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Macro and market perspectives
January 2022

A world shaped by supply

We've entered an era where supply constraints are the driving force of inflation, rather than excess demand. This will likely bring more macro volatility and force policymakers to live with higher inflation.

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Summary

- **We are in a new and unusual market regime, underpinned by a new macro landscape where inflation is shaped by supply constraints.** Limits on supply have driven the surge in inflation over the past year: a profound change from the decades-long dominance of demand drivers. This fundamentally changes how we should think about the macro environment and the market implications. The key to understanding the muted response of central banks to inflation is not the timeframe but its cause: supply. Much of the 2021 debate overlooked this.

- **Two broad types of supply constraint are at play in the economic restart.** First, it is easier to bring back demand than production, which is constrained by the weakest link in the supply chain. But another important constraint is the reallocation across sectors due to Covid restrictions: consumer spending has shifted massively towards goods and away from contact-intense services. This has meant severe bottlenecks in some places and spare capacity in others. Prices tend to rise faster in response to bottlenecks than they tend to fall in response to spare capacity, so this has pushed inflation higher, even though overall economic activity has not fully recovered. Developments at the sector level are shaping the macro picture.

- **The restart gives a glimpse of how the transition to net-zero emissions will play out: it will be akin to a drawn-out restart.** Economy-wide supply limits will bind as energy costs rise. Big shifts across sectors will create supply bottlenecks. Both will add to inflation, as in the restart. A gradual, orderly transition is the least inflationary path, in our view. Whether or not carbon emissions are reduced, we believe climate change will increase inflation.

- **A rewiring of globalization and population ageing in China are reducing the supply of cheap imports from China to developed markets.** This will raise costs and force resources to be reallocated in those markets, making supply constraints more common. In addition, geopolitical risks threaten to disrupt energy supply.

- **A world shaped by supply constraints will bring more macro volatility.** Monetary policy cannot stabilize both inflation and growth: it has to choose between them. This is a marked shift in the macro landscape. When inflation was driven by demand, stabilizing inflation also stabilized growth – there was no trade-off.

- **Central banks should live with supply-driven inflation, rather than destroy demand and economic activity – provided inflation expectations remain anchored.** When inflation is the result of sectoral reallocation, accommodating it yields better outcomes, as recent research (Guerrieri et al, 2021) shows. Insisting on stabilizing inflation would lead to an overtightening of monetary policy, more demand destroyed and a slowing down of the needed sectoral reallocation. Given the persistence of supply constraints over many years, delivering the best outcome might require further adjustments to central banks' inflation-targeting frameworks.

- **This – together with the policy revolution that we will come back to in a follow-up publication – is why we expect the sum total of rate hikes in this cycle to be low.** Central banks will take their foot off the gas to remove stimulus – but they shouldn't go further to fight inflation, in our view. Yet we expect negative bond returns as, faced with inflation volatility in this environment, investors question – as they have in recent weeks – the perceived safety of holding longer-term government bonds at historically low yield levels.

- **The primary risk we see is that central banks hit the brakes by raising rates to restrictive levels.** As in recent weeks, we can expect markets to price some of this at points, as they adapt to the new macro landscape. But if central banks do go ahead and hit the brakes, they will likely learn that the damage to growth to get inflation down is too great and will be forced to reverse course – flattening or even inverting yield curves.

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Supply constraints take the reins

We believe we are in a new market regime: we see 2022 repeating the unusual 2021 outcome of global stock gains coupled with bond losses. One of the key drivers of this is a fundamental change in the economic landscape: inflation is being and will continue to be driven more by limits on supply capacity than excessive demand pressure. If inflation is the noise from the economic engine, in the past it was caused by the engine revving too fast. For the foreseeable future, it is more likely to be due to the engine misfiring. Inflation will arise even if economies are not running hot. Over the following pages we explore why we think this is the case. But first it is important to understand what supply constraints look like and why they change our understanding of inflation. There are two main types of supply constraint:

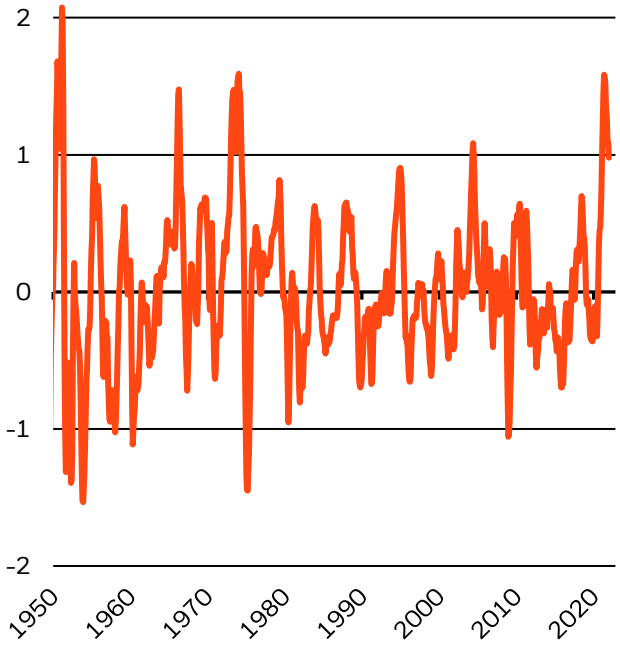
Economy-wide supply constraints are those that affect broad swathes of the economy, disrupting activity, destroying capital and reducing productivity. The damage from natural disasters or disruption from pandemic lockdowns are an extreme form of this. They increase the costs of doing business across sectors. Inflation is pushed up; and rather than overheating, economic activity is pushed down.

Sector-specific supply constraints operate under the surface. They arise when demand and supply shift across sectors – for example, due to sudden changes in consumer preferences. If supply and demand do not adjust in tandem, supply bottlenecks can arise in some places, while there is excess capacity elsewhere. These bottlenecks can spark higher prices. And while prices may fall in the sectors that are suffering, typically prices are stickier when they need to fall than when they need to rise. The result: shifts under the surface drive higher overall inflation, even if the economy is not operating at full capacity.

A fundamental change in the economic landscape to one dominated by supply constraints presents a challenge for policymakers. Past bouts of inflation have been driven by economy-wide demand running unusually hot. Economic policy can cool off inflation and keep the economy from overheating. But when supply constraints are responsible for higher inflation at a time when the economy is not yet back to full capacity, there is a difficult choice to be made: either live with higher inflation or destroy activity before reaching full capacity – see page 7.

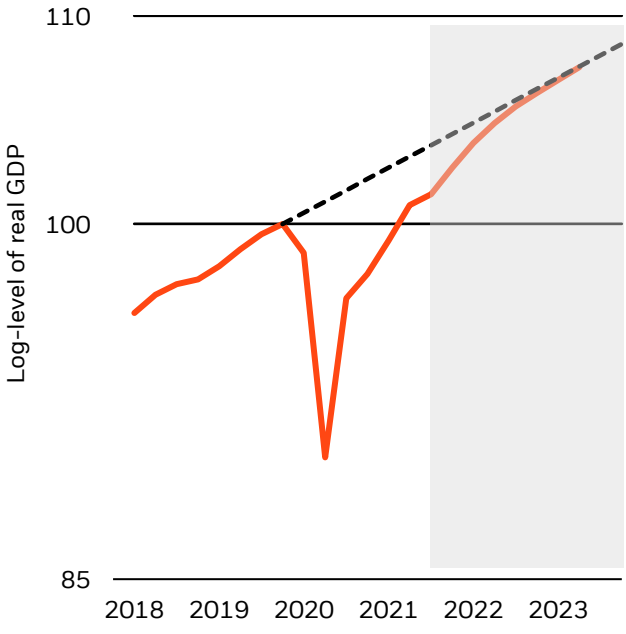
We can see evidence of this unusual supply disruption in the past two years. The Covid-19 shock brought on supply constraints of a magnitude not seen for decades – see the chart below left. This has gone hand in hand with inflation at its highest rate since 1982. Yet, as the chart below right shows, far from running hot overall, the U.S. economy has not yet reached its estimated potential level of output and employment. This is different from the 1970s: we saw supply issues back then, but the economy was operating above full capacity. We have entered an era where supply constraints dominate even as economies are below potential – and that shapes pretty much everything from a macro perspective.

Supply disruptions near historic highs
U.S. indicator of supply constraints, 1950-2021



Sources: BlackRock Investment Institute, and Institute for Supply Management, with data from Haver Analytics, January 2022. Note: The index of manufacturing supply chain constraints is based on ISM survey indicators: supplier delivery times, backlog of orders, prices paid and inventories.

Still below potential
U.S. GDP and pre-pandemic projection, 2017-2023



Forward-looking estimates may not come to pass. Sources: BlackRock Investment Institute, U.S. Bureau of Economic Analysis, Reuters News, with data from Haver Analytics, January 2022. Note: The chart shows actual real GDP and consensus projections for the U.S. The dashed line shows projections of trend growth starting in Q4 2019 to illustrate what GDP might have been had it grown at pre-Covid trend from 2020 onwards. The trend growth assumptions reflect the likely growth of potential output in the run-up to the Covid-19 shock. The scale is expressed as the log-level of GDP.

Supply constraints driving inflation now

This new era of supply-driven inflation has been ushered in by the Covid-19 pandemic shutdowns and the economic restart that followed. The start of the pandemic was dominated by an economy-wide supply shock: activity was deliberately brought to a halt to curb the spread of the virus. As restrictions were lifted and the powerful restart took hold, it proved difficult to bring production back online as quickly.

Through 2021 the restart saw the emergence of more sector-specific supply problems, driven by the sudden and sharp shift in consumer spending away from services and towards goods. This shift in the mix of demand created bottlenecks in goods-producing sectors as supply struggled to keep pace. Meanwhile, it created spare capacity in service industries. This has driven inflationary pressure in goods sectors, which have seen the largest price rises – see the left-hand chart below. Pricing pressures have been most acute in sectors that have been particularly affected by bottlenecks, such as autos. This explains why there is so much inflation overall even though economies have yet to reach full employment.

In service sectors that have lost out from the shift in spending, prices have been stickier, despite perhaps needing to fall. This is typical, but in the restart it has been reinforced by another supply constraint. Normally, sectors that are losing out tend to see lower wage growth. But due to the pandemic, people have left the labor force, particularly those that were in contact-intense services like leisure and hospitality. So, service sector companies faced with the shift in spending away from them have – unusually – been faced with rising, not falling, wage costs in their industries. See the chart below right.

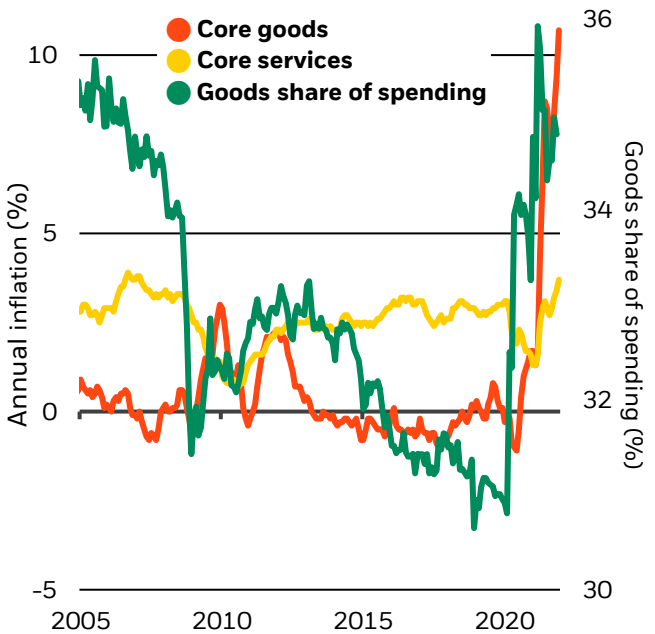
Some have attributed current high inflation to greater fiscal spending in the U.S. But this is not a classic case of overall demand in the economy – supported by fiscal policy – being unusually high. Fiscal policy cannot explain why inflation is so high when economic activity has yet to fully recover. The fundamental constraint is that supply capacity is unusually low. This is yet another way in which this restart differs from a normal cyclical recovery.

Greater fiscal spending in the U.S. – and the way in which it was delivered, via blanket stimulus checks – has exacerbated the shift in the mix of demand towards goods and away from services. This has, in turn, intensified the sector-specific constraints that have been driving up inflation at the overall economy level. But we see it as a contributing factor, not the primary cause. The most effective way to deal with this inflation, in our view, is not to destroy demand, but to increase supply capacity and promote the movement of resources across sectors.

Yet we do see wider implications of the joint monetary-fiscal policy revolution on inflation in the future. In particular, it has led to a massive increase in government debt, which, along with new central bank mandates, will contribute to central banks living with more inflation in the future – a topic we will explore in a follow-up publication.

Major spending shift

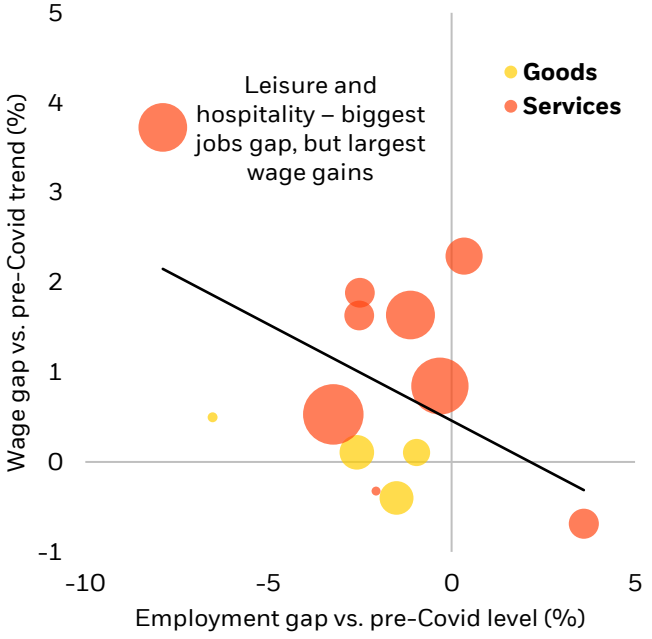
U.S. goods vs. services inflation and spending, 2005-2021



Sources: BlackRock Investment Institute, U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, with data from Haver Analytics, January 2022. Note: The orange and yellow lines show core goods and core services CPI inflation respectively, measured by the year-on-year percent change in prices. The green line shows the share of nominal goods spending in total U.S. personal consumer spending.

Workers in demand

U.S. employment costs during Covid shock



Sources: BlackRock Investment Institute, U.S. Bureau of Labor Statistics, with data from Haver Analytics, January 2022. Note: The chart shows the shortfall in employment in a range of U.S. industries vs pre-Covid level (horizontal axis) compared to the gap between wages in Q3 2021 and a projection of what wages would have been had they grown since Q4 2019 at the average rate over the preceding five years (vertical axis). The size of each bubble is proportional to the share of total employment. We use the U.S. Bureau of Labor Statistics' definitions of goods and services sectors.

Net-zero transition is a drawn-out restart

We believe the economic restart provides a glimpse of what is to come. Though it will eventually complete as spending patterns normalize and labor markets adjust, it will not be the end of the era of supply constraints, in our view. The transition to net-zero will be like a restart drawn out over decades, bringing with it new supply constraints that push up inflation – through both broad-based and sectoral channels.

The transition is fundamentally about including the costs of climate damages in economic decisions. These costs can be reflected in different ways: carbon taxes, regulations or just consumers choosing to pay more to avoid climate damages. Regardless of how the cost is internalized, we see a broad-based impact on inflation: **energy costs are likely to increase, driving up producer and consumer prices.** Estimates of how much it will cost to eliminate each remaining tonne of carbon emissions vary widely. At the upper end, the Network for Greening the Financial System estimates the cost will reach US$160 per tonne by 2030. The U.S. emits about 240 tonnes of carbon per US$1 million of expenditure. So, consumer prices could rise by as much as 4% by the early 2030s if all the additional cost is passed to consumers. How that translates into inflation depends heavily on the timeframe over which that 4% price rise occurs. A smooth, even transition would add 0.4 percentage points to inflation each year. If the shift happens faster – condensing prices rises into a shorter timeframe – the impact on inflation would be more material.

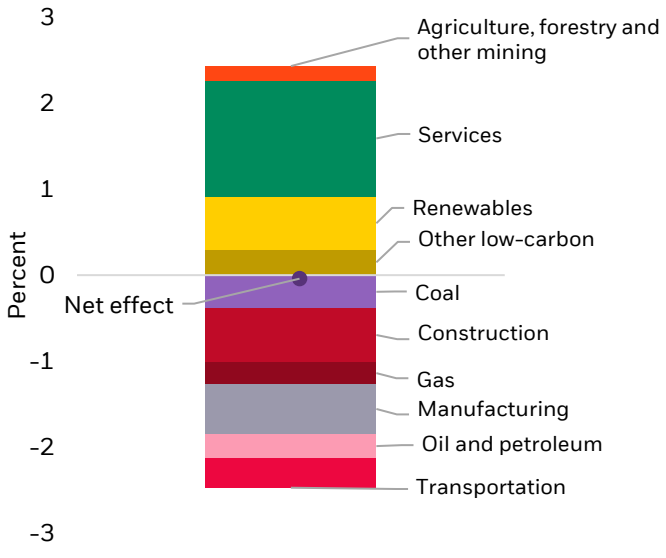
In addition, the restart shows how another often overlooked channel will operate in the transition. **Supply constraints will be caused by reallocation across sectors**, in this case to accommodate shifting energy demands. In their World Economic Outlook, the IMF suggests that over 2% of global employment will ultimately need to change sector to meet these demands – see the chart below left. If demand shifts faster than resources are reallocated, the mismatch could push overall inflation higher – like a stretched-out version of the economic restart.

The inflation consequences of the transition are often ignored on the basis that central banks will contain them. But supply-driven inflation cannot be contained by central banks without generating greater macro volatility (see page 7). The most effective way to contain inflation during the transition is to ensure the transition is gradual and orderly, so that supply can keep pace with shifting demand across sectors and higher energy costs can be absorbed over time. A transition left too late may keep inflation down in the short term but risks a much greater overall impact later on. 2021 gave a glimpse of what happens when the transition is not smooth. As China sought to reduce emissions by cutting coal use, surging demand for natural gas drove prices up sharply, pushing up inflation in advanced economies and creating supply constraints – see the chart below right.

Would no transition at all be a better strategy for containing inflation? Not in our view: while the transition – even an orderly one – is likely to bring higher inflation, we believe it will still deliver a better outcome in terms of both the level and volatility of inflation than a failure to act. No climate action would mean rising global temperatures, more frequent severe weather events and greater economic damage: in previous work, we estimated that no climate action would result in a cumulative loss in economic output of nearly 25% over the next 20 years. We would expect more frequent and sharp spikes in energy, food and other prices due to severe supply constraints – akin to a pandemic on repeat.

Labor shifts needed for transition

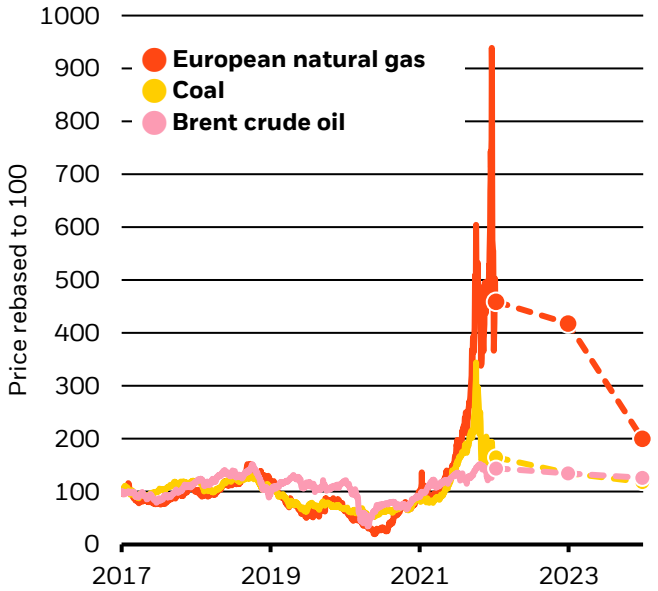
Net employment change, 2020 vs 2052



Sources: BlackRock Investment Institute, IMF, January 2022. Note: The chart shows the contribution of different sectors to the global change in employment between 2020 and 2052 as a result of the green transition, in IMF simulations using the G-cubed macroeconomic model; see the IMF World Economic Outlook 2020, chapter 3.

Volatile prices

Futures prices of oil, coal and natural gas, 2017-2024



Sources: BlackRock Investment Institute, with data from Refinitiv, January 2022. Notes: The chart shows natural gas, coal and crude oil prices rebased to 100 at the start of 2017. We use the European Energy Derivatives Exchange natural gas futures, ICE Rotterdam coal futures and Brent crude oil futures to represent natural gas, coal and oil respectively. The dots show futures prices for contracts that expire in December 2022, December 2023 and December 2024.

Global trends add to supply woes

We believe the emergence of supply constraints in developed markets will be further accentuated by a rewiring of globalization and changing demographics. For decades now, the integration of China into the global trading system and rapid growth of the working population in China, has increasingly enabled developed markets to rely on cheap Chinese imports. This has alleviated supply constraints.

These trends are now going into reverse. We are already seeing a rewiring of global supply chains: companies want greater security of supply – partly in response to the supply bottlenecks we have seen during the restart and partly due to increasing rivalry between the U.S. and China, especially in the technology space. Companies are moving from a "just in time" to a "just in case" approach and procuring more local suppliers. We may have reached the high watermark of globalization – see the chart below left.

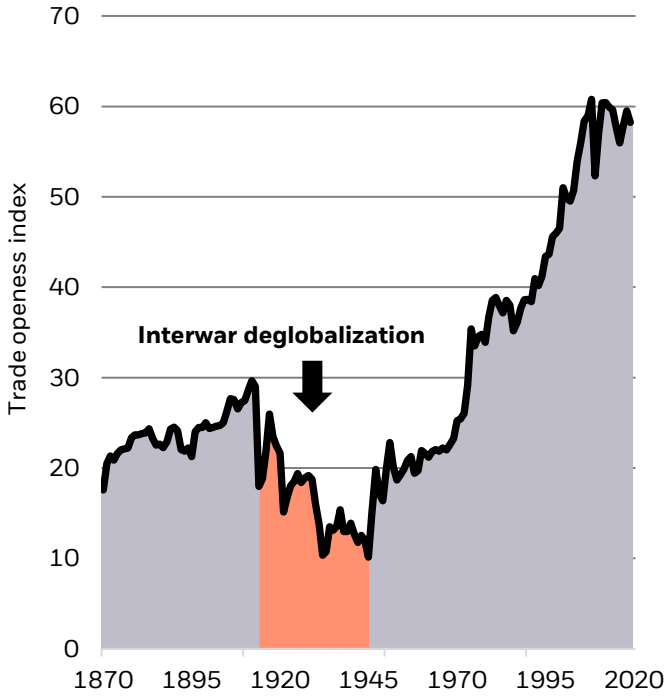
Meanwhile, ageing populations mean that the global labor force is growing more slowly. In Europe and – notably – China, it is set to contract. Developments in the Chinese working age population have, and will, dwarf those in other economies – see the right-hand chart below. According to UN data, after expanding by nearly 240 million between 1990 and 2020, the working age population in China is now starting to decline. This decline, combined with the policy shift in China to a greater focus on quality over quantity of growth as it prioritizes worker safety and well-being, will raise labor costs. An aged population will also mean China consumes more of what it produces, reducing the supply of goods to the rest of the world.

Together, these trends mean developed markets will likely face higher costs and will need to source more locally. To do so, resources will need to be reallocated to meet demand. Supply constraints are likely to become more common.

Geopolitical risks could add to supply constraints by disrupting energy markets. Tensions between Russia and NATO could disrupt gas supplies to Europe, particularly if the U.S. moves forward with sanctions on the Nord Stream 2 pipeline. And European gas storage sites are only 46% full, significantly below typical January levels, according to Bloomberg data as of mid-January 2022.

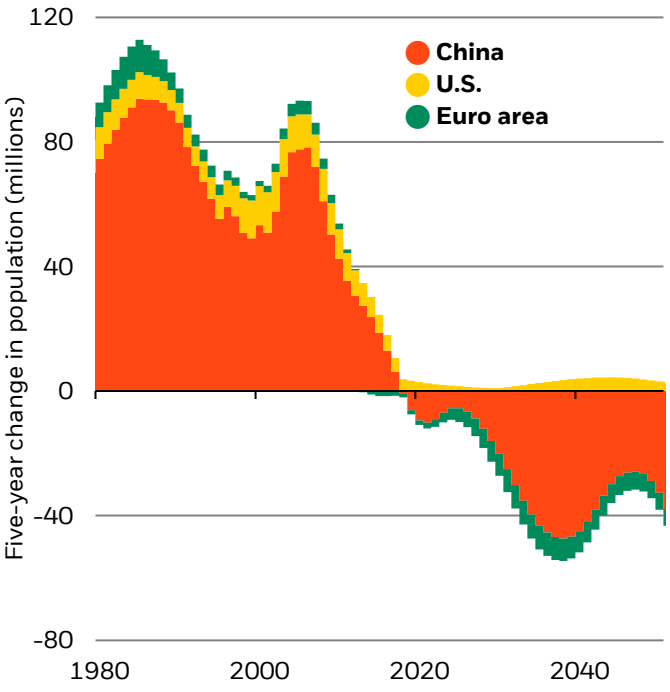
Of increasing concern for oil supply is the reduced likelihood of the U.S. returning to the existing nuclear deal. OPEC+ is already producing significantly below headline quota: the continued absence of 1.2 million barrels of Iranian oil per day could squeeze spare oil capacity in 2022, according to a November 2021 report from consultancy agency Energy Aspects. And as Iran's nuclear capability increases, the risk of military action in the region rises, which would further disrupt oil markets.

Globalization plateau
Trade openness index, 1870-2019



Sources: BlackRock Investment Institute, Klasing and Milionis (2014), Penn World tables, World Bank. Notes: The chart shows the sum of world exports plus imports, divided by world GDP. The pink shaded area highlights the period between the first and second world wars when trade integration fell materially.

Shrinking working-age population
Working-age population change, 1980-2050



Sources: BlackRock Investment Institute, UN, with data from Haver Analytics, January 2022. Note: The chart shows the five-year change in the working-age population (aged 16-64) in China (orange bars), the U.S. (yellow bars) and the euro area (green bars) using projections from the UN Population Database.

Expect more volatility

A world shaped by supply constraints will bring more macroeconomic volatility. There is no way around this because – unlike when inflation is driven by demand – policy cannot stabilize both inflation and growth at the same time: it has to choose between them. In other words, central banks have to either accept higher inflation or destroy demand to rein in inflation. Given the historical relationship between unemployment and inflation, if central banks had sought to keep inflation close to 2% amid the supply constraints experienced in the restart, this would likely have meant needing to drive the unemployment rate up to nearly double digits – see the chart below left.

Greater macro volatility – in both growth and inflation – implies greater market volatility and higher risk premiums on bonds and equities. To minimize growth volatility, central banks will want to live with supply-driven inflation, provided inflation expectations do not become unanchored. This is one reason why the current policy response to higher inflation has been much more muted than in past episodes – a key theme in our 2022 Global Outlook. Recent research (Guerrieri et al, 2021) says central banks should accommodate inflation if it is caused by a need to reallocate across sectors. Doing so allows prices to rise in sectors benefiting from greater demand, relative to prices in sectors losing out. This helps economies to adjust and ultimately means supply constraints are less persistent. As the net-zero transition will be like a restart stretched over decades, we expect supply constraints to be a feature of the economic landscape for some time. Delivering the best long-run outcome might require more adjustments to central banks' inflation-targeting frameworks.

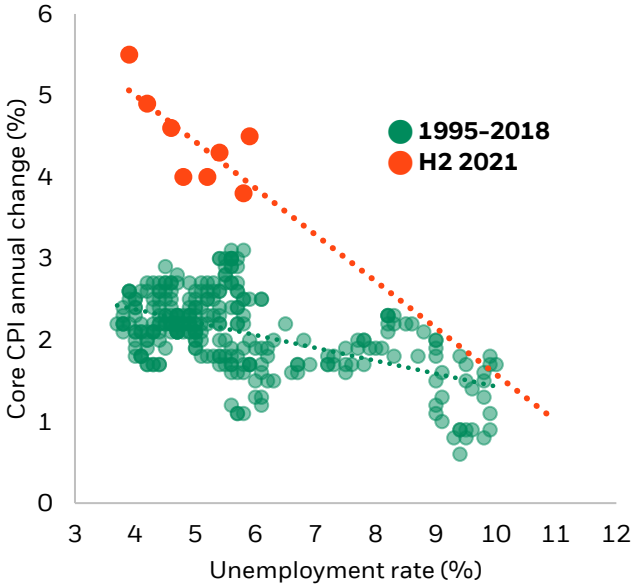
We think central banks should live with current inflation pressures for now. They will likely take their foot off the gas this year by removing stimulus and returning rates toward more neutral settings – but this is a far cry from slamming on the policy brakes to deliberately destroy activity and bring inflation down. Notably, despite bringing forward materially the expected path of Fed rate hikes in recent weeks, markets are still pricing a muted overall hiking cycle.

Yet, as highlighted in our 2022 Outlook, we expect negative bond returns this year. This has less to do with central bank policy than it does with the intrinsic features of this macro landscape. Faced with more inflation volatility, investors would question – as they have in recent weeks – the perceived safety of holding longer-term government bonds at historically low yield levels. Higher yields from a renewed term premium – which has largely been near or below zero in recent years, see the chart below right – are not ultimately bad for stocks if they reflect a relative shift of investor preferences away from bonds and towards other assets. In fact, a muted central bank response to inflation means we expect inflation to persist without damage to growth, supporting risk assets in the longer term. This is why we are underweight government bonds on both a tactical and strategic horizon.

The primary risk we see is that central banks hit the brakes if constraints persist and they perceive that higher inflation could feed into inflation expectations. This would be bad for bonds and stocks as policy rates rise to restrictive levels and slow growth. Some of that risk may be priced in at points – like in recent weeks – as markets adapt to this new macro landscape. But if central banks do hit the brakes, they will likely learn that it comes at too great a cost and will be forced to reverse course. At the points this risk is priced, yield curves will tend to flatten or even invert.

High cost of pushing inflation down

U.S. unemployment rate and CPI inflation, 1995-2021



Sources: BlackRock Investment Institute, U.S. Bureau of Labor Statistics, with data from Haver Analytics, January 2022. Note: The chart shows the U.S. unemployment rate (horizontal axis) compared with the U.S. annual core inflation rate (measured by the year-on-year percentage change) for different periods (vertical axis). The green dots show the period January 1995-December 2018, and the orange dots show May 2021-present. All data are at monthly frequency.

Return of risk premium?

U.S. 10-year term premium breakdown, 2016-2022

Past performance is no guarantee of future results. Sources: BlackRock Investment Institute, New York Fed, with data from Refinitiv Datastream, January 2022. Note: The chart shows the U.S. 10-year government bond yield (green line) along with New York Federal Reserve estimates of two components of that yield: the average expected interest rate (yellow line) and the term premium – the compensation investors typically demand to hold riskier long-term government bond (orange line).

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