroll gains still exceed those suggested by ADP). Against a backdrop of demonstrable demand for labour, the shortfall in jobs growth – and pressure in wage growth – is attributed to labour market frictions (a higher reservation wage), brought about by childcare limitations, health concerns and generous unemployment benefits. While temporary, these could persist through Q3.

GDP set for even faster expansion through the summer



Source: US BEA, AXA IM Research, May 2021

Payroll gains missed ADP survey in April, but still remain ahead



Source: ADP, BLS, AXA IM Research, May 2021

Frictions create temporary inflation pressure

US

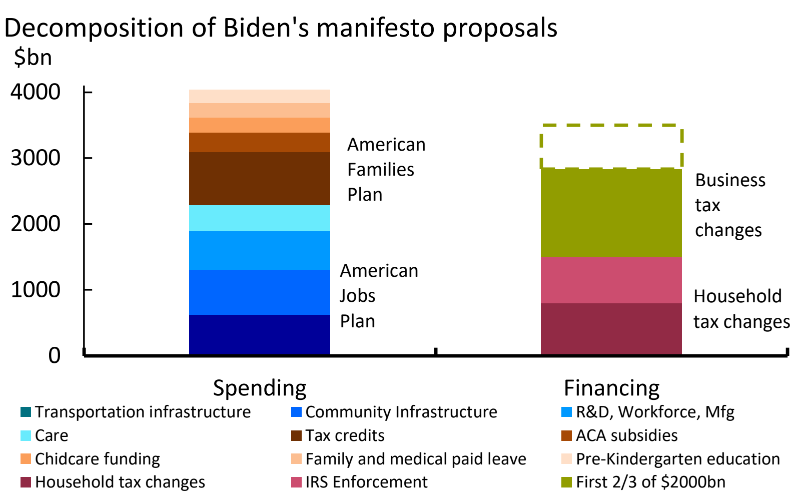
The $6trn dollar man

- President Biden fleshed out spending plans of $4trn, hot on the heels of his $1.9trn March Stimulus. The American Jobs Plan ($2.25trn) and American Families Plan ($1.8trn) provide much needed infrastructure and broader spending to the US. The White House plans to finance these packages with corporate and household tax increases. However, the difference is still a large $1trn after 10-years. With mixed political backing it is too early to see what a final version of these packages will be.

Inflation surge appears temporary.

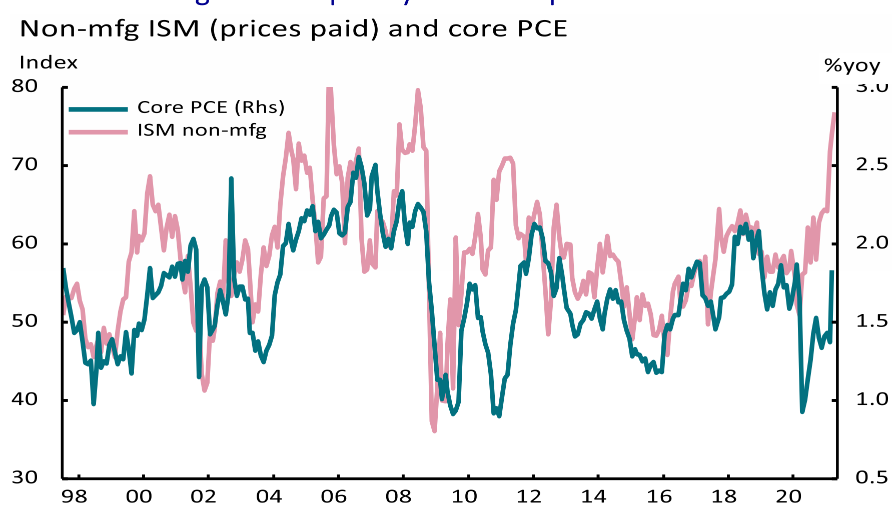
- CPI inflation surged to 4.2% y/y in April (highest since 2008) and core to 3.0% (1995). Base effects, energy and commodity price gains lifted inflation, which was further exacerbated by supply disruptions (including in Suez) and bottlenecks (used cars). It is difficult to see any of these pressures as persistent. As such, we expect inflation to peak around June and soften over H2 21. Yet we expect more modest, sustained inflation pressure thereafter and forecast core PCE inflation at 2.0% end-2022 and 2.3% end-2023.

White House spending proposals still in gestational phase



Source: The White House, AXA IM Research, May 2021

Pressures surge for temporary inflation spike



Source: ISM,BEA, AXA IM Research, May 2021

Re-hope-ning

Euro area

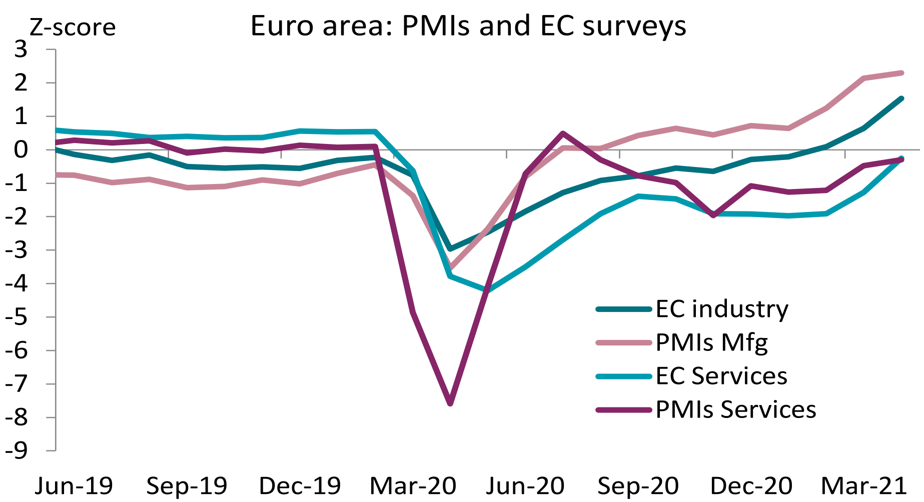
Reopening plans boost confidence

- The Covid situation has improved: new cases and ICU pressures are declining, while vaccination acceleration means that the target of 70% of the population vaccinated by September is well within reach. Reopening is proceeding. In this environment, business and consumer confidence have reached multi-month highs, suggesting that the negative -0.6% qoq Q1 GDP print might be the last. We see euro area growth at 1% qoq in Q2, before further acceleration in H2.

Several factors to watch to fine-tune the magnitude and length of the rebound

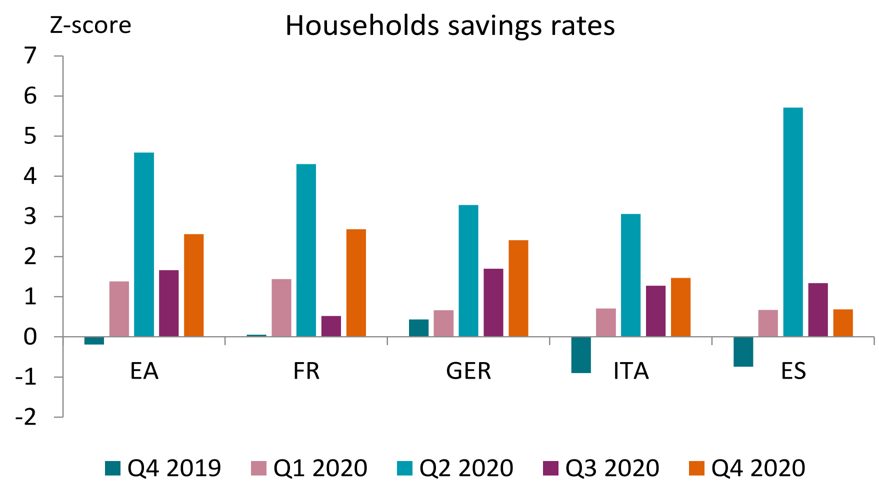
- The ability to travel (key for tourism-dependent countries such as Spain or Greece) and the speed of savings normalization will determine the magnitude of the immediate rebound. Fiscal decisions may help to gauge its length: a gradual exit from state guarantee schemes and moratoria is fundamental (c. 24% of Italian outstanding loans to NFCs and households are under moratoria), while calls for a second phase of stimulus are getting louder in France. So far, we see slight upside risk to our 3.8% yoy 2021 growth forecast.

Re-hope-ning boost



Source: European Commission, AXA IM Research, as of 11 May 2021.

Savings rate normalisation speed



Source: Eurostat, AXA IM Research, as of 11 May 2021.

Spending EU money while tapering noises get louder

Euro area

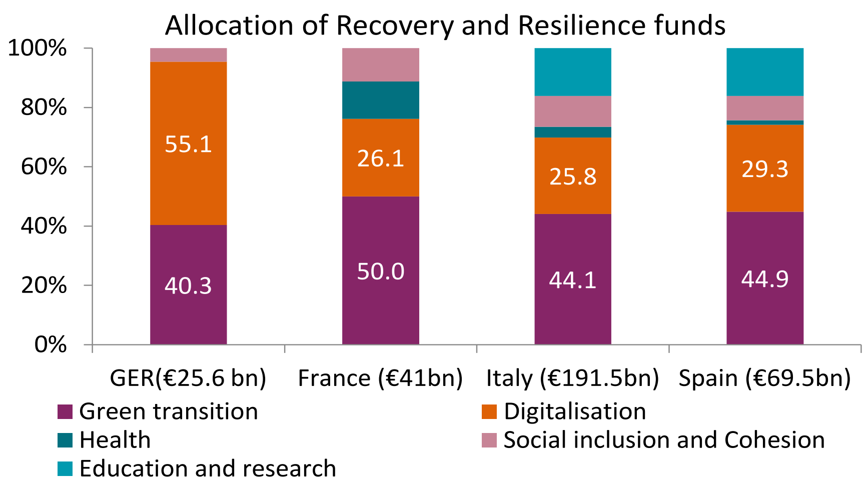
Recovery and Resilience plans share priorities but show different strategies

- Details of Recovery and Resilience plans (on how to spend €312.5bn in grants, €360bn in loans and in exchange for which reforms) show different approaches on several parameters: 1) Italy maximising the use of EU resources, while Spain is yet undecided on the loans component; 2) Priorities on digitalisation and green transition but subcomponents reflect different economic structures and challenges; 3) Italian reforms focus on unlocking government efficiency, Spanish ones on tackling structural flaws (labour market duality, unsustainable pension system, low tax burden).

ECB: The battle has just started

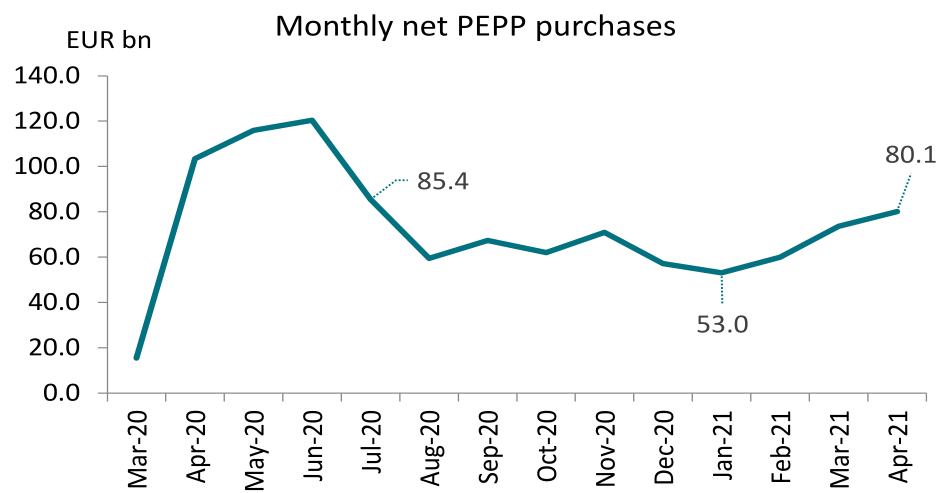
- As monetary policy becomes more data dependent, better economic data could galvanise the hawks: PEPP taper noises will grow louder. At this stage, we think a majority of the Governing council will opt to keep the pace of purchases at around €80bn per month in June. Given the weak forward guidance, all eyes will mechanically turn to September –perhaps still too early to hear from the strategy review.

Greening and digitalising the recovery



Source: Countries Recovery and Resilience plans, AXA IM Research, as of 11 May 2021

ECB PEPP to average around €80bn per month in Q2 and Q3



Source: ECB, AXA IM Research, as of 11 May 2021

AXA Investment Managers

Growth begins to pick up

UK

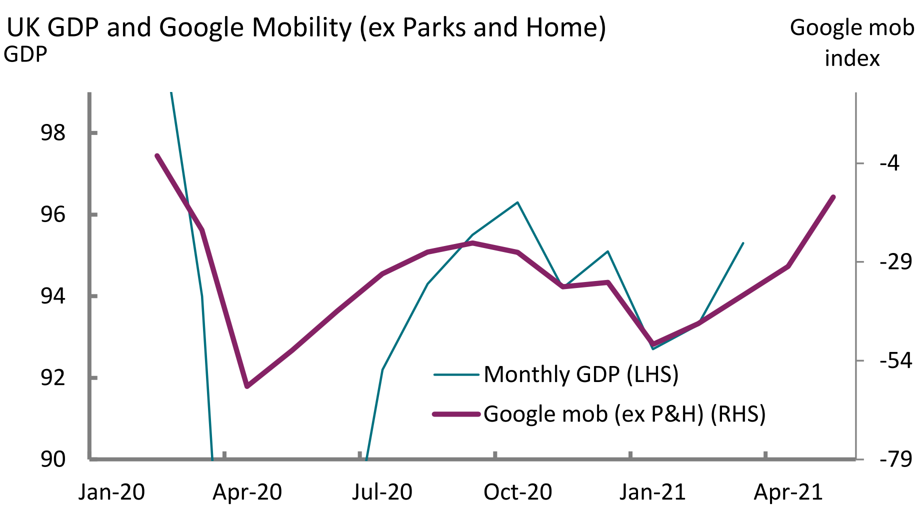
Q1 better than feared, but helped by one-offs

- Q1 GDP fell by 1.5% qoq, less than the 3.5% we feared at the start of Q1. In part, this reflected adaptations made to operating in lockdowns. However, much of the impact on private spending was as bad as we thought. Household spending fell by 3.9%, business investment by 11.9%. Government investment (21.9%) and housing investment (1.8%) offset the overall impact on investment (-2.3%). Net trade added 2.2%, but only with a 13.9% drop in imports, reflecting trade frictions and inventory unwind.

Positive momentum brings forward GDP rebound

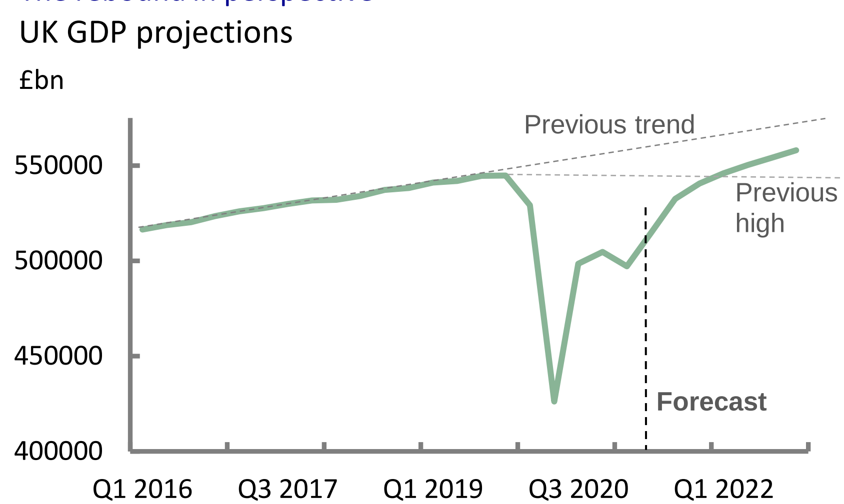
- The firmer rise in short-term rebound has led us to boost our outlook for Q2, allowing for a quicker rebound in activity. We expect GDP growth in Q2 and Q3 at around 3.5%. We forecast growth rising to 6.4% in 2021 and 5.9% in 2022, from 5.3% and 6.7% before. This remains ahead of consensus estimates (5.7% and 5.5%), but below the BoE forecasts of 7.25% for this year as we fear some precautionary behaviour returning in H2 and are carefully monitoring the spread of the Indian variant. The rebound is similar in magnitude to our forecast US gain, but the US contracted by just 3.5% last year, while the UK fall is still estimated at 9.9%

Short-term GDP and mobility data



Source: National Statistics, Google, AXA IM Research, May 2021

The rebound in perspective



Source: National Statistics, AXA IM Research, May 21

BoE wait-and-see amidst supply-side woes

UK

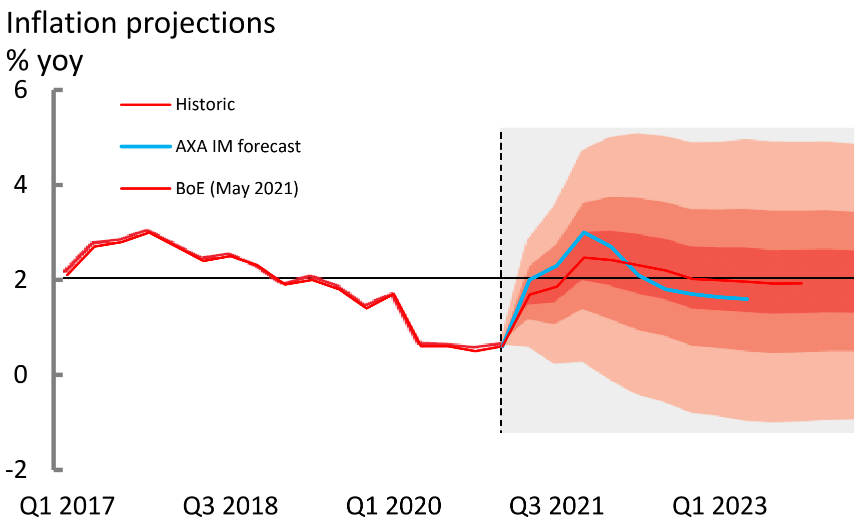
Inflation focus everywhere

- We continue to forecast a short-term rebound in inflation driven by base-effects, higher current commodity prices and bottlenecks. While we expect this to see inflation reach 3% in H2 this year, it is not obvious to us that much of this will be persistent and we forecast inflation falling back below target in 2022. The BoE announced a slowing of asset purchases, but with balance sheet targets stable, this was not policy shift. We see policy unchanged until H2 2023.

Indeyref2 – playing the long game

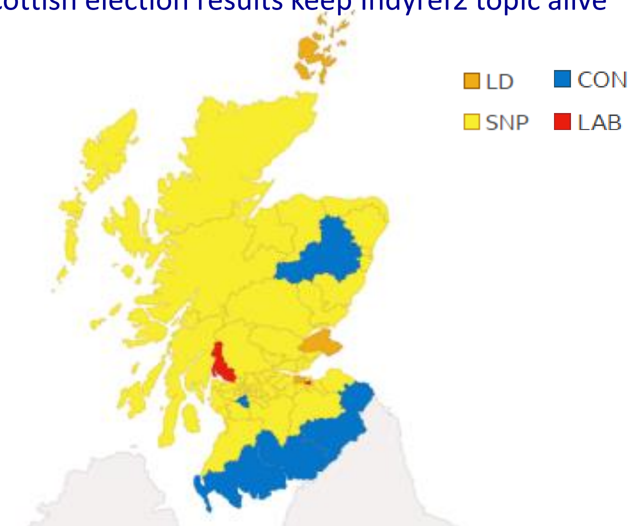
- Scottish Elections were the real focus of local and regional elections this May. The SNP increased its seats to 64, falling short of an outright majority. It will form a majority with the Greens, another nationalist party. Together they will push Westminster for a 2nd Independence Referendum. PM Johnson has ruled this out and we do not expect him to give ground until after UK General Elections in 2024. Pressure will continue for the long-term, but should fade from sterling considerations in the short-term.

Inflation volatility forecast to subside



Source: BoE, AXA IM Research, May 2021

Scottish election results keep Indyref2 topic alive



Source: BBC, AXA IM Research, May 2021

Recovery gains strength and balance

China

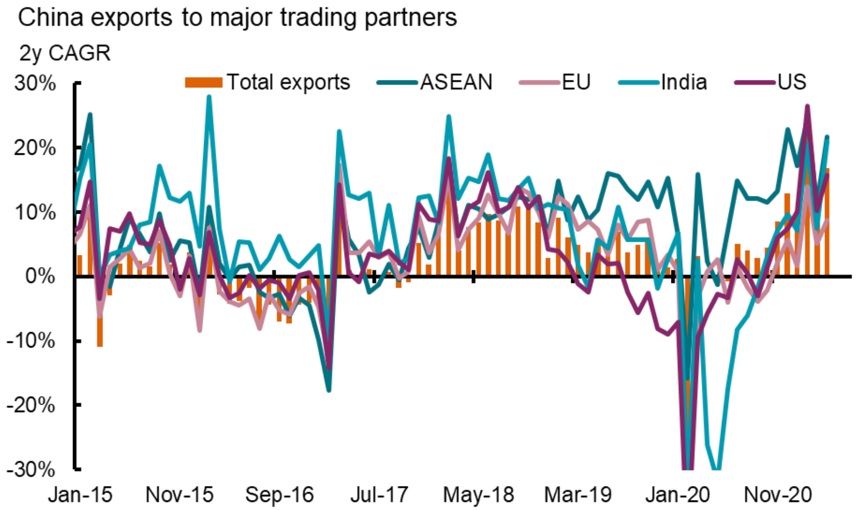
Export growth accelerates on improved demand

- Growth momentum continues to gather strength as the economy recovers from the soft patch in Q1. Manufacturing activity remains firm, supported by strong external demand. Export growth accelerated to 32.3% in April, reflecting strong shipment to most major trading partners. In the developed world, demand for regular products has come from economies exiting from lockdowns. In emerging market, the recent virus resurgence has spurred demand for medical-related products, which saw China's exports to India jump by 144% in April

Consumption remains the weak link

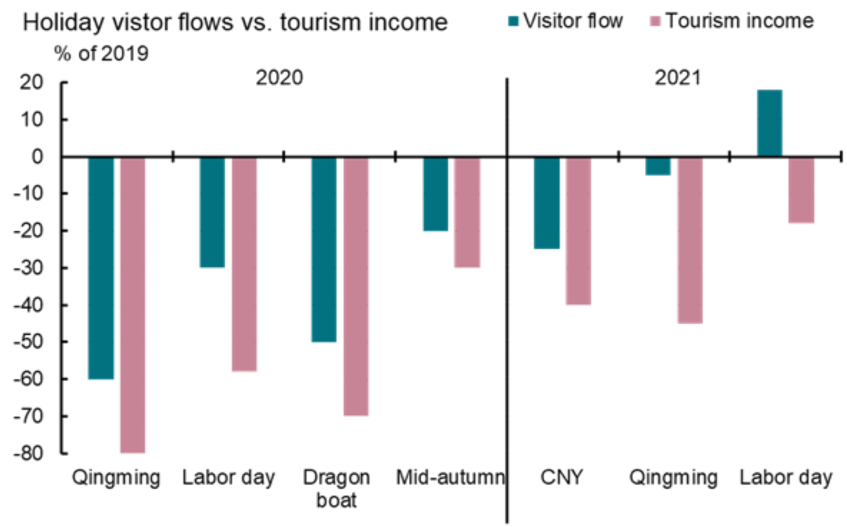
- The domestic economy shows mixed fortunes. On the one hand, fixed asset investment growth accelerated on strong corporate profit growth and tight operating capacity. On the other hand, consumption growth remains lackluster despite improved labour market conditions and easing pandemic fears. Some consumption might have been delayed to the Labour Day holiday in May, which saw record high tourist numbers and a sharp increase in consumer spending relative to last year

Export growth accelerates on strong demand



Source: CEIC, AXA IM Research, May 21

Holiday spending approaches normality



Source: NBS, AXA IM Research, May 21

Inflation spike won't prompt PBoC action

China

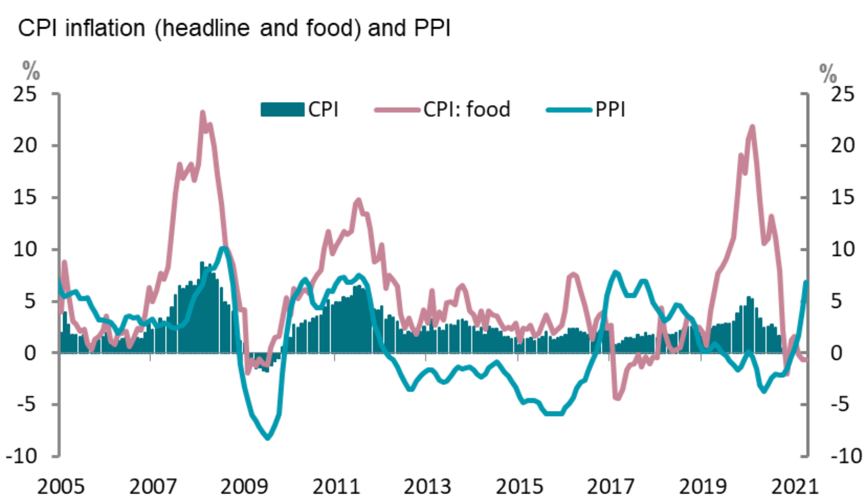
Inflation spikes due to cost shocks and base effects

- The sharp rise in global commodity prices has started to put upward pressure on inflation. Annual PPI inflation grew by 6.8% in April, reaching a 3.5 year high. So far, the pass-through of upstream price increases to downstream prices is limited by fragile end-demand, which constrains firms' ability to pass on costs. In addition, CPI inflation increases have been kept in check by falling pork prices. We think the PBoC will stay calm against the imported cost shock, which should prove temporary once supply bottlenecks are resolved. We see CPI inflation edging higher in the coming months, but not enough to trigger a PBoC response this year

Population demographic continues to worsen

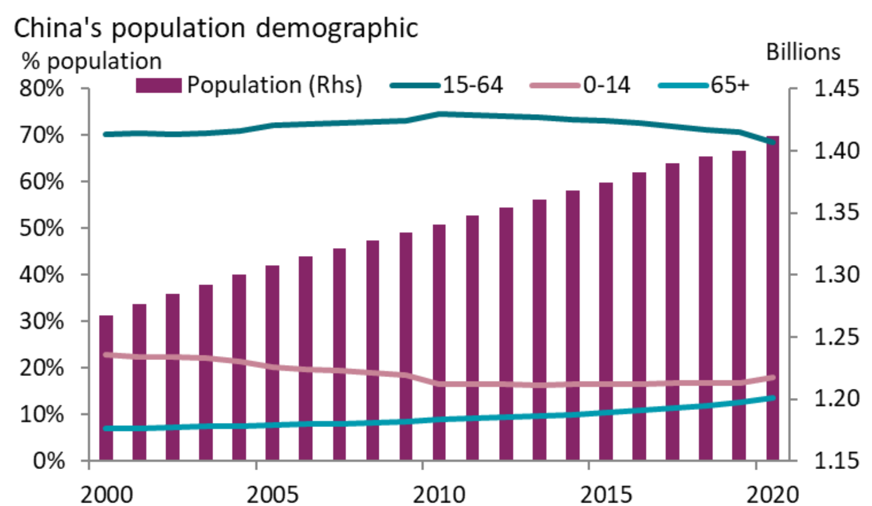
- The latest census data shows that China's total population reached 1.412 billion in 2020. But the 72 million population increase since 2010 was the smallest since 1950. Population aging has accelerated over the past decade, with the share of elderly population (aged 65+) rising to 13.5%, while the share of working-age population shrinking to 63.4% from 70.1%. To compensate, the labour force is now more educated, and more people are in higher paying jobs in cities. The most troubling statistics are the rapid declines of new-borns in recent years, which calls for an urgent rethinking of China's family-planning policy

Inflation spikes due to upstream price increases



Source: CEIC, AXA IM Research, May 21

Demographic situation continues to worsen



Source: CEIC, AXA IM Research, May 21

Restrictions have been extended but for how long?

Japan

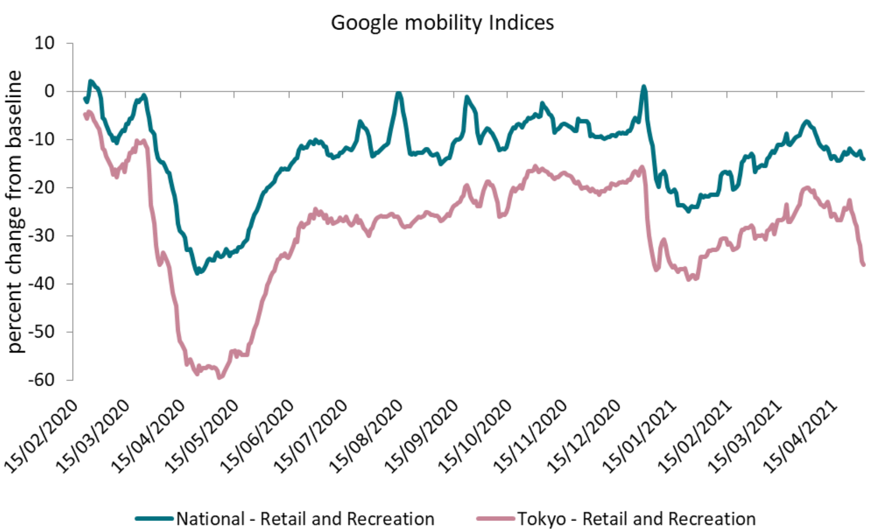
The virus dictates the law

- The government has extended the state of emergency in Tokyo and eight other prefectures until the end of May. This reflected the ongoing spread of the virus, which had continued to rise towards previous start of year highs, with initial measures not in place for long enough to see any decline in the number of new cases.
- Vaccination campaign should really start in May as Japan is supposed to receive more than 40 million of Pfizer doses. For now, only 3% of the population has received a first dose.

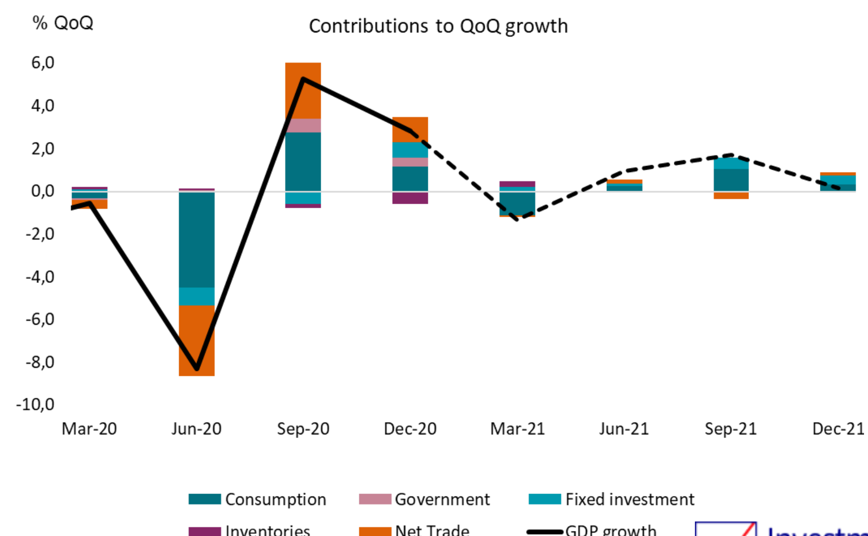
Preliminary Q1 GDP decline by 1.3% on the quarter.

- Q1 GDP fell by 1.3% on the quarter – a little weaker than generally expected, but in line with our forecast. Private consumption contributed the most to this decline, dropping by 1.4%. However, investment spending also unexpectedly contracted by 1.4% and net exports also contracted.

The restrictions are going to last most of the Q2



The recovery won't be so easy…



Source: Google mobility index, AXA IM Research, as of May 2nd

Outlook remains uncertain

Japan

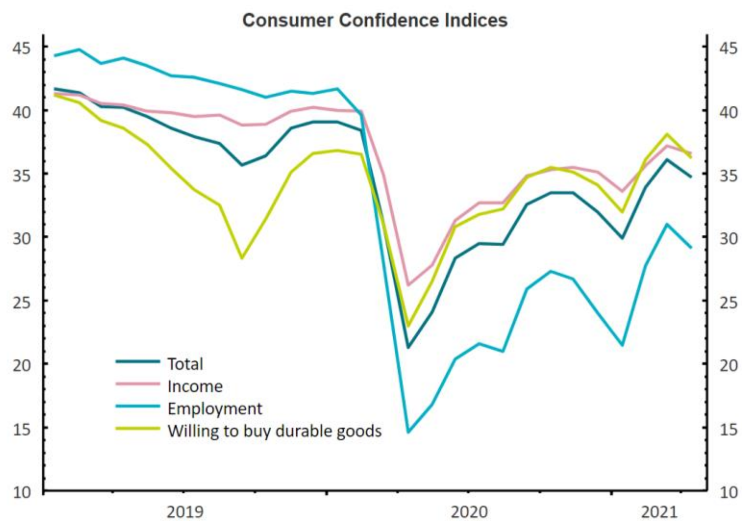
A strong rebound is delayed to Q3

- The extension of restrictions into Q2 will continue to weigh on private consumption. Consumer confidence has already declined in April. The GDP growth should manage a small rebound in Q2 (+0.9% qoq), but only as we expect strong exports and an increase in capital expenditures. In April, the manufacturing PMI was in expansion territory at 53.6 for the third consecutive month, while industrial production expectations also point to acceleration. If restrictions are eased, activity should rebound more strongly in Q3 (+1.7%) but we remain very cautious about the Q4 outlook as vaccinations are unlikely to be completed, raising the risk of another wave before winter.

Increased inflation outlook reflects delayed resumption of the “Go to” programme

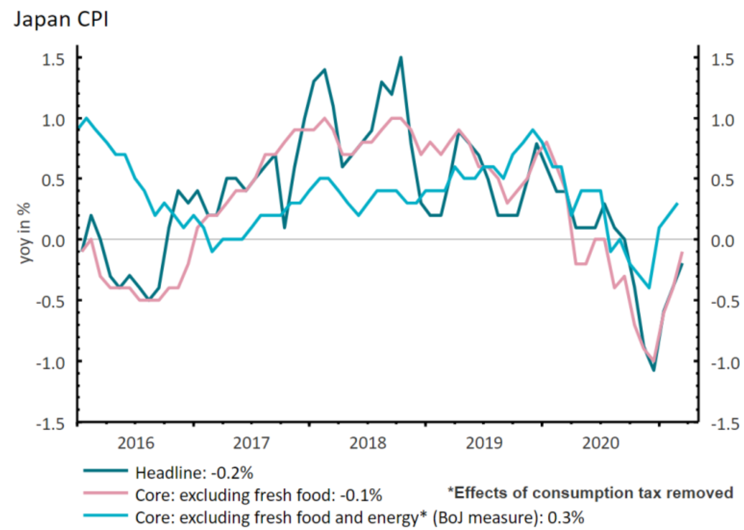
- March headline CPI rose to -0.2% year on year (yoy), up by 0.2 pp. The negative energy contribution is declining and CPI excluding volatile components increased by 0.3% yoy from 0.2%. The “Go to Travel” programme, which offers discounts on domestic travel, should only resume in September. We accordingly adjust our CPI forecasts: 0% in 2021 (from -0.3%) and 0.4% in 2022 (from 0.5%).

Consumer confidence has retraced in April



Source: Refinitiv Datastream and AXA IM Research Apr 21

CPI is also rising in Japan



Source: Refinitiv Datastream and AXA IM Research Mar 21

AXA Investment Managers

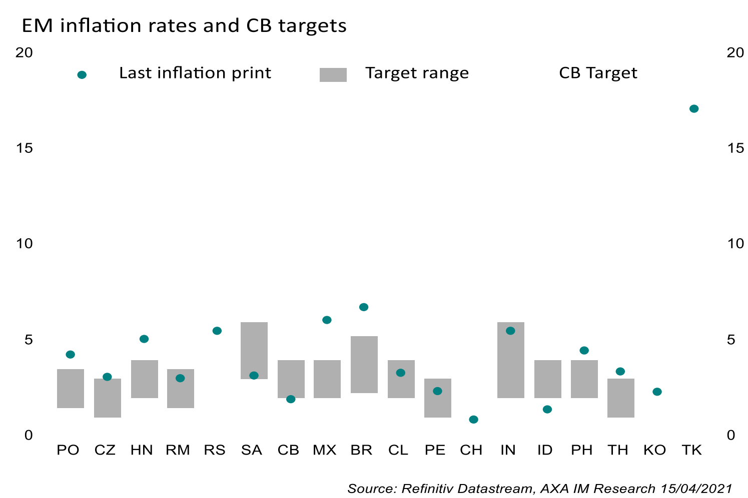
Vaccination, reopening and recovery … to drive normalisation in monetary policy

Emerging Markets

Recovery path remains pandemic dependant. Monetary policy will be slowly normalising.

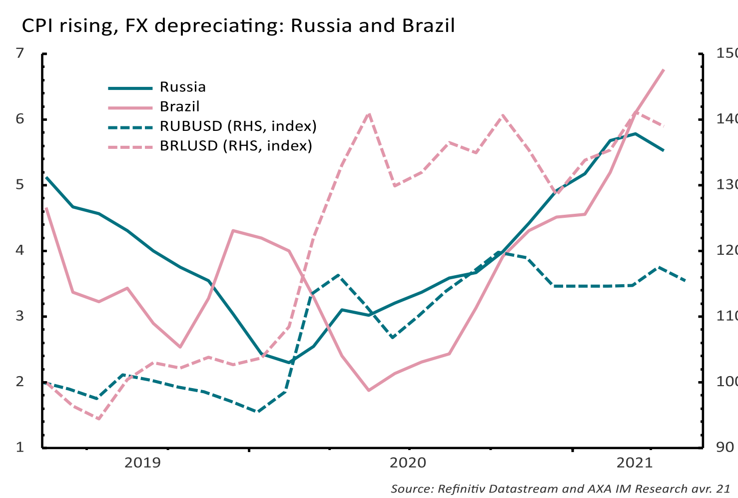
- Vaccinations are rising but lag vs advanced countries on supply constraints. Some positive news from recent discussions about the willingness of the US to ship excess vaccines, as well as possible waivers for Covid-19 vaccines, may alleviate these concerns in the future.
- PMI surveys suggest strong industrial momentum in the months ahead. Exports of tech and non-tech products continue to grow healthily in South Korea and Taiwan. So far, Q1 GDP releases have shown that economies are coping increasingly better with the various pandemic related constraints: Taiwan, Korea, Singapore and Mexico above expectations, Philippines and Indonesia less so.
- Inflation also surpassed expectations: our EM-20 inflation rate proxy jumped to 3.1% in March mostly on the back of the acceleration in China, given energy price inflation while food inflation showed mutually offsetting regional divergences.
- Central banks are increasingly hawkish and those who saw past FX depreciation started the normalisation process, such as Brazil (+75bp to 3.5%,) and in Russia, both signalling further tightening. The Turkish central bank kept rates unchanged at 19% for a second month in a row and according to its own inflation projections, it is unlikely to cut rates before Q4 2021.

Inflation momentum accelerating



Source: Datastream, AXA IM Research, 13 April 2021

Monetary policy adjusting



Source: Datastream, AXA IM Research, 14 April 2021

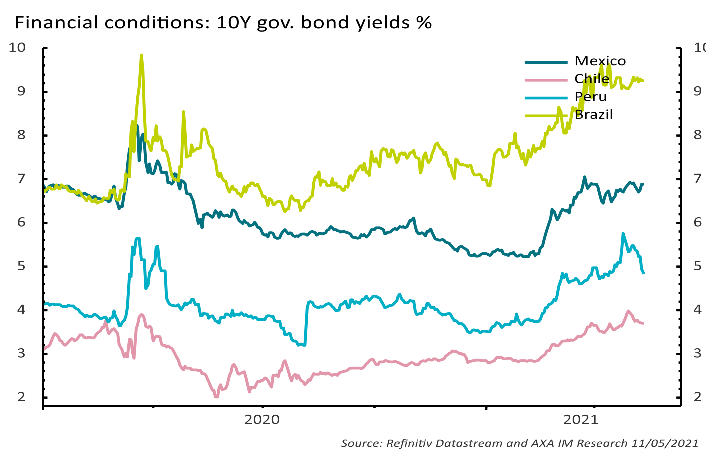
Political risk looming in Latin America

Emerging Markets

Political tensions rising (again) through Latin America…

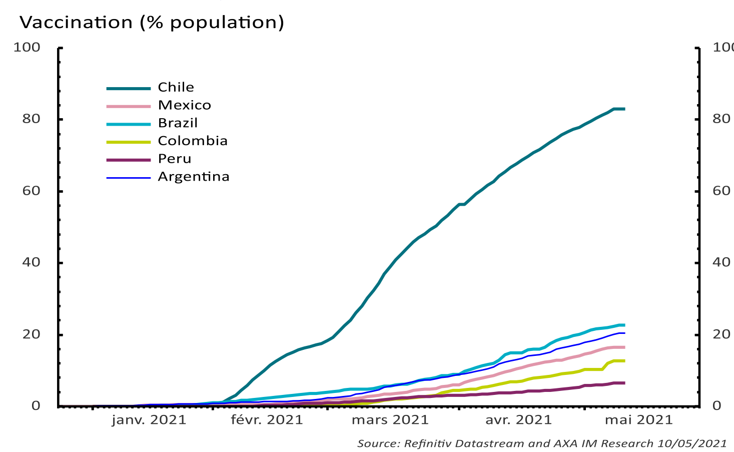
- **Brazil** remains embroiled in political debates over tax reform, with the speaker of the Lower House dismantling the tax reform committee. Pandemic management remains controversial.
- **Mexico** is heading into mid-term elections (June 6) that will determine the composition of the Congress and thus the government's ability to implement policies in the second term.
- **Colombia's** tax reform process faced massive opposition threatening the fiscal outlook and its credit rating.
- In **Peru**, the run-off election (June 6) will oppose extreme left Castillo to right wing Fujimori, 2 perfectly opposing agendas but in what appears to be a terribly tight race; none is likely to reach a comfortable majority in Congress. The race is getting tighter most recently with Castillo losing some support.
- In Argentina, internal political tensions ahead of fiscal policy and IMF negotiations are not welcome.
- Elections of the **Chile** Assembly, but also majors, councillors and regional governors, will likely help determine the political forces that will be in charge of drafting the Constitution as well as a flavour of the general elections scenario.
- … and finally a glimmer of hope from the positive election surprise in **Ecuador** with the victory of conservative candidate Guillermo Lasso in the presidential elections who will try to consolidate public finances while facing a fragmented congress.

Global and local factors affecting financial conditions



Source: Refinitiv Datastream, AXA IM Research, May 2021

Chile aside, Covid-19 vaccination is still slow



Source: AXA IM Research, May 2021

AXA Investment Managers

Investment Strategy

Multi-Asset Investment views

Our key messages and convictions

Positive on equites

#1

Economic and earnings rebound remain on track whilst the liquidity backdrop remains supportive

Neutral on Investment Grade Credit

#2

Despite support from monetary and fiscal initiatives, valuations are no longer attractive due to tight spreads

Negative Sovereign Bonds

#3

Bond markets starting to price a policy shift by the Fed as fiscal stimulus takes hold although monetary arsenal remains supportive

Long Volatility

#4

Concerns over COVID-19 variants and Fed monetary policy transition generate higher volatility

Source: AXA IM as at 21/05/2021

FX Strategy

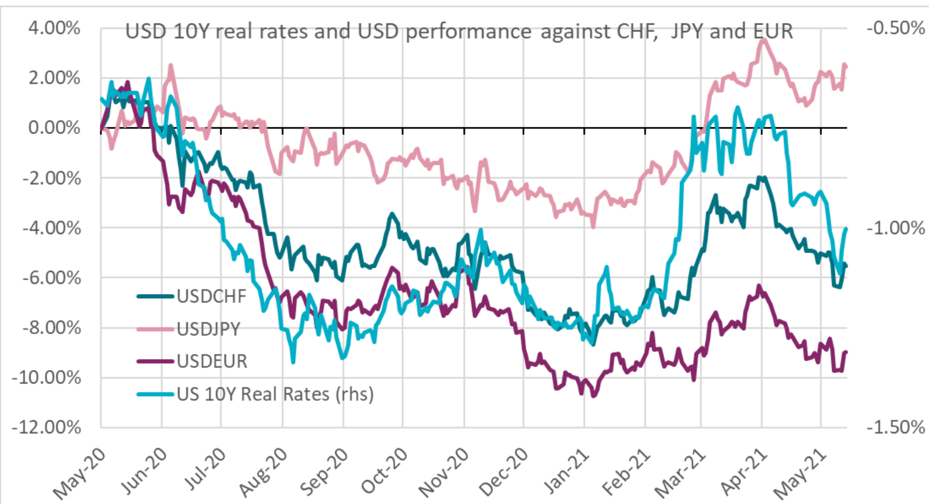
US real yield and USD can bite again

- US real yields have almost fully unwound the gains from the massive fiscal stimulus delivered by the Biden administration as the US Federal Reserve has dialed down tapering and tightening fears and the US labour market has struggled to regain its covid losses. This has translated into USD weakness against low yielders.

- Yet, inflation pressures remain in place as expectations have risen further. So, risks for a renewed rebound in real rates remain. This is a threat for the EURUSD in the short term: though still undervalued from a long-term perspective it has already moved closer to fair value than most, while long positioning remains sizable and has room to unwind.

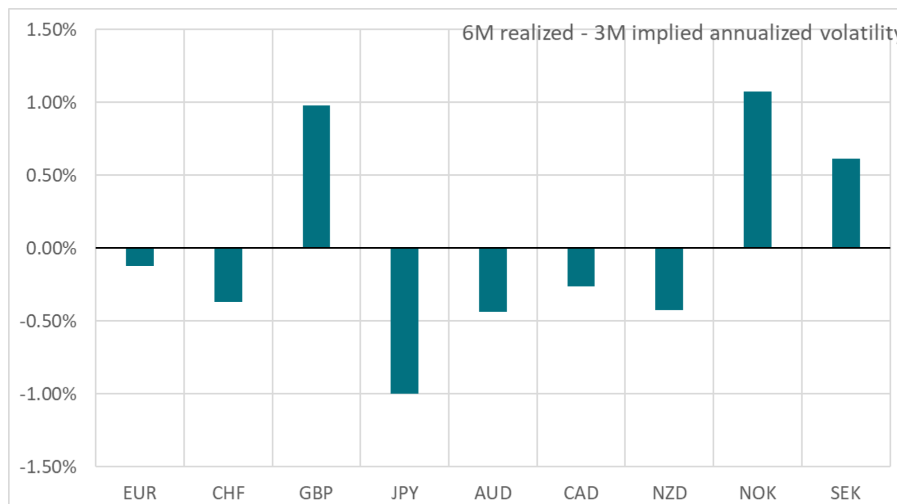
- NOK and GBP suffered particularly during the Covid outbreak amid risk-on currencies. Since then, UK's reopening and relief from Brexit cliff risks have helped a sentiment rebound in GBP. The NOK outlook has benefited from rising oil prices and a credibly hawkish Norges Bank. Market confidence in both currencies can be seen in their implied volatility vs the USD persistently below realised volatility.

Low yielders' fate tied to a US real rates rebound



Source: Refinitiv and AXA IM Research, May 2021

EUR long positioning unwound only marginally in March



Source: Bloomberg and AXA IM Research, May 2021

Rates Strategy

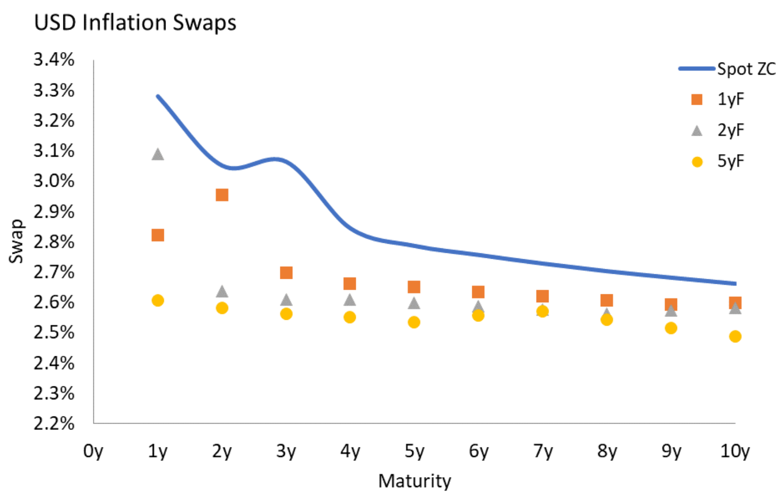
US inflation upside surprise yet to undermine the 'transitory base-effect' inflation narrative

- Bond markets, central bankers and private-sector analysts continue to shrug off the risk of structural inflation despite the strong upward surprise in April's US CPI. After all, there are few signs of accelerating wages or destabilised inflation expectations. At least not for now.

- The other side of the coin tells the story of a US economy that is supposed to grow at around 7% in 2021 backed by a potent and synchronized monetary and fiscal stimulus. The risk is that markets start adjusting expectations at some point, questioning the 'transitory' inflation mantra. Thus, the rise in core inflation needs to be monitored as an indicator of structural inflation pressures.

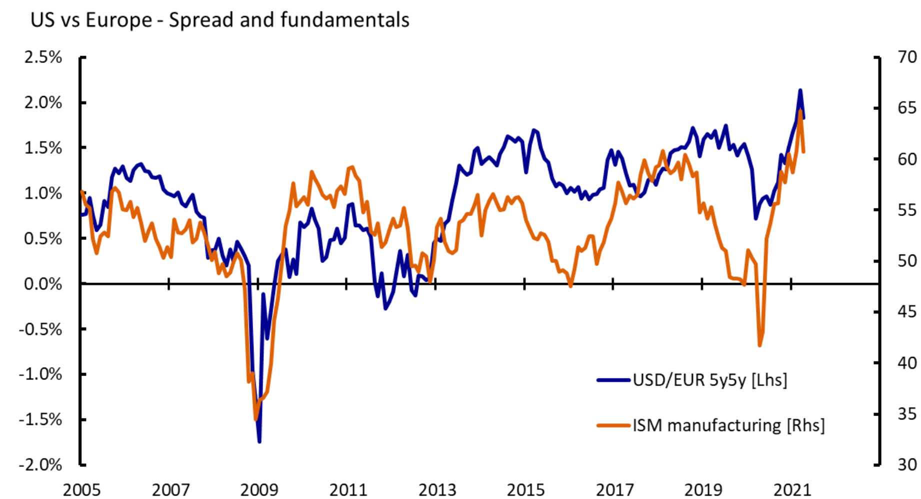
- A further correction in US-EU spreads could be in the cards near term, with such a scenario sensitive to an acceleration of Eurozone's fundamentals, perhaps on the back of a faster than expected reopening. Of course, US-EU spreads are also likely be very sensitive to any change in wording from either Washington or Frankfurt.

Markets still convinced about a transient base-effect



Source: Bloomberg and AXA IM Research, May 2021

US/EU spreads look toppish



Source: Bloomberg and AXA IM Research, May 2021

Credit Strategy

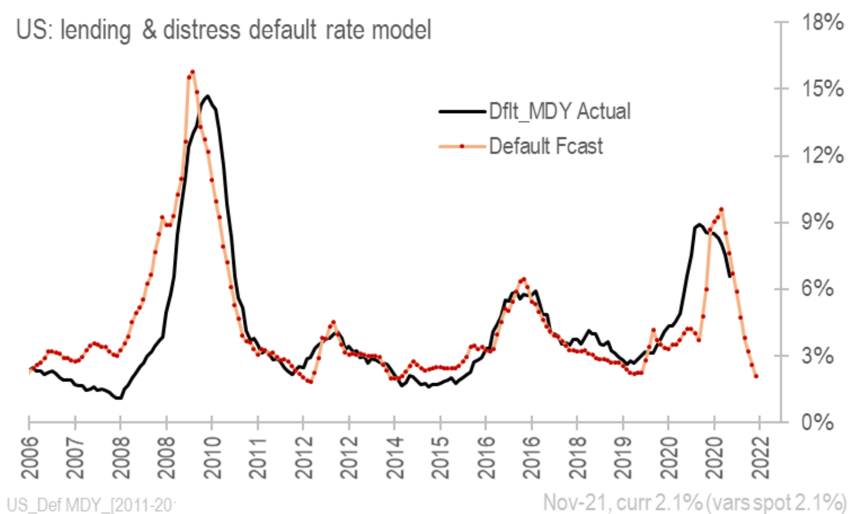
End of a default cycle

- The unprecedented monetary and fiscal intervention during the Covid crisis has curtailed the corporate default cycle very effectively. Fears of annual default rates in the 'mid-teens', comparable to the global financial crisis (GFC), have not materialized. So while the default cycle has been more severe than that of the 2015-16 energy-commodity crisis, it has exceeded neither the 2008-9 GFC nor the 2000s dot-com peaks.

- Furthermore, forecasts point to a very benign outlook. Our default rate model, which 'nailed' the default peak albeit with some lag compared to the rapid rise we saw last year, expects the default rate to fall towards its historic lows over the next 12 months. A key risk is a material relapse in Covid dynamics, like the emergence of a very transmissive strain that also escapes vaccine efficacy. Another risk is that of companies that fail to benefit sufficiently from the economic rebound and end up folding further down the road.

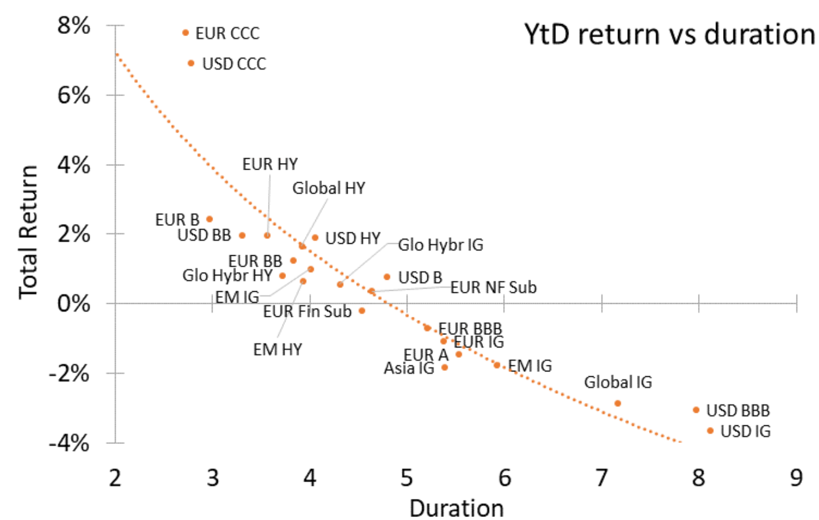
- The benign default outlook underpins our view for higher beta/lower duration credit to continue outperforming lower beta/higher duration credit in 2021.

Modelled US HY default rate to fall towards historic lows



Source: ICE, Bloomberg and AXA IM Research, May 2021

Lower duration credit has outperformed notably year to date



Source: ICE, Bloomberg and AXA IM Research, May 2021

AXA Investment Managers

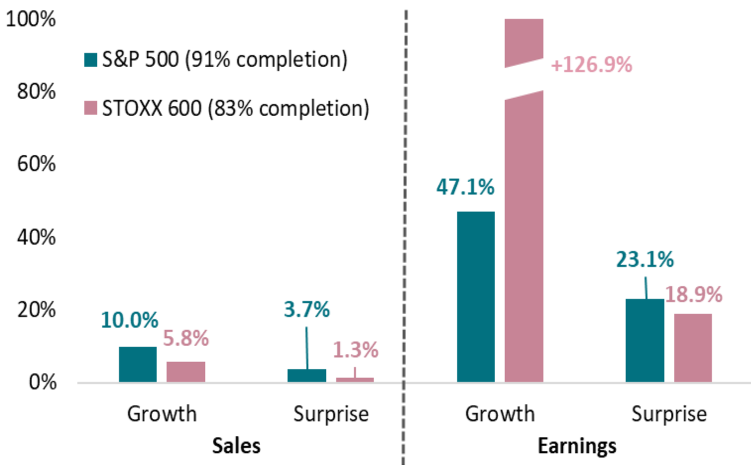
Equity strategy

Inflation dictates the equity markets' rhythms

- Even with a robust earnings results in Q1, the equity market performance has been muted as inflation risks weighed on markets. Materials (+8.0%), energy (+7.4%) and financials (+5.0%) are the three best performers among sectors, while technology has been weak (-4.4%). The current economic environment appears to favor rotation toward value (+4.2%) vs growth (-1.9%).
- The first quarter earnings season is well underway, with positive earnings and sales surprises in US and Europe. For the former, the earnings surprise is +23.1%, bringing overall earnings growth to +47%, while the latter has higher earnings growth (+126.9%) for a roughly identical overall surprise (+18.9%).
- The reflation theme is key, with stock price reaction varying across asset classes and positioning by sector, style and factor is decisive. We investigated equity performance when expected inflation is high (5^{th} quintile of US 5yr breakeven). In the current high expected inflation regime, we note that recent performance is pointing towards what observed historically across equity categories. Energy, utilities as well as defensives and value assets tend to outperform during high expected inflation periods.

Positive sales and earnings surprises across the board

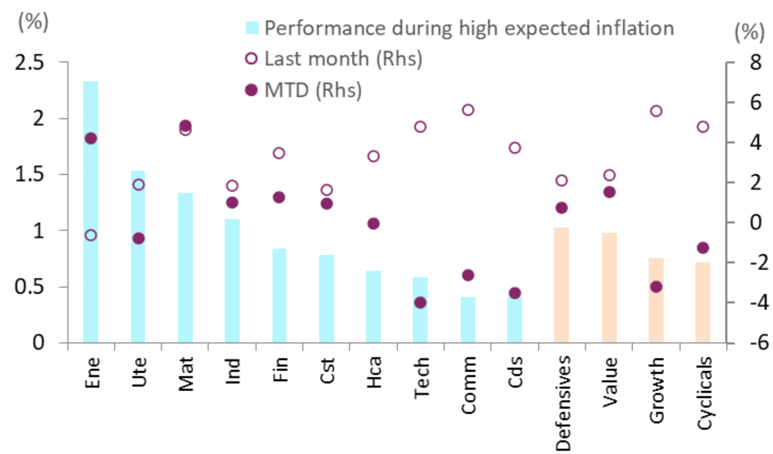
Q1 2021 Earnings season tracker



Source: Bloomberg and AXA IM Research, May 2021

Inflation has been key driver in recent equity performance

Global equities performances and expected inflation



Source: MSCI, Datastream and AXA IM Research, May 2021, Note: high expected inflation corresponds to 5^{th} quintile of the U.S. 5-year breakeven)

Investment Managers

Asset allocation stance

Positioning across and within asset classes

Asset Allocation

Key asset classes

	Negative	Neutral	Positive
Equities			■
Bonds	■		
Commodities		■	
Cash		■ ▲	

Equities

Developed

	Negative	Neutral	Positive
Euro area			■
UK			■
Switzerland		■	
US			■
Japan		■	

Emerging & Equity Sectors

	Negative	Neutral	Positive
Emerging Markets		■	
Europe Cyclical/Value			■
Euro Opening basket			■
Euro Financials			■
US Cyclical/Value		■	
US Financials			■
Global semiconductors		■	

Fixed Income

Govies

	Negative	Neutral	Positive
Euro core		■	
Euro peripheral		■	
UK		■	
US	■		

Inflation Break-even

	Negative	Neutral	Positive
US		■	
Euro		■	

Credit

	Negative	Neutral	Positive
Euro IG		■	
US IG		■	
Euro HY		■	
US HY		■	

EM Debt

	Negative	Neutral	Positive
EM Bonds HC		■	

Legend Negative | Neutral | Positive **Change** ▲ Upgrade | ▼ Downgrade

Source: AXA IM as at 21/05/2021

Investment Managers

AXA Investment Managers

Forecasts & Calendar

Macro forecast summary

Forecasts

Real GDP growth (%)	2020	2021*		2022*	
		AXA IM	*Consensus*	AXA IM	*Consensus*
World	**-3.7**	**5.6**		**4.3**	
Advanced economies	**-5.3**	**5.3**		**4.1**	
US	**-3.4**	**6.9**	5.7	**4.5**	4.0
Euro area	**-6.8**	**3.8**	4.3	**3.6**	4.2
Germany	**-5.3**	**2.4**	3.4	**3.3**	3.8
France	**-8.3**	**6.0**	5.5	**3.6**	3.7
Italy	**-8.9**	**4.5**	4.2	**4.1**	4.0
Spain	**-11.0**	**4.5**	5.7	**4.7**	5.7
Japan	**-4.9**	**2.7**	2.8	**2.9**	2.3
UK	**-10.0**	**6.4**	4.6	**5.9**	5.8
Switzerland	**-3.0**	**3.4**	3.2	**2.9**	2.9
Emerging economies	**-2.7**	**5.7**		**4.5**	
Asia	**-1.5**	**7.4**		**5.1**	
China	**2.3**	**8.5**	8.4	**5.5**	5.4
South Korea	**-1.0**	**3.5**	3.5	**3.0**	3.1
Rest of EM Asia	**-6.0**	**6.5**		**4.7**	
LatAm	**-7.3**	**4.0**		**2.8**	
Brazil	**-4.1**	**3.0**	3.3	**2.3**	2.4
Mexico	**-8.5**	**4.7**	4.4	**2.5**	3.0
EM Europe	**-2.3**	**3.1**		**3.6**	
Russia	**-2.8**	**1.8**	2.9	**2.5**	2.6
Poland	**-2.7**	**3.3**	4.1	**4.6**	4.7
Turkey	**1.6**	**4.5**	5.1	**4.6**	3.9
Other EMs	**-3.7**	**3.3**		**4.1**	

Source: Datastream, IMF and AXA IM Macro Research – As of 21 May 2021

* Forecast

Expectations on inflation and central banks

Forecasts

Inflation Forecasts

CPI Inflation (%)	2020	2021*		2022*	
		AXA IM	*Consensus*	AXA IM	*Consensus*
Advanced economies	**0.8**	**2.1**		**1.5**	
US	**1.2**	**3.1**	2.4	**2.4**	2.2
Euro area	**0.3**	**1.5**	1.5	**1.1**	1.3
Japan	**0.0**	**0.0**	-0.1	**0.4**	0.5
UK	**0.9**	**2.0**	1.6	**2.1**	2.0
Switzerland	**-0.7**	**0.1**	0.3	**0.4**	0.5

Source: Datastream, IMF and AXA IM Macro Research – As of 21 May 2021

* Forecast

Central banks' policy: meeting dates and expected changes

Central bank policy
Meeting dates and expected changes (Rates in bp / QE in bn)

		Current	Q1 -21	Q2-21	Q3-21	Q4-21
United States - Fed	Dates	0-0.25	26-27 Jan 16-17 Mar	27-28 Apr 15-16 Jun	27-28 Jul 21-22 Sep	2-3 Nov 14-15 Dec
	Rates		unch (0-0.25)	unch (0-0.25)	unch (0-0.25)	unch (0-0.25)
Euro area - ECB	Dates	-0.50	21 Jan 11 Mar	22 Apr 10 Jun	22 Jul 9 Sep	28 Oct 16 Dec
	Rates		unch (-0.50)	unch (-0.50)	unch (-0.50)	unch (-0.50)
Japan - BoJ	Dates	-0.10	20-21 Jan 18-19 Mar	26-27 Apr 17-18 Jun	15-16 Jul 21-22 Sep	27-28 Nov 16-17 Dec
	Rates		unch (-0.10)	unch (-0.10)	unch (-0.10)	unch (-0.10)
UK - BoE	Dates	0.10	4 Feb 18 Mar	6 May 24 June	5 Aug 23 Sep	4 Nov 16 Dec
	Rates		unch (0.10)	unch (0.10)	unch (0.10)	unch (0.10)

Source: AXA IM Macro Research - As of 21 May 2021

Calendar of 2021 events

2021	Date	Event	Comments
June	10 Jun	ECB Meeting	Unchanged (-0.5)
	15-16 Jun	FOMC Meeting	Unchanged (0-0.25)
	17-18 Jun	BoJ Meeting	Unchanged (-0.1)
	24 Jun	BoE Meeting	Unchanged (0.1)
July	23 Jul	ECB Meeting	Unchanged (-0.5)
	27-28 Jul	FOMC Meeting	Unchanged (0-0.25)
August	23-28 Aug	Japan	Tokyo Olympics
September	9 Sep	ECB Meeting	Unchanged (-0.5)
	21 Sep	Germany	Federal Elections
	21-22 Sep	BoJ Meeting	Unchanged (-0.1)
	21-22 Sep	FOMC Meeting	Unchanged 90-0.25)
	23 Sep	BoE Meeting	Unchanged (0.1)
	30 Sep	Japan	End of term as LDP leader for PM Suga
October	21 Oct	Japan	House of Representatives term ends
	28 Oct	ECB Meeting	Unchanged (-0.5)
November	2-3 Nov	FOMC Meeting	Unchanged (0-0.25)
	4 Nov	BoE Meeting	Unchanged (0.1)
	1-12 Nov	UK/UN	Climate Conference
	27-28 Nov	BoJ Meeting	Unchanged (-0.1)
December	14-15 Dec	FOMC Meeting	Unchanged (0-0.25)
	16 Dec	ECB Meeting	Unchanged (-0.5)
	16 Dec	BoE Meeting	Unchanged (0.1)
	16-17 Dec	BoJ Meeting	Unchanged (-0.1)
November 2022	8 Nov	US	Mid Term Elections

Latest publications

Escaping COVID-19: Will vaccines be sufficient?

19 May 2021

Europe's path to net zero

12 May 2021

China: Financing the Green transformation

29 April 2021

The inflation outlook: What's changed?

28 April 2021

April Global Macro Monthly – Inflation to rise, but how fast and for how long?

21 April 2021

Bank of Japan: Assessing the outcome of its strategic review

15 April 2021

China: Decarbonizing the economy

08 April 2021

March Global Macro Monthly – The great rate debate

24 March 2021

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