Global Credit Outlook 2022

Aftershocks, Future Shocks, And Transitions

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This report does not constitute a rating action

Global Credit Outlook 2022

Foreword

Dear reader,

In this report, we present our macroeconomic and credit outlook for 2022, with our base-case forecasts, assumptions, and key risks in what remains a highly uncertain and challenging environment. We provide this outlook at global and regional levels, reflecting conclusions from our fourth-quarter credit conditions committees involving our senior credit analysts, research teams, and economists.

If 2021 was the year of the big rebound, with COVID-19 vaccines fueling a robust economic recovery and steadily improving credit markets, the recent emergence of the omicron variant has offered **a** stark reminder that we have not yet beaten the virus.

More than COVID, persistently high inflation, fueled by supply-chain disruption and soaring energy prices, could be the primary setback derailing a still fragile recovery in 2022. While the credit momentum remains largely favorable, a sharp tightening in financing conditions, triggered by a central bank policy mistake or event risk, could put under pressure the large cohort of riskier credits and some emerging markets. With the pandemic having pushed global leverage to new highs, it is hard to ignore that over 30% of speculative-grade nonfinancial corporate are rated 'B-' and below.

Our outlooks consider three categories of challenges and opportunities likely to shape credit markets as we approach a third year living with the pandemic. **Aftershocks** assesses the immediate pressures largely brought about by the pandemic. **Future Shocks** focuses on more structural factors and emerging technologies shaping the future of finance. **Climate and Energy Transition** discusses the credit implications of the behavioral and technical shifts stemming from efforts to avert the most severe consequences of climate change.

Within these categories, we also aim to provide you with our answers to 20 **Questions That Matter**, collected through our interactions with investors and other market participants.

Best wishes for a happy holiday season and for the year ahead,

Alexandra Dimitrijevic

Managing Director Global Head of Analytical Research & Development S&P Global Ratings London

Acknowledgments

I would like to thank the many colleagues who have contributed to this report to provide you with S&P Global Ratings' essential insights.

Special thanks to Gareth Williams, Alexandra Krief, Jennie Brookman, Rose Marie Burke, Cathy Holcombe, Jasper Moiseiwitsch, Bernadette Stroeder and Dana Tong.

Global Credit Outlook:

Aftershocks, Future Shocks, And Transitions

December 1, 2021

Key Takeaways

- Improving, but still vulnerable credit markets. We enter 2022 with largely positive credit momentum, reflecting favorable financing conditions and a powerful economic recovery. This could be derailed if persistently high inflation pushes central banks to aggressively tighten monetary policy, triggering significant market volatility and repricing risks. New COVID-19 variants could also undermine confidence and recovery prospects. The weakest areas of credit markets--often still highly sensitive to the ongoing impact of the pandemicare most exposed, particularly highly leveraged corporates and some emerging markets.
- Fewer downgrades and low default rates. Robust economic growth and largely favorable funding conditions point to a steady overall ratings performance in 2022 with fewer downgrades (6% global net negative bias) and low default rates (around 2.5%). Yet persistent supply chain disruptions and high input costs could weigh on growth and ratchet up the pressure on so-far resilient corporate margins. Inflationary pressures are clouding the outlook for EMs still battling with the pandemic. Leverage continues to build up in the riskiest parts of the credit markets, leaving them exposed to shifts in market sentiment, as illustrated by the recent developments affecting the Chinese real estate developers.
- Risk of aftershocks from inflation and high global debt. The aftershocks of the COVID-19 pandemic pose significant risks. Persistent inflation, tied to supply chain disruptions and soaring energy prices, could trigger wage inflation and push major central banks, the Fed in particular, to hike rates sooner and faster. This could generate market volatility, likely amplified by elevated global debt levels. New variants could weaken the global economic recovery, as could China's policy and economic developments. Beyond COVID-19, credit markets face significant longer-term uncertainties around energy transition, cyber risk, and evolving financial systems in an increasingly digital economy.

The pandemic and its aftershocks will remain pivotal to credit prospects in 2022. Surging global demand, extraordinarily benign financing conditions, supply chain strains, and soaring energy prices are just some examples of the powerful forces triggered by the shock of COVID-19 and the emergency policy response it required. In our view, credit momentum will remain positive, with financing conditions still heavily underwritten by supportive fiscal and monetary policy, and economic growth easing back to a more sustainable pace. Nevertheless, the recovery's foundations are relatively fragile and vulnerable to setbacks. The pandemic itself remains very much active, with the omicron variant posing a new threat and vaccination rates worryingly low in many parts of the world. Our base case is that default rates will remain low and credit prospects continue to show improvement, but uncertainties abound and risk premiums are uncomfortably low.

We consider three sets of challenges and opportunities likely to shape the year ahead:

Aftershocks assesses the immediate pressures largely brought about by the pandemic; Future Shocks focuses on more structural factors and emerging technologies shaping the future of finance; and Climate And Energy Transition discusses the credit implications of the behavioral and technical shifts stemming from efforts to avert the most severe consequences of climate change.

Aftershocks

COVID-19's economic impact has waned but <u>variants are a concern</u>. As we enter the third year of the pandemic, it is difficult to say with certainty that this will be its last. Successful vaccination programs and the ramping up of their global vaccine supply offer the clearest route out and the

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transition from a pandemic to an endemic but manageable disease. Yet ,sharply escalating case counts in heavily vaccinated European nations and the threat that omicron or other variants might overcome existing vaccines are reminders of how far we remain from a post COVID-19 world. Encouragingly, economies are proving adaptable and, particularly when vaccination rates are high, capable of recovering strongly. We forecast global real GDP will grow by 4.2% in 2022 (from 5.7% in 2021), but the pace of recovery is uneven globally and highly correlated with vaccination rates and the magnitude of stimulus. Even in countries where life has returned largely to normal, structural changes to consumer behavior, travel, commercial property, and even the desire to work remain apparent. Pandemic-related credit risk may have eased, but it has not been removed.

We expect inflation pressures to moderate sufficiently to avoid aggressive monetary tightening. Headline inflation has exceeded most economists' expectations in 2021, raising the specter of an abrupt transition in financing conditions should the most influential central banks need to move more quickly to raise interest rates. Major central banks, including the U.S. Federal Reserve and the European Central Bank take the view that the surge in inflation primarily reflects pandemic-related distortions that will fade and note that long-term inflation expectations remain well anchored. Our base-case assumes an orderly exit path with the tapering of asset purchases, followed by a gradual increase in rates. Should inflation become more entrenched, particularly with respect to wages, an earlier and more rapid tightening of monetary policy would endanger the economic recovery and likely provoke significant market volatility.

Monetary policy challenges are more immediate for emerging markets (EMs), with inflation pressures greater and longer-term expectations less stable. Inflation has a greater impact on households in EMs, since spending on food, gas, and transport represents a larger portion of their disposable income than for developed market peers. The political and fiscal dynamics are consequently more challenging, with the need to avoid social discontent constraining the ability of some EM governments to put COVID-19-affected finances on a more sustainable footing. Many EM central banks have already lifted interest rates and might be forced to run a more restrictive monetary policy for longer if inflationary pressures prevail. These challenges could be exacerbated considerably should the U.S. Federal Reserve be forced to change tack on rates, given the heightened sensitivity of EMs to U.S. dollar exchange rates and financing costs.

Governments will seek to achieve a tricky balance between supporting growth and achieving fiscal rebalancing in 2022. As economies reopen, the recovery of tax revenue and the ending of temporary support measures should reduce government deficits in 2022. But they are still expected to remain above pre-pandemic levels in nearly all regions, as sovereigns will unlikely be able to implement serious revenue-increasing measures or reforms. Governments face the delicate task of withdrawing fiscal stimulus without hurting growth, a challenge compounded by the more fragile and politically polarized social context after the damage caused by the pandemic. Sovereigns that cannot stabilize and improve their fiscal position will likely see negative pressures on their credit ratings over the next 12 to 18 months.

Global nonfinancial corporates appear to have weathered supply-chain disruptions and soaring cost inflation well so far. Companies in most sectors have been able to pass on costs or absorb them in a variety of ways (demand offsets, product mix adjustments, hedging, etc.), while keeping pay growth low. Some industries have benefited particularly strongly from surging demand and shortages, notably shipping, semiconductors, and metals and mining. Consequently, nonfinancial corporates rated by S&P Global Ratings are likely to deliver strong results for 2021, with revenues and EBITDA soaring, and profit margins likely to hit a record level. However, 2022 is likely to prove more challenging as growth slows and profit margin pressure starts to ratchet up. Our industry analysts expect supply disruption will persist until the end of 2022 for more than half of all sectors, and signs of upward pay pressure have emerged, particularly in North America. This is not helped by the so-called "big quit". At least 3 million people have exited the U.S. labor force since February 2020, highlighting a possible structural shift in the labor force, with almost two-thirds of the missing workers having left the workforce entirely.

China's <u>policy shifts</u> could bring long-term benefits but are likely to heighten credit stress and slow economic growth in the near term. In our view, the Chinese government will continue its reforms intended to promote "common prosperity", which focus on reducing income inequality, maintaining financial discipline, and sectoral rebalancing. If successful, these measures are likely

to lead to a welcome improvement in credit metrics in the longer term. China's <u>current corporate</u> <u>debt-to-GDP ratio</u> of 160% compares with a world average of 101%. In the near term, as seen with the volatility in the property sector, these changes are likely to heighten credit stress and cause more defaults. A transition away from carbon-intensive industries and property development, alongside the impact of zero-COVID measures, is likely to slow the pace of economic growth and we have trimmed our real GDP growth forecast to 4.9% for 2022 (see here). China's increasingly pivotal position in the global economy, particularly in relation to commodity and industrial demand, also means that any significant change brings risk of broader contagion and volatility. The knock-on effects on global gas prices of China's attempts to improve the safety of domestic coal production and reduce carbon emissions, reducing coal supply and increasing demand for gas, is a powerful illustration of how Chinese policy decisions are increasingly felt worldwide.

Future shocks

The financial costs of the COVID-19 pandemic have led to a surge in global debt. We estimate that global debt outstanding will increase \$37 trillion in 2021--the size of U.S. and China's combined GDP--to \$225 trillion, a total equivalent to 256% of global GDP. This raises the question of whether this has sown the seeds of a financial crisis. Higher debt alone is unlikely to trigger a crisis, particularly in the current low interest rate environment. Moreover, near-term debt dynamics are likely to be favorable. Global debt to GDP should fall from 2022 onwards as incomes recover, particularly for the corporate sector. However, interplaying factors such as policy shifts or inflation could lead to a sudden tightening of financing conditions or markets demanding higher risk premiums, consequently putting pressure on the most highly levered parts of the global economy. An example is China, where corporate debt accounts for 31% of the world total, with credit quality below the global average, and where the recent focus of policymakers on deleveraging and financial discipline is leading to higher defaults and soaring yields on the speculative-grade debt market.

The digitalization of capital markets could bring radical change. The past 18 months have seen an abrupt intensification of the digitalization of capital markets. We expect the adoption of cryptocurrencies and tokenization of assets to gather pace and increasingly disrupt financial markets as the technology evolves and gains wider acceptance and incorporation into the mainstream. Central bank digital currencies may act as a trusted bridge between the traditional and virtual worlds. Meanwhile, decentralized finance (DeFi) will continue to send shockwaves through traditional financial models, more as a complement than as competition with the incumbents for now. But these technologies have the potential to revolutionize the financial markets over time.

The digitalization of the economy heightens the risk of cyber attacks with the potential to hurt corporates, governments, financial markets, and economic growth. The number of credit-relevant cyber attacks keeps rising, and we believe 2022 will signal the start of more meaningful systemwide attacks. Opportunities for hackers to gain access to IT infrastructure have increased over the past 12-18 months, owing to increased remote work and reliance on common third-party vendors. Cyber defenses need to at least keep pace with cyber risks. Otherwise, future cyber-related systemic shocks could lead to widespread rating actions.

Climate and energy transition

Exposure to climate risks will increasingly affect credit quality. The past year has seen unprecedented rating actions driven by disruption and uncertainty over unexpected costs from severe climatic events, such as wildfires and droughts. This trend will likely escalate as global temperatures continue to rise, leading to erratic weather patterns affecting real assets and the infrastructure in particular.

Growing awareness of climate-change risks and policy plans, such as "Fit for 55" in Europe, could accelerate the energy transition to net zero. Following on from the COP26 Climate Change Summit in late 2021, governments are considering a wider range of policy tools, including market mechanisms, to support ambitious pledges aimed at achieving carbon neutrality by 2050. The transition to net zero will necessarily create winners and losers, and the risk of creating so-called stranded assets. We expect an accelerated move away from fossil fuel investments by investors, financial institutions, and corporates following COP26 pledges around the "phase down" of coal and

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commitments to align with a 1.5° Celsius trajectory within the next decade. Sectors for which achieving net zero is difficult or prohibitively costly, such as cement, steel, and refineries, are likely to be most at risk. On the flip side, industries developing low-carbon solutions and carbon capture are likely to benefit. While the long-term destination may be positive, energy transition is unlikely to be straightforward or cost-free. The current surge in **energy prices**, exacerbated by geopolitical and weather issues, outlines the challenges on the road of the energy transition.

Key Credit Themes

Governments: Dealing With The Fiscal Legacy Of The Pandemic

As economic activity resumes in most countries following the rollout of the vaccines, the health aspect of the COVID-19 crisis seems to be getting under control. The emergence of new strains like omicron may set this process back but, in any event, the legacy of fiscal costs that governments have accumulated while fighting COVID-19 will remain for several years to come.

After rising at a pace not seen since World War II, we expect debt stocks--be they of G7 sovereigns or emerging markets--to remain high, at best stabilizing at current levels (see charts 1 and 2). While some improvement in fiscal deficits is evident, it is mostly because of a combination of improving revenue performance as economies reopen and--in some cases--the phasing out of subsidies or other support programs in place since 2020. That said, we do not expect deficits to return to prepandemic levels in most cases until at least 2023 (see charts 3 and 4).

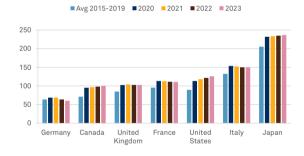
In this context, the resurgence of inflation and the pressure it puts on interest rates now presents an additional challenge to the process of rebalancing the books that governments across the world are starting to tackle. The risk of a slower-than-expected consolidation process is high as the political room for fiscal adjustments narrows in a context of high social stress resulting from the damage caused by prolonged lockdowns.

Chart 2

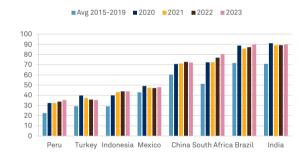
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Chart 1 Sovereign Debt Stocks Will Remain High In 2022 Average General Government Debt (% of GDP) – G7



Average General Government Debt (% of GDP) - Selected EMs

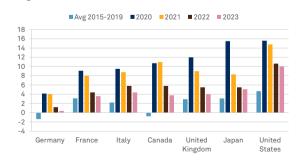


Source: S&P Global Ratings

Source: S&P Global Ratings

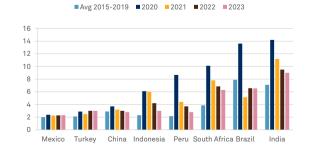
Deficits Are Unlikely To Recover To Pre-Pandemic Levels Before 2023

Average General Government Deficit (% of GDP) – G7



Source: S&P Global Ratings

Average General Government Deficit (% of GDP) - Selected EMs



Source: S&P Global Ratings

Corporates: Supply Disruptions, Surging Costs, And Labor Shortages Dominate

COVID-19's importance to corporate sector ratings trends and financial performance has been fading (see charts 5 and 6),), reflecting the strong global economic recovery and a gradual normalization of social and economic activity in many countries. The stresses, strains, and--for some sectors substantial benefits--of surging cost inflation, supply-chain disruptions, and labor shortages have become more important drivers of the outlook. The emergence of the omicron variant comes at a critical juncture, therefore, both as a reminder of the likely persistent impact of the pandemic and its risks, but also more specifically in its potential to delay assumed recoveries in sectors most vulnerable to containment restrictions. These sectors, notably hotels and leisure, media and entertainment, retail and restaurants, still have substantial proportions of weaker entities that are relatively vulnerable to the economic outlook and broader financing conditions. If omicron does not pose significant problems for existing vaccines, then next year will likely continue to be shaped more by the pace and pressures of recovery than by COVID-19. In any event, though, this is likely to aggravate supply chain issues and reinforce the view that many changes wrought by the pandemic are likely to prove permanent.

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Chart 5

COVID-19's Impact On Nonfinancial Corporate Rating Trends Has Diminished...

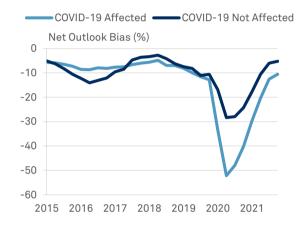
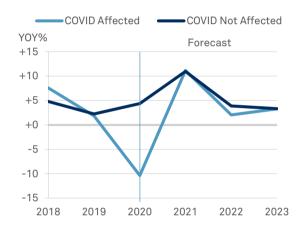


Chart 6

...Reflecting Its Fading Importance In Driving Relative Revenue Growth Trends



Source: S&P Global Ratings.

"COVID-affected" sectors included here are Aerospace & Defense, Autos, Business & Consumer Services, Consumer Products, Hotels Restaurants & Leisure, Media, Oil & Gas, Real Estate, Retailing, Transportation, and Transportation Infrastructure.
"COVID Not Affected" sectors included here are Building Materials, Capital Goods, Chemicals, Engineering & Construction, Healthcare, Homebuilders&

Financial performance and metrics for 2021 are likely to be very strong, with strong sales and EBITDA growth, and profit margins surging (see chart 7) despite supply chain disruptions. Companies have been able to mitigate cost-inflation in myriad ways, while benefitting from strong demand. This has been underpinned by still strongly supportive fiscal and monetary policy, and benign financing conditions that have allowed even the weakest credits to access finance on relatively favorable terms. Omicron's potential impact aside, we expect positive growth momentum to be sustained. That said, we expect margin pressure to start to rachet up, with supply chain problems likely to persist into the second half for many sectors and cost containment measures to have less traction. It also seems unlikely that subdued pay growth can be maintained in the face of labor shortages, rising living costs, and a continuing recovery. There are also significant differences in regional trends: EMs are wrestling with cost inflation, and policy rates are already rising; the issues in China's pivotal property sector are creating substantial credit volatility; and labor and pay issues are particularly acute in North America.

Developers, Metals & Mining, Paper & Packaging, Technology, Telecommunication Services, and Utilities.

Chart 7
Nonfinancial Corporate Revenues and EBITDA Have
Recovered Strongly With Profit Margins Surging

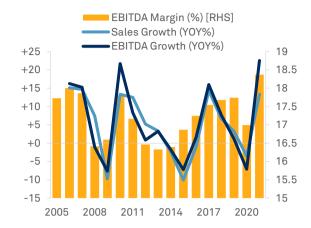
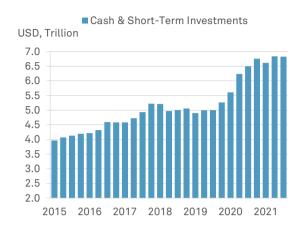


Chart 8

Nonfinancial Corporate Cash Accumulation Has Slowed But Holdings Remain At Near-Record Nominal Levels



Source: S&P Capital IQ, S&P Global Ratings. All data expressed in USD converted at historical rates. LTM--Last 12 months, incorporating midyear and third-quarter results where available. Data shown refer to Nonfinancial corporates rated by S&P Global Ratings.

Financial policy decisions are likely to come to the fore in 2022. Given strong operating performance and ready access to financing, corporate cash balances are close to record nominal levels (see chart 8, even if the rate of accumulation is slowing. Many sectors will need to make choices about how to deploy this cash. We expect to see further substantial M&A, continued robust growth in capex, while shareholder returns have also seen a substantial uplift. Paying down the debt accumulated during the pandemic has been less of a priority and this is likely to continue to be the case, given that surging cash flows will improve debt metrics. If inflation remains a bigger problem than central banks and most economists expect, this could shift financial performance in a more defensive direction. Exceptionally low risk premiums and financial market optimism are a cause for concern, particularly as growth momentum fades and interest rate increases move into view. The corporate sector at large is relatively well placed to deal with financial market volatility given improved balance sheets and debt refinancing, but there do remain significant pockets of risk in the more vulnerable and highly leveraged end of the credit spectrum.

Banks: Longer Term Challenges To The Fore

The rapid economic recovery and our expectation of a continued gradual removal of support measures by public authorities underpin our stable outlook on banks in 2022. At a global level, prospective credit losses for next year should be largely on par with 2021 and therefore better than we originally expected. Our base case is that most large international banks will be able to maintain the improved performance they achieved in 2021. That said, different types of risks lurk across regions, from a shaky property sector in China and lower economic growth in certain emerging markets, to elevated prices for property and other assets in the U.S. and Europe, as well as political risks in some Latin American countries. Also, low interest rates will likely continue to dampen net interest margins. A tightening of monetary policy in jurisdictions such as the U.S. or U.K., if done smoothly, could benefit banks by lifting net interest margins from very low levels. But, in a more pessimistic scenario, it could also cause volatility in markets, higher impairments, and potentially a slowdown in the economy.

We expect the regulatory environment in 2022, combined with the decent performance prospects for many (see chart 9), to underpin a greater appetite for shareholder distributions. Many authorities appear to view the resilience of banks during the COVID-19 test as evidence of the adequacy of the existing regulatory framework. We see an illustration of this in recent proposals in Europe on the implementation of the latest standards of the Basel Committee. The proposals include some delay and dilution compared with internationally agreed standards.

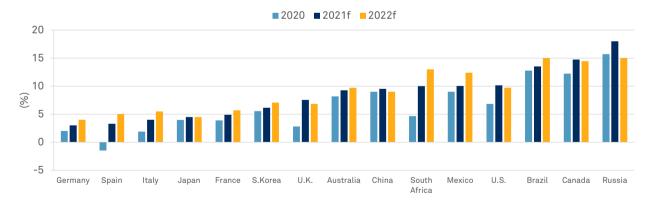
At the same time, 2022 should see an acceleration in the regulatory debate on less traditional risk types, including environmental and technology-related risks. The Basel Committee, for instance, recently published a consultation paper on a principles-based approach for the effective management and supervision of climate-related financial risks. We believe banks will next year accelerate their initiatives to embed these risks into their credit culture, strategy, and risk management.

On the technology front, authorities will face decisions on their regulatory approach to emerging non-bank competitors and to digital risks, while in many cases also working on the launch of central bank digital currencies (CBDCs). How authorities calibrate regulations and CBDCs will determine whether this emerging digital ecosystem complements or disrupts the banking system.

Chart 9

Performance Prospects Appear Favorable For Many Banking Systems In 2022

Return on equity of domestic banks in selected jurisdictions (%)



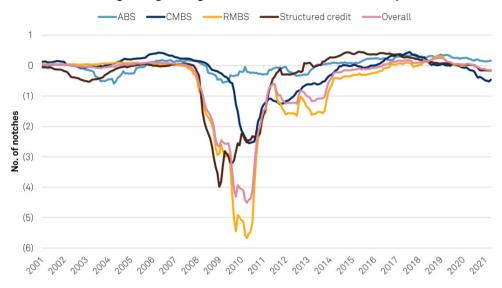
Source: S&P Global Ratings

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Structured Finance: Robust Global Growth Should Support Ratings In 2022

Chart 10

Global 12-Month Trailing Average Change In Structured Finance Credit Quality



Source: S&P Global Ratings

Notwithstanding the downside risk from COVID-19 variants, our current base case for robust global GDP growth in 2022 and continued reductions in the forecast unemployment levels in a number of countries should support relatively stable ratings for many asset classes across the different regions. On our current base-case economic forecasts, we expect more upgrades than downgrades in global structured finance overall. Nevertheless, risks related to elevated inflation and increased interest rates in 2022 may create some headwinds for some sectors in certain regions, such as emerging markets.

Certain specific negative credit trends will continue to warrant our attention in 2022. In commercial mortgage-backed securities (CMBS), for example, commercial real estate property types such as retail, lodging, and office face headwinds. Retail properties, specifically malls/shopping centers that were already under pressure prior to COVID-19 due to the ongoing consumer shift to online shopping, will continue to face challenging conditions in 2022, particularly the weaker malls/shopping centers. As travel is not expected to return to pre-pandemic levels until 2023, lodging properties will, in turn, also struggle to reach the pre-COVID-19 revenue per available room. Even though leisure travel rebounded in 2021, corporate demand remains depressed. Office properties face risks associated with the rise and continuation of remote working arrangements. Considerable uncertainty surrounds this property type over the medium term, as many return-tooffice plans seem to have been delayed into 2022. In addition, an only modest rebound in leisure travel combined with a slower return of international and business travel means that the aircraft securitization sector will likely continue to experience continued stress in 2022. The restaurant sector has shown some resilience in 2021, but there remains some uncertainty about the profitability of casual-dining operators, such as the pub companies that back certain U.K. corporate securitizations.

In the residential mortgage-backed securities (RMBS) sector, the resolution of any remaining forbearance payment holidays in 2022 might have some negative impact in certain countries. While outstanding loans under forbearance/payment holidays are materially lower than at their peak, they remain elevated compared to pre-COVID-19 levels in certain countries. The significant home price appreciation in some countries may also continue into 2022. Some factors driving up home prices may include increased consumer savings, pandemic-driven reassessment of living space, low interest rates, and housing supply constraints. In locations in which this creates market overvaluation, a greater correction in property prices can be expected compared with undervalued markets.

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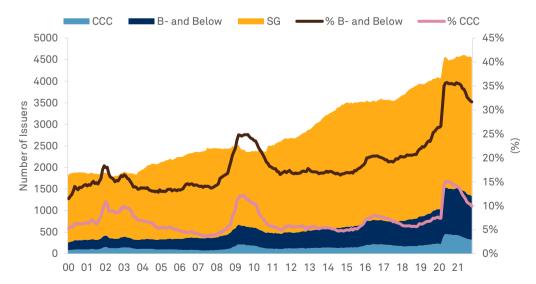
Structured finance markets are more sensitive than corporate and bank markets to the LIBOR transition because they generally contain both assets and liabilities tied to this benchmark, not just liabilities, and generally require high investor approvals to amend bond documents. As pound sterling and Japanese yen LIBOR cessations enter their final phase, ending on Dec. 31, 2021, we estimate there are about 30 transactions, mainly in the U.K., where LIBOR coupons have not been amended and transition plans have not been announced. The recently announced "synthetic LIBOR" may be the only realistic method for these securities to continue paying debt service. We have performed scenario analyses for a typical seasoned U.K. RMBS transaction to examine the hypothetical effects of LIBOR replacement on our ratings. We found that ratings across the capital structure should be resilient under the most likely transition patterns and replacement terms. As the focus of the LIBOR transition shifts to the U.S., upward of 90% of U.S. structured finance exposure is concentrated among the collateralized loan obligation (CLO), legacy RMBS, and student loan asset-backed securities (ABS) sectors. We'll be watching this closely over the coming year, although the actual phase-out deadline isn't until June 2023 in the U.S. (for further details. see "European And Japanese Structured Finance Markets Approach LIBOR Cessation While U.S. Markets Prepare For A Major Shift, published Nov. 2, 2021, and "Scenario Analysis: Potential Effects Of LIBOR Replacement On U.K. RMBS Ratings," Sept 1, 2021).

Financing Conditions: Set To Remain Favorable, But Don't Ignore Weaker Rating Distribution

Financing conditions should remain supported by constructive economic forecasts (global GDP growth of 4.2%) and lower but continued central bank support, as well as positive rating trends (upgrades exceed downgrades 2 to 1 to date in 2021) and a lower base default forecast for both the U.S. and Europe (of 2.5% by September 2022). As record issuance volumes in 2021 demonstrate, with investors consuming over \$1 trillion in speculative-grade primary risk, it is easy for all to access credit when benign conditions prevail. However, as extraordinary accommodative measures recede, financing conditions are gradually tightening. The question is, what would happen if financing conditions were to tighten sharply, in the event, for example, of a central bank policy error, geopolitical risks, or reduced liquidity. The answer is that those at the bottom end of the credit scale would endure it first. Many issuers have refinanced and repriced, which would cushion the impact. Still, it is difficult to ignore the weaker rating distribution of speculative-grade nonfinancial corporates--over 30% of which are still rated 'B-' or below (see chart 11). Or the rapid growth in leverage loan financing, primarily fueled by M&A activity, where many issuers will be the first to feel the impact of any sustained rise in rates.

Chart 11

More Than 30% Of The Global Spec-Grade (SG) Population Is Rated 'B-' And Below



Source: S&P Global Ratings

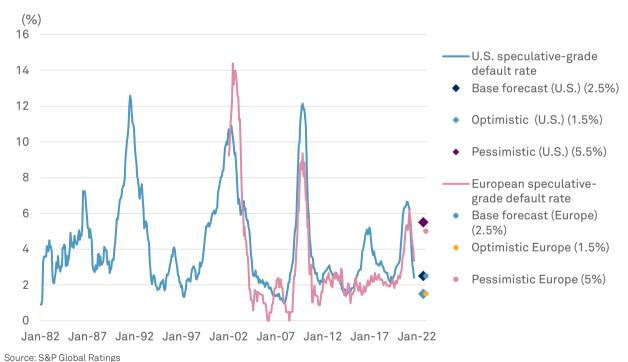
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Regionally diverging conditions ahead. Another theme to watch after a year of low volatility, will be diverging regional financing conditions as each region plots its own course from a different starting point and potentially with different destinations in mind. Growth expectations, central banks' decisions and timings, the future course of the pandemic, and region or country-specific issues are already causing benchmark yields to diverge. This may be exacerbated by rising spreads, changeable capital flows, and increasing currency volatility. Certain emerging markets that are heavily reliant upon U.S. dollar funding would potentially be among the first to encounter tighter financing conditions.

Defaults: Likely To Remain Low

We expect speculative-grade defaults to remain low through 2022, with the Europe and U.S. default rates at 2.5% (see chart 12), assuming there are no policy surprises or economic setbacks. Abundant and cheap liquidity, increased risk appetite, and investors' search for yield has led to strong credit demand across the ratings scale, allowing corporates to refinance debt and extend maturities, limiting near term refinancing risks. Still, defaults could arise from new financing risks, shorter maturities in certain industries, and regions most relying on market liquidity. Bankruptcies could also rise among small and midsize businesses.

Chart 12 Speculative-Grade Corporate Defaults Expected To Remain Subdued In 2022



Source: S&P Global Ratings

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Global Economic Outlook:

Rising Inflation Fears Overshadow A **Robust Rebound**

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Key Takeaways

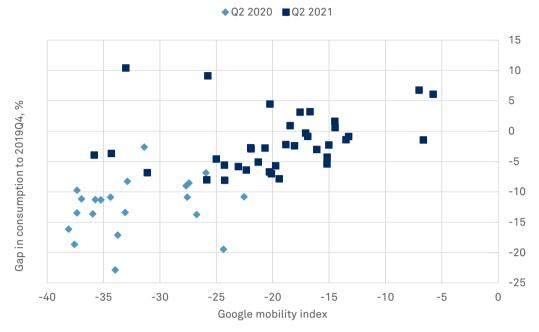
- The global economy is in the midst of a robust but uneven rebound from the pandemic with demand growth outrunning supply growth and inflation rising quickly almost everywhere.
- COVID-19 is still with us, but the economic impact of the virus is weakening, at least for now. The new omicron variant is a wildcard at this juncture.
- On policy, central banks in key emerging markets are hiking rates, some aggressively; more recently, those in advanced countries are hiking as well, with the Fed and ECB still on hold.
- Our GDP growth forecasts are broadly unchanged with the U.S. and Eurozone hitting multidecade highs; China has slowed to below 5% as the government prioritizes financial stability.
- Persistent high inflation requiring an unanticipated policy adjustment is now the main macro risk, with COVID risks in decline. China's growth path remains our key risk for the next few years.

COVID-19 definitely still with us, but the economic impact is fading

The pandemic continues to rage in some parts of the world, defying the comforts of high vaccination rates and confounding pronouncements that we may be nearing the exit. Europe is in the midst of its fourth COVID-19 wave, with the incidence skewed toward those countries and regions where effective vaccination is lightest; lockdowns have been re-imposed. The regional late summer surge in the U.S. has passed although the trough was higher than the previous wave and a new uptick has begun. Some countries in Asia-Pacific have begun to open up, although China retains a strict zero COVID policy. And a new variant has emerged in South Africa, and it's spreading at a faster pace than delta.

S&P Global Ratings believes the new omicron variant is a stark reminder that the COVID-19 pandemic is far from over. Although already declared a variant of concern by the World Health Organization, uncertainty still surrounds its transmissibility, severity, and the effectiveness of existing vaccines against it. Early evidence points toward faster transmissibility, which has led many countries to close their borders with Southern Africa or reimpose international travel restrictions. Over coming weeks, we expect additional evidence and testing will show the extent of the danger it poses to enable us to make a more informed assessment of the risks to credit. Meanwhile, we can expect a precautionary stance in markets, as well as governments to put into place short-term containment measures. Nevertheless, we believe this shows that, once again, more coordinated, and decisive efforts are needed to vaccinate the world's population to prevent the emergence of new, more dangerous variants.

Chart 13
OECD: Google Mobility vs Consumption Gap



Source: OECD, S&P Global Economics.

While the spread of the virus has not been brought fully under control, its economic impact has clearly weakened. There are two elements to this story. First, for a given level of infections, measures restricting mobility have eased. This reflects governments having a higher degree of tolerance overall for COVID-19 infections, as well as being able to more precisely target and curtail certain types of activities. As an example, skewing measures against unvaccinated parts of the population. Second, for a given level of mobility restrictions, the impact on consumption has declined (see chart 13). Households have redirected their spending power away from activities that are "locked down" (food and entertainment) and towards those where spending is still possible (durable goods). While the offset is not one-to-one, the reduction in consumption in mid-2021 was much lower and flatter than in 2020.

2021 Legacy: Robust rebound and record growth

Macro performance has generally exceeded expectations in 2021. The pattern has been driven by a combination of fiscal support, vaccinations and economic "gravity." These provide a useful lens through which to view the rebound. The first two of these factors tend to favor the advanced economies while the third has a larger influence on emerging markets. As we will argue below, the robust recovery has led to concerns about inflation.

Europe has been the latest strong performer, posting 9% annualized GDP growth in the third quarter (July to September). This reflected a Grand Re-Opening on the back of a strong vaccination push fueled by the release of pent-up demand and rising confidence. This was not unlike the U.S. outturn in the second quarter of the year when vaccinations and confidence rose, although regional surges in COVID-19 and supply bottlenecks pulled down U.S. growth to just 2% in the third quarter. In contrast, Chinese growth has slowed appreciably over the course of the year as fiscal support has been modest, and high intolerance for the virus has kept mobility, and services spending weak. However, countries linked to China's investment and durable goods sector have seen steady export demand that has helped to boost growth. Overall, we continue to see a high degree of evenness in activity across both countries and sectors.

Never mind the rebound, here's inflation

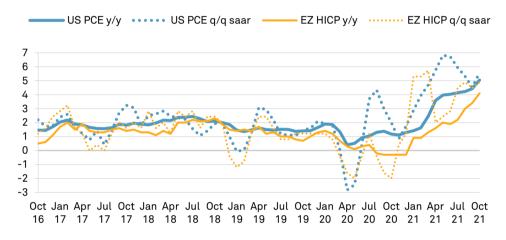
The macro focus of the recovery has shifted to inflation. The original thinking was that there would be a modest and temporary rise in inflation in early 2021 as economies re-opened; however, events turned out differently. Price pressures have persisted and broadened more than expected. And the debate is now whether inflation is transitory and will gradually ease, or whether it will persist and requires an earlier-than-planned policy response.

Turning first to the majors, the U.S. personal consumption expenditure index, the Federal Reserve's preferred measure, rose at a three-decade high of 5.0% on a year-on-year basis in October 2021 (see chart 14). Meanwhile, the Eurozone harmonized index of consumer prices, the ECB's preferred measure, is rising at an all-time high of 4.1%. While Eurozone inflation is more narrow and driven mainly by energy prices, in both economies inflation momentum (the most recent three monthly readings, annualized) is increasing again.

Chart 14

U.S. And Eurozone Inflation Measures

Y/Y and Q/Q seasonally adjusted and annualized



Source: S&P Global Ratings

The inflation picture is more concerning outside of the majors, and central banks across emerging and advanced economies have begun to raise rates and remove monetary accommodation. In EMs, inflation (and expectations) has continued rising, most recently affecting energy prices. The central banks of Brazil, Chile, Colombia, Mexico, Russia, and Poland all hiked rates in their most recent meeting, with more hikes expected into 2022 (Turkey is the only major EM country that has lowered interest rates). These policy responses reflect in part a weak anchoring of medium-term inflation expectations. But central banks in the advanced countries have begun to tighten as well. Monetary authorities in Norway, Korea and New Zealand have hiked rates in recent meetings, with Australia, England, and Sweden tapering asset purchases.

Inflation pressures from oil and supply chains--which have been driving inflation dynamics in many countries--show initial signs of easing. This gives some weight to the transitory view. The price of WTI crude oil per barrel has come off its recent peak of \$85 per barrel, roughly double the price of a year earlier. Our oil analysts note that the combination of increased U.S. shale production next year and the likelihood of some deal with Iran means that prices are forecast to decline slightly in 2022. While this will eliminate oil price inflation (since prices will no longer be rising), the high level of prices could still cause strains for oil consumers. On supply chains, the Baltic Exchange dry index has fallen by around one-half since early October, suggesting some easing of logistics costs; although our sector analysts do not foresee a clearing of production backlogs in high-demand sectors such as microchips until mid-2022.

Revised forecasts

Our baseline GDP forecasts are little changed from the previous forecast round. We have nudged global down to 5.7% this year and 4.2% in 2022 before declining closer to trend of around 3.5% in 2023–2024. Amongst the major economies in 2021, growth in Japan was taken down 40 basis points to 1.9% and Brazil was taken down 30 basis points to 0.8%, both reflecting weaker-than-expected third quarters and slowing prospects ahead. For 2022 Brazil, the U.K., the U.S. and China will all see lower growth (in that rank order), while forecasts are flat to higher in 2023–2024.

Table 1

GDP Growth Forecasts

Current forecast (November 2021)

Change from previous forecast (%)

(%)	2020	2021f	2022f	2023f	2024f	2020	2021	2022	2023	2024
United States	-3.4	5.5	3.9	2.7	2.3		-0.1	-0.3	0.2	0.1
Eurozone	-6.5	5.1	4.4	2.4	1.6				0.2	
China	2.3	8.0	4.9	4.9	4.8			-0.2		
Japan	-4.7	1.9	2.3	1.2	1.0		-0.4	0.1		
United Kingdom	-9.7	6.9	4.6	2.2	1.9	0.2		-0.6	0.4	0.3
India*	-7.3	9.5	7.8	6.0	6.5				0.3	
Brazil	-4.4	4.8	0.8	2.0	2.3		-0.3	-1.0	-0.3	
Russia	-3.0	4.2	2.7	2.0	2.0		0.2			
World**	-3.3	5.7	4.2	3.7	3.4			-0.2		0.2

Source: S&P Global Economics, Oxford Economics

As we have noted in previous reports, the levels of GDP matter in addition to the rate of growth given the size of the COVID shock. Comparing the latest level of output to the last quarter of 2019 (the last pre-pandemic quarter remains a useful exercise), China regained its pre-pandemic GDP level last year and the U.S. was able to achieve this feat in the second quarter of 2021. Our current forecast for the Eurozone has that block regaining its pre-pandemic output level in the final quarter of this year. The story is very different for emerging markets. Most countries in this group remain well below end-2019 GDP levels and many will suffer a "permanent" output loss. This means that EM economies will not get back to their pre-pandemic GDP path; they will be on a lower path. The main cause of this outcome was the lack of fiscal space and spending, which led to the loss of non-replaceable expenditures. India was hit particularly hard, where we see permanent output losses on the order of 10% of GDP.

Regional Economic Summaries

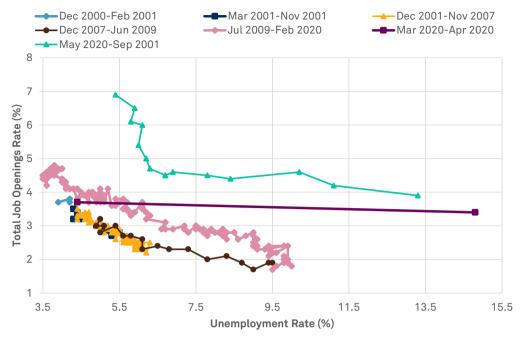
United States. Economic activity has started to pick up pace again after a slowdown in the third quarter. The delta COVID-19 wave is behind us and there are signs that supply bottlenecks are starting to ease. Inflation remains a top risk, with the October consumer price index (CPI) and personal consumption expenditure (PCE) price measures running at 6.2% and 5.0% year on year, respectively, well above the Fed's average target (for the latter) of 2%. In addition, the labor market is struggling to match workers with jobs, leading to a shift in the Beveridge Curve (see chart 15). Even with the slowdown in growth, our 5.5% forecast for 2021 growth will be a 37-year high, before drifting toward potential over 2022-2024. With inflation still rising and looking less transitory, the Fed has been moving up its tightening schedule. We now expect faster tapering and a policy rate liftoff in mid-2022.

Our latest US macro update is <u>Economic Outlook U.S. Q1 2022: Cruising At A Lower Altitude</u>, Nov. 29, 2021.

^{*} Fiscal year ending in March.

^{**} Weighted by purchasing power parity

Chart 15
Beveridge Curve Shifts Out, Showing Extreme Labor Market Mismatch



Source: S&P Global Ratings

Europe. Following a strong economic performance in the third quarter with annualized GDP growth of 9.3%, Europe is once again the center of the pandemic. The virus is surging more in the north, where vaccinations are lower. The unknown is whether consumers will be more hesitant about social contact, and real-time indicators show little signs of self-imposed restrictions so far. While industrial production remains hampered by bottlenecks, consumer confidence in the Eurozone is well above the historical average, fueled by a smooth labor market recovery and excess savings. Although growth should slow in the final quarter of the year, we see a pickup in 2022. Inflation has risen sharply in recent months, but this has been driven mainly by energy prices, which are levelling off. Longer-term inflation expectations remain well anchored, and the ECB should be on hold until early 2024.

Our latest Eurozone update is <u>Eurozone Economic Outlook 2022: A Look Inside The Recovery</u>, Nov. 30, 2021. For the latest UK update, see <u>Economic Outlook U.K. Q1 2022: Onward And Upward</u>, Nov. 30, 2021.

Asia-Pacific. The region continues to underperform relative to the U.S. and Europe as lockdowns crimp domestic demand and generate an overreliance on exports for growth. On the pandemic, some countries have begun to step away from the "zero-tolerance" approach that has held back growth (China is an exception), adding some needed momentum to activity. Of note, the region has largely escaped the inflation scare seen in other parts of the world, although central banks in Australia, Korea and New Zealand are withdrawing accommodation. In contrast to their global peers, emerging market central banks are generally on hold. Our macro forecasts over 2022-2024 remain broadly unchanged from the previous quarter with China now below 5% growth and India slowing to 6%-6.5%.

Our latest Asia-Pacific macro update is <u>Economic Research: Asia-Pacific: Ghosts Of COVID Past Hover Over 2022</u>, Nov 30, 2021.

Emerging markets. New COVID-19 cases are high in Central and Eastern Europe, but low elsewhere. Third-quarter GDP outturns were mixed but generally weak as supply disruptions held back growth. Brazil and Mexico were particularly hard hit, and Russian output declined while Poland outperformed. Inflation continues to surprise to the upside, in large part due to the recent surge in energy prices, and expectations continue to rise. The market has priced in policy rate increased across a swathe of emerging markets next year. Turkey continues to defy the market with

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policy rates cuts. Looking ahead, we have marked down GDP growth in Latin American over our 2022-2024 (especially for Brazil) while outturns in EM-EMEA and EM-APAC will be mixed.

Our latest emerging markets macro update is <u>Economic Outlook EMEA Emerging Markets Q1 2022:</u> High Inflation And COVID-19 Threaten To Slow Recovery, Nov. 30, 2021.

Macro risks shift sharply toward near-term inflation

Our top and rising risk is a misreading of inflation dynamics by major central banks. In this scenario, inflation pressures turn out not to be transitory and central banks need to step in earlier and more forcefully than currently expected to remove monetary accommodation. This would likely result in a period of rising rates and spreads, de-risking and volatility, and slowing growth as markets reprice and adjust the cost of borrowing. Realizations of this risk are most likely in the next six to 12 months.

In contrast to inflation risks, we see the macro risks from any future COVID-19 outbreaks as declining. While we cannot make a call on the likelihood and severity of any future outbreaks, the data show that for a given rise in serious infections the impact on consumption would be measurably lower than earlier in the pandemic. In an extension of this risk, the trade-off between infections, mobility restrictions and economic costs has improved, which could lead policymakers to respond less heavily to any outbreaks. The recent emergence of the highly contagious omicron variant of COVID-19 could provide a next test.

The largest risk to our outlook over the next two to three years is the economic path of China. The combination of China's 2025 "Common Prosperity" goal and the ongoing crackdown on the property sector are aimed at transforming the model toward more domestically driven, more financially sustainable and more equitable growth. The exact policy objectives are unknown, but it seems clear this juncture that there is more tolerance for slower GDP, less tolerance for speculation and more emphasis on supporting the middle class. The role of the private sector—which has driven growth over the reform period— is unclear. A less vibrant (and productive) private sector will affect not only China but the rest of the world through slower growth and export demand.

Continued Progress, But Much Macro-Credit Work Remains

Even assuming that the end of the pandemic is nearing, there is much work to be done before we can declare a return to normal macro-credit conditions. First, governments have taken on significant additional debt in the COVID era to provide a cushion to hard-hit sectors and, more recently, lay the foundation for longer-term and greener growth. While this was the correct policy response, we need to put economies onto a path of fiscal sustainability. Second, central banks have much work to do to restore balance sheets to their normal size.

As we noted in our recent research, tapering is only the beginning of the end. Trillions of U.S. dollars (or equivalent) of government assets and corresponding excess bank reserves are sitting on balance sheets, holding down yields, and distorting credit decisions. It will take years to unwind these, and guidance as to how this will be done has been minimal at best. Third, the structure of economies has changed owing to COVID, not least the shift from services to durable goods and the reimagining of work. Identifying the transitory versus the structural and measuring it properly will take time. Finally, awareness of sustainability has surged during the pandemic, including in the area of economics. The discipline will reposition its thinking on growth to include natural capital and environmental sustainability, which will remain front and center for the foreseeable future.

Top Global Risks



Risk levels are based on the likelihood and systematic impact of such an event occurring over the next one to two years. Typically, these risks are not factored into our base-case rating assumptions unless the risk level is very high.

Persistent inflation, lingering high prices, and supply-chain disruptions

Inflation has been higher and more persistent than expected, as supply chain disruptions and port bottlenecks disrupt goods delivery. Meanwhile, strong demand is pressuring food and energy prices as most countries resume activity. If cost pressures persist or intensify, profit erosion could become more widespread and steeper than we expect, weighing on credit quality for some. In the U.S., inflation has surged to a 30-year high, increasing the concern about when and how fast the Fed will raise interest rates. A rapid and volatile market repricing or inflation shock, affecting financial and real asset prices, debt-servicing costs, and funding access, would hurt lower rated corporates and some emerging markets. Those emerging markets most reliant on external financing are vulnerable to volatile capital flows and fragile investor sentiment, while those with material foreign currency borrowings could suffer from U.S. dollar appreciation.



Debt overhang creates fragility on the path to normalization

Global debt is expected to have soared by \$37 trillion, the size of U.S. and China's combined GDP, to \$225 trillion over 2020-2021. Income has substantially recovered, but supply and energy shortages threaten inflation and higher interest rates. Higher debt by itself is unlikely to lead to a credit crisis, but a disorderly reset of inflation and interest rates could trigger one. For sovereigns, the effects of high debt on credit quality will depend on policies to restore growth, fiscal and monetary flexibility, and exposure to shifts in market conditions. Meanwhile, changing demand patterns imply a high risk of uneven recovery in income and profit for some sectors. Highly indebted SMEs may be unable to rebuild revenues and earnings before their financing costs rise to more normal, pre-COVID levels.



Uneven COVID-19 vaccine rollouts and renewed infections could dampen economic recovery

The new omicron variant is a stark reminder that the pandemic is far from over. Although already declared a variant of concern by the World Health Organization, there's still uncertainty about its transmissibility, severity, and the effectiveness of existing vaccines against it. An uncontrolled resurgence in the virus that reduces mobility--particularly if an escape variant emerges--could hamper the global economic recovery, creating a challenging credit environment for some countries and sectors. Furthermore, in the absence of coordinated efforts and a more uniform vaccine coverage, the potential for new COVID-19 variants remains.



China policy stance clouds credit and growth trajectories

The government's intent to reduce income disparity and prioritize social values ("common prosperity") and to reduce dependence on foreign technology and economies ("dual circulation"), increases the likelihood of lower economic and income growth. China's policy and economic developments affect others reliant on the regional colossus for exports or finance (e.g., emerging markets) and imports (e.g., component parts).



Structural Risks

Climate change and the transition to a low-carbon economy

The transition to net zero has become a key priority for global leaders and corporations. Following COP26, countries and corporations pledged to achieve carbon neutrality by 2050, phasing down coal, phasing out inefficient fossil fuel subsidies, and moving to zero-carbon freight. Asset managers and institutional investors are allocating a greater portion of their portfolios to sustainable investments and reducing investment in activities linked to deforestation. Growing awareness of physical climate change risks could encourage a faster transition to net zero. A rapid phase-out of fossil fuels to achieve net zero could be disruptive for many industries, causing pressure on their fundamentals and creditworthiness. Sovereigns that depend on hydrocarbon revenues, or economies that are focused on highly polluting industries could also face the pressure. Adverse climate events, including hurricanes, wildfires, and droughts are happening more frequently and producing more losses, increasing physical risks for countries and corporations.



Business models and digital networks exposed to disruption and cyber risk

Cyber defenses need to be ahead of, or at least keep pace with, cyber risks. Otherwise, future cyber-related financial market shocks could lead to systemic credit events. Risks relating to IT network breaches have accelerated and there is no real sign of this abating. Entities operate in an increasingly digital ecosystem, with opaque and complex global supply chains, and they often rely on a small number of cloud service providers.



COVID-19 | Pandemic To Endemic?

The omicron variant is a stark reminder that COVID-19 remains a threat to global health and the strength of recovery.

How this will shape 2022

WHO's classification of omicron as a variant of concern within two days of its identification underscores the disquiet that in a worst-case scenario it could become the dominant variant globally and render existing vaccines immunity ineffective. The reality is that we do not yet know enough about the new strain, its transmissibility, the severity of illness it causes, and the effectiveness of existing vaccines against it. Initial answers to these questions are expected within a few weeks. Nonetheless, early evidence points toward faster transmissibility, which has led many countries to close their borders to Southern African countries or reimpose travel restrictions.

The emergence of this new variant highlights that more coordinated and decisive efforts are required to vaccinate the world's population to prevent more dangerous variants emerging. While there may be some short-term disruption if existing vaccines need to be reformulated and produced (100 days according to Pfizer), we do not expect global vaccine supply in 2022 to be a limiting factor preventing inoculations for the 57% of the world's population that remains unvaccinated.

Paul Watters

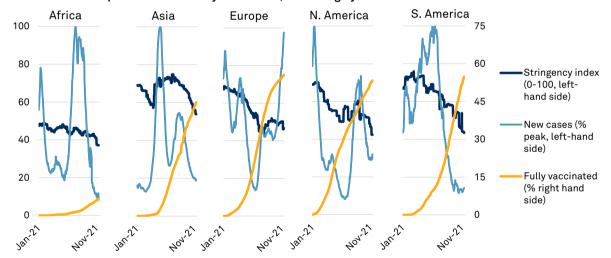
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Developed economies have bounced back, but this is not a return to business as usual

Chart 16
43% of the World Population Is Now Fully Vaccinated, Increasing By 5% Per Month



Source: Our World in Data, Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford, S&P Global Ratings. Data as of Nov. 13, 2021.

What we think and why

We still expect COVID-19 to become endemic over time. Vaccines protect against severe illness, but do not prevent transmission. Societies will therefore have to adapt and learn to live with the virus. They will have to take a balanced view of the health and economic impact of COVID alongside other regular activities. China's zero-COVID policy to counter the virus remains a notable exception. Our base case assumption for China is that this could persist until the Party Congress in late 2022.

More vaccine supply should address distribution inequity in 2022. Global production of doses will rise toward 2 billion per month during the first half of 2022, according to Airfinity, a life-sciences data provider. This should address the inequitable distribution of vaccines globally--with only 7% of the population in

Read More

COVID-19 And Inflation Are Clouding European Airlines' Recovery Path, Nov. 11, 2021

Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study. The Lancet, Oct. 4, 2021

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Africa fully vaccinated (see chart 16)—even factoring in boosters for populations already fully vaccinated. The greater challenges are likely to be countering vaccine hesitancy and establishing the necessary crisis—response infrastructure to enable the most at-risk countries to roll out necessary testing, vaccination, and treatment programs. This is the essence of the updated COVAX ACT-Accelerator partnership that is seeking funding of \$23.4 billion for its campaign to achieve 43% vaccination coverage in 91 lower-income countries by mid-2022.

Cost-effective alternative therapies support improving health outcomes. New oral antiviral treatments from Pfizer (paxlovid) and Merck (molnupiravir) have recently completed clinical trials with unvaccinated patients, and molnupiravir has already been approved by the U.K. Medicines and Health Regulatory Agency (MHRA). Taken within days of a positive COVID-19 test, these pills help to reduce the severity of the disease and the risk of hospitalization and death, particularly valuable for the more vulnerable and immunosuppressed. These are not intended to substitute for vaccinations, but will be cost-effective compared to, for instance, the monoclonal antibody treatments developed by Regeneron and Roche. These treatments could support emerging markets' vaccination rollout programs in due course, particularly where vaccines storage may be problematic.

Economies are proving adaptable. Developed economies have bounced back strongly and, to date, the impact of the pandemic has been waning in two ways. First, the severity of restrictions imposed to counter a given COVID shock has been reducing. Second, the economic damage caused by a given set of restrictions has also eased as businesses and households adapted. Even so, we don't think economies will completely return to business as usual. For one, COVID is unlikely to ever be eradicated and mutations will continue, so the vulnerable will inevitably remain more wary about travel and mingling in crowded settings, particularly indoors. Where case rates remain high, we expect that, rather than disruptive national lockdowns, most governments and local authorities will turn to COVID vaccination passports for certain leisure and work activities, including for health workers. Cross-border travel restrictions are likely to continue changing frequently in line with the epidemiological situation. This will slow the recovery of passenger volumes for international and business travel that we only see returning to prepandemic levels in 2024.

What could go wrong

A vaccine escape variant remains a downside risk. With COVID-19 likely to become endemic over time there remains the risk of new mutations that undermine the efficacy of existing vaccines. The alarm created by the recently identified B.1.1.529 or omicron variant illustrates the risks. While early indications suggest it is highly transmissible, it remains to be seen whether it causes severe illness and renders existing vaccines ineffective. Providing some reassurance, vaccines can now be reformulated and fast-tracked to market within three to six months if a COVID variant emerged that undermined the efficacy of established vaccines.

Erosion of public trust in vaccines. A growing concern is that public trust in vaccines could slip either due to public reliance on unreliable information from non-accredited sources or, potentially, if COVID infections rise, or remain elevated, as short-term immunity among the fully vaccinated population wanes. There remains uncertainty over how long the protection provided by approved vaccines lasts. A large U.S. study reported in the Lancet in October, for instance, shows Pfizer's effectiveness against the delta infection declined from 88% during the first month after full vaccination to 47% after five months, although its effectiveness against hospital admissions remained very high (over 90%) even after six months. This could become problematic if there continues to be a slow take-up of the necessary booster jabs among eligible groups, as seems to be the case in many countries.

Inflation | Is It Really Transitory?

Inflation has remained stronger for longer and the question is now whether major central banks can let price pressures pass through the economy without aggressive monetary-policy tightening.

How this will shape 2022

Stronger for longer inflation will weigh on economies. Headline inflation readings came in hotter than economists anticipated in 2021. Companies in many sectors are relying on their ability to pass through costs to customers and consumers as they balance the push-and-pull between increased demand for products and services and the sharp rise in input prices from supply-chain disruptions. In the U.S., October 2021's 6.2% jump in headline CPI from a year earlier was the sharpest increase since November 1990—and inflation began to accelerate again on a monthly basis, rising 0.9%. Similarly, eurozone consumer prices surged 4.1% on an annual basis—the most since the Global Financial Crisis.

The course of inflation will determine the trajectory of central banks' responses.

Policy makers at the US Federal Reserve and European Central Bank have so far maintaining a wait-and-see approach as longer-term inflation expectations remain well-anchored. The Fed has announced plans to taper its asset purchases staring in late 2021 and Chair Jerome Powell has suggested the bank's benchmark interest rate will remain near zero until late 2022 given the slack in the U.S. labor market. But recent data and Fed comments now suggest earlier moves. ECB President Christine Lagarde, too, has pushed back on calls for tighter monetary policy, saying to do so now to rein in inflation could choke off the region's recovery. The ECB is several years from lift off in our view and is not shading its view.

Profit margins—and, thus, credit quality—could suffer if sustained inflation begins to weigh heavily on demand. Corporate borrowers in 69% of the global sectors we surveyed have so far found it easy to pass through higher costs, while some—such as U.S. health-care services and European airlines—have found it more difficult to do so. Either way, this capability won't last forever.

What we think and why

We believe inflation pressures will eventually wane, but the risks of a disorderly COVID exit are rising, This assessment is complicated by wide sectoral variation in producer-price pressures and regional differences in consumer-price inflation. While there's a limit to how long inflation can be considered transitory, in our baseline scenario we still expect orderly reflation in major economies, including in the U.S. and eurozone, but with a lower probability than previously

We think the sharp return of consumer demand from pandemic lows—along with supply disruptions that will eventually ease—are driving high headline CPI. More recently, energy prices have become a main inflation driver as well. Rolling three-month annualized "momentum" measures peaked back in the second quarter of 2021 but the numbers are climbing again after the October data. Granted, inflation may settle at a higher clip than the low levels that have prevailed in recent decades, but the structural factors that have led to decades of suppressed inflation in developed markets—including demographic trends, technological innovation, and consumer behavior—haven't changed much. The effects of the massive COVID era fiscal stimulus are a wildcard in our view.

Inflation can be self-correcting, as well, although this can take time. With CPI (both headline and core) outpacing pay increases in the U.S. and Europe, real wages are falling. The subsequent dent to consumers' purchasing power will likely weigh on demand—especially once historically high savings, boosted by pandemic-related

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We believe inflationary pressures will wane—albeit with sectoral variation in producer-price pressures and region differences in CPI

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Economics Research: Lasting Effects Of Temporary Inflation: Higher Prices, Lower Purchasing Power, Oct. 28, 2021

Global Credit Outlook 2022: Aftershocks, Future Shocks, And Transitions

fiscal policy, start to revert to normal levels. This would likely limit companies' ability to pass through costs, and keep price rises in check.

The moderate margin pressures that companies would feel can help foster more orderly reflation. Simply put, the uninhibited pass-through of costs can be problematic, with the potential to create a wage-price spiral (see chart 17). Here, producers' higher input costs are passed through fully to retail prices, consumer-price inflation is then fully met with wage increases, and increased demand from greater purchasing power feeds back into higher producer prices. This cycle could de-anchor expectations and force central banks to aggressively raise monetary policy—at the risk of stifling economic recovery.

Chart 17
Wage-Price Spiral: A Vicious Circle



Source: S&P Global Ratings.

We now expect the Fed to raise rates sooner than it currently indicates to avoid such a situation. We forecast policy makers to lift the benchmark federal funds in the third quarter 2022, one quarter earlier than our previous prediction. The ECB will keep rates near zero until 2024 since core inflation pressures remain contained and energy price inflation appears to have peaked.

What could go wrong

The main risk is that central banks wait too long to tighten policy, inflation continues to rise, and they are forced to slam on the monetary brakes and endanger economic recovery. Such a policy misstep could create significant market volatility and put an end to what has been a historic stretch of favorable credit conditions in most major economies.

Investors could demand significantly higher returns for the risks they're assuming because of fears of persistently high inflation, escalating credit concerns, or an unexpected adverse event. This could result in the repricing of financial and real assets, higher debt-servicing costs, and tighter financing conditions. Many corporate borrowers—especially riskier credits/those at the lower end of the ratings scale—would be forced to pay up to borrow or be shut out of the credit markets entirely.

If cost pressures persist or intensify, profit erosion could become more widespread and steeper than we expect, weighing on credit quality for some. And while welcoming markets have eased maturity pressures, the drawdown of government support could expose operational and structural headwinds for many.

Rates | Will Tapering And Tightening Trouble Credit Markets?

A disorderly withdrawal of stimulus by major central banks could trouble credit markets.

How this will shape 2022

The orderly withdrawal of extraordinary accommodation, underpinned by stable economic conditions, should continue to support positive rating momentum. Our global nonfinancial corporate net outlook bias has narrowed to about -7% from pandemic peaks of about -38%.

A disorderly withdrawal could create problems for lower-rated issuers. A sustained tightening cycle, provoked by persistent inflation, could undermine credit performance, particularly among nonfinancial corporate speculative-grade borrowers where more than 30% are rated 'B-' or below.

What we think and why

Clearly communicated central-bank decisions should not be viewed as a negative for credit markets. Tapering and tightening are typically associated with improving economic conditions, which lead to stronger credit fundamentals and improving rating performance. Indeed, we note that the gap between potential upgrades and potential downgrades is its lowest since late 2018.

The distinction between flow (new purchases) and stock (existing holdings) is important when talking about tapering. Yes – central banks are likely to continue to reduce and ultimately cease their monthly purchase programs in 2022 but will neither leave the market nor a vacuum. Under our base case scenario, it will take a decade for the Fed to normalize its balance sheet and no less time for the ECB, where bonds constitute more than half (54%) of its balance sheet. In addition, no major G-7 central bank, with the notable exception of the BoE, is considering active outright bond sales as a policy option.

Orderly withdrawal should avoid escalation of financial imbalances and slow the hunt for yield. A reduction in cheap liquidity and higher rates should temper asset price growth and nascent credit risk. Indeed, certain asset classes are already showing an uptick in credit spreads. Meanwhile, the clamor for yield, which has forced some debt investors to go longer or lower to secure acceptable returns, should gradually fade. In fact, the stock of bonds (excluding debt held by central banks) trading at yields below 0% fell to 18% on Oct. 31 from 28% at end-2020.

Chart 18 Central Bank Support Has Ballooned

Source: Oxford Economics, S&P Global Ratings

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The clamor for yield should gradually fade

Issuance rated 'B-' and below jumped in 2021 and is already 1.8x and 1.4x totals for 2019 and 2020

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<u>Complete Fed Balance Sheet Normalization Is Still Years Away</u>, Aug. 16, 2021

Why 'CCC' Rated Companies Have Risen And Default Rates Have Not, Oct. 19, 2021

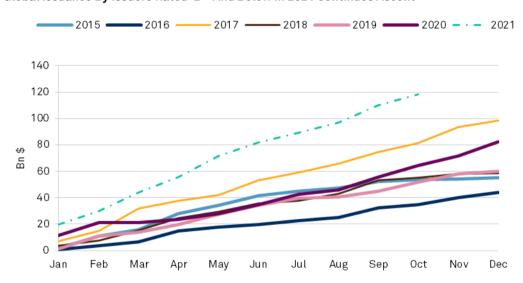
What could go wrong

Prolonged inflation forces central bankers to tighten sooner and potentially too much. Under this scenario (not our expectation), financing costs may rise more than earnings, depressed in certain sectors by cost inflation, leaving issuers more exposed and laying the groundwork for financial stress. Exacerbating rising benchmark rates, investors become cautious and seek higher risk premiums, leading to widening spreads in the most vulnerable sectors.

Recent record 'B-' and below issuance exacerbates future stress. Speculative-grade issuance has already surpassed the record for full-year 2020. Repricing and refinancing, which played a big part, pushed down near-term maturities (2H2021-2022) for U.S. speculative-grade nonfinancial corporates 40% over the last year. However, global issuance rated 'B-' and below jumped in 2021 and is already 1.8x and 1.4x the totals for 2019 and 2020. Lower rated issuers would be the first to encounter the consequences of a disorderly withdrawal.

Sustained tightening undermines leverage loan issuers. Floating-rate leverage loan issuers, without any floor, will immediately be subject to rising rates. Median leverage for U.S. speculative-grade issuers is over 7x and 8x for 'B-' and 'CCC+' issuers, while median interest coverage is 2.3x for 'B-' and 1.8x for 'CCC+' issuers, according to our calculations. Therefore, while most leverage loan issuers start from a solid if indebted credit position, sustained tightening would leave little room for maneuver, creating tough conditions in a sector that's grown more than most in 2021.

Chart 19
Global Issuance By Issuers Rated 'B-' And Below In 2021 Continues Ascent



Source: S&P Global Ratings

Defaults | Can Corporate Defaults Stay Low?

We expect speculative-grade defaults to remain low through 2022, with the Europe and U.S. default rates at 2.5%, assuming there are no policy surprises or economic setbacks.

How this will shape 2022

Investors are increasingly embracing risk. Most economies are recovering from the pandemic's impact and support from central banks and governments will take a while to unwind, potentially extending current tailwinds for corporates into 2022. Ultra-low interest rates and quantitative easing have also led investors to accept more risk than before as defaults stay low. Despite the deepest economic recession in roughly 90 years, the default rate was 6.1% in Europe as of March 31, 2021, and 6.7% in the U.S. at year-end 2020. There were very few bankruptcies; none in Europe this year, or in the U.S. since March.

Markets remain supportive amid a lack of alternatives. Yields on benchmark government bonds and investment-grade debt have been low for over a year. 'CCC/C' bond spreads in the U.S. averaged 644 basis points in 2021, the lowest annual average since 2007, and have been more stable than in any previous year. This backdrop has allowed speculative-grade issuers to set new annual records for issuance in the U.S. and Europe, with new high-yield bonds and leveraged loans in the U.S. totaling more than \$1 trillion through October, with Europe hitting €288 billion. It should also push default rates down to near historical lows in the first half of 2022--possibly below 2%--before rising later but only slightly.

Bankruptcies among small and midsize businesses could spike. During 2020, defaults rose to multi-year highs, but bankruptcy filings among small and midsize firms and sole traders--which we don't rate--generally fell well below their typical trends as a result of extraordinary fiscal support in the U.S. and Europe. This likely allowed many businesses to stay afloat longer than they would have otherwise. With many support programs ending soon, a more typical pattern of bankruptcies could reappear. This could be offset in Europe by a possible extension through June of the European Commission's State Aid Temporary Framework. A rise in small business bankruptcies won't have a direct impact on our corporate default rate, but indirect pressure could arise through greater supply chain stress, or lower consumer spending because of job losses.

What we think and why

Virus waves and lockdowns have had little negative impact this year. Speculative-grade companies we rate have shown resilience to the pandemic, even through delta-variant surges and lockdowns. Despite outbreaks over the summer, defaults in the U.S. and Europe have been quite low. In fact, since the start of April, the U.S. speculative-grade default rate has been 1.45%, if annualized. And in Europe, it's even lower, at 1.37%. There is little that can disrupt this trend in the near term, in our view. The leisure, media, and transportation sectors still have higher proportions of 'CCC' to 'C' rated issuers and are expected to lag in terms of economic recovery, likely causing them to lead the default tally.

Most issuers have secured ample and exceptionally favorable financing. In both the U.S. and Europe, speculative-grade issuers have easily set new annual records for debt issuance, and about half of the bond and loan issuance in 2020 and 2021 was to refinance existing debt on better terms. In relation to upcoming maturities, this year's issuance totals surpass speculative-grade debt maturing through 2023. Still, this massive debt load will have to be paid back eventually, though only several years from now.

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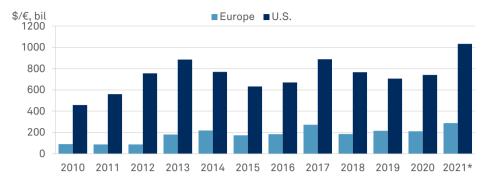
Investors continue to embrace risk

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The European Speculative-Grade Corporate Default Rate Could Reach 2.5% By September 2022, Nov. 18, 2021

The U.S. Speculative-Grade Corporate Default Rate Could Reach 2.5% By September 2022, Nov. 16, 2021

Chart 20 Speculative-Grade Debt Has Reached New Records In The U.S. And Europe In 2021



Source: Refinitiv; LCD. *Through Oct. 31, 2021. Combined leveraged loan and speculative-grade bond issuance.

Expect some upgrades, but not enough to repair the damage. Through September 2021, speculative-grade upgrades outpaced downgrades by roughly 2.9 to 1 in the U.S. and 1.7 to 1 in Europe. In the U.S., every sector saw more upgrades than downgrades. Our speculative-grade negative bias in both regions fell considerably in the 12 months to Oct. 31, in Europe to 18.1% from 45% a year earlier, and in the U.S. to only 14.4%, from 45.1%. Importantly, the positive bias has increased: to 9.3% in Europe, and to 11.4% in the U.S., resulting in many 'CCC/C' issuers being upgraded despite higher leverage. We expect a sustained economic recovery to translate into stronger revenue and earnings growth, with many sectors able to pass on higher input costs. But we don't expect this to lead to a return of the pre-2020 rating distributions in either region, since both will still have a high proportion of issuers rated 'B-' and lower (currently 36% in the U.S. and 30% in Europe).

What could go wrong

Economic growth could fall short of projections, or markets may pull back. Low default rates this year have been underpinned by strong economic performance and exceptionally supportive financial markets. But the delta variant led us to revise our U.S. economic projections more than once, and omicron and other variants could have a similar effect. Markets have kept borrowing costs low, even for 'CCC/C' rated firms whose leverage has risen this year. Our economists expect benchmark government yields to rise in developed economies, which should nudge corporate yields up as well. Underpinning it all, the weakest issuers are largely in sectors still vulnerable to lockdowns (travel, retail, media, and leisure).

Real or perceived policy missteps could blindside issuers and investors. As the Bank of England's recent surprise hold on interest rates shows, policy surprises can be disruptive. Governments and central banks have extended support measures put in place early in 2020, but at some point these will have to end. Timing may be everything. Although no "cliff-edge" effects from their removal have emerged yet, some sectors may need help for longer to fully recover, and central banks are already up against markets' concerns over current loose monetary policies.

"Late-cycle" behavior could lead to higher defaults. Spreads remain low, and rising inflation has pushed real speculative-grade bond yields negative in the U.S. and Europe. Bond and loan issuance has hit new highs; covenant-light instruments comprise roughly 90% of the leveraged loan market, and defaults have become exceptionally rare recently. Margin debt as reported by FINRA has increased dramatically since early 2020, breaking past \$900 billion, while high-yield returns have stagnated since the summer, leaving little room for further risk-taking by lenders and investors. In the worst case, default rates could rise to 5%-6% if issuers see a reversal of fortunes, which any or all of these risks could trigger, pushing defaults higher in the second half of 2022.

China | Can Risks From Beijing's Policy Tightening Be Contained?

We expect heightened credit stress as businesses navigate tighter controls in 2022. But our base case is that the Chinese government will contain systemic risk.

How this will shape 2022

Reforms are likely to continue, but with stability in mind. We believe the Chinese government will continue reforms in 2022 bannered under the idea of "common prosperity". The aim is to reduce wealth gaps amid widening income inequality. It underlines the Chinese government's desire for social and political stability. The government wants to limit speculative activities and rein in entities that are perceived to abuse their market power. While addressing these issues may slow economic growth, such growth should be more sustainable.

Other measures will focus on financial discipline and economic rebalancing.

Additional government transformational policies include a plan to be carbon neutral by 2060, and the "three red lines" rule that restricts lending to developers deemed to be excessively leveraged. Collectively, these move the country toward greater financial discipline and an economic rebalancing to channel credit to policy-favored sectors (high-tech manufacturing), an energy transition (renewable energy), and support for national security (defense). Less credit will go to speculative activities as seen in property sector. This should contribute to a deleveraging of China's corporate sector, which has the highest debt load among large economies.

More credit crunches are expected. More defaults in the property sector as funding restrictions continue to bite. The property sector is going into a prolonged downturn while liquidity and refinancing risks escalate. Selected local government funding vehicles (LGFVs) may feel funding stress as their businesses transform. We believe the refinancing environment for these LGFVs will remain broadly stable even as the market becomes more circumspect about the ability of local and regional governments (LRGs) to support these entities amid a slide in land sale revenues. Some weaker lower-level and non-core LGFVs could face a liquidity crunch as banks withdraw their funding support.

There is a likelihood of losses for investors and disruptions to businesses, as well as opportunities for new industries to break through. The policy will reshape many corporate sectors and curb their prospects. Our base case is that China will avoid a systemic crisis. If the country cuts credit risks and brings economic growth to a more sustainable path, this will be credit positive for the sovereign, banks, and corporates.

What we think and why

Common prosperity is here to stay. At the first sight of recovery from COVID, China reined in rampant property sector credit growth. What caught investors out, however, was the intensity and the speed of reforms that came under the banner of common prosperity.

Less support for stressed state-backed firms. China's corporate debt level is high at 160% debt-to-GDP. The world average is 101%. The rapidly slowing property sector will hit LRGs, which derive one-quarter of their revenues from land sales. With diminished revenues, LRGs will have less capacity to support their LGFVs and state-owned enterprises (SOEs), just as their debt servicing capacity is also

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Deleveraging of China's corporate sector is a goal

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<u>China's Falling Land Sales Will Press Change On LGFVs</u>, Nov. 11, 2021.

China Property Strains Will Roll Off Local Governments, And Land On Their SOEs, Nov. 11,

China Property Watch: Strains In The Key Of 'B', Oct.27, 2021

<u>Can China Escape Its Corporate Debt Trap?</u>, Oct. 19, 2021

<u>China's Power Outages--Get Used To It</u>, Oct. 18, 2021

diminishing due to elevated input costs and slowing. Carbon goals will mean credit stresses on energy intensive and polluting industries.

Chart 21
Property Sales Drive Local Finances And The National Economy



Source: Statistic bureau, Ministry of Finance, S&P Global Ratings. Note: We measure land sales as LRG revenue collected from the sale of primary land for development. LRG – Local and regional government.

Selective support. Meanwhile, investors are more fully pricing in stand-alone credit risks. Implicit guarantees can no longer be taken as faith as both central and local governments seek to balance system stability, while curbing moral hazard. We believe the government's interest to support the banking system remains strong, as it is the channel for it to enact policies. However, the Baoshang Bank collapse sent a clear signal that not all lenders will enjoy strong state support.

What could go wrong

The rapid pace of change could bring about unintended consequences. A lack of coordination or conflicting goals might have contributed to China's recent power outages which will drag down industrial production, especially energy-intensive sectors, at least for the time being. A forced deleveraging of property developers led to defaults and contributed to stalled property and land sales, hitting LRGs' revenues.

Tighter controls may be disruptive. There is little predictability on reforms, at times launched with minimal warning. The scope of the common prosperity policy is broad, and new measures could affect more sectors in 2022. The effect may be disruptive, such as was the policy to ban for-profit firms from operating in the afterschool sector. Private enterprises will need to navigate tighter controls on data security. Large tech firms are being fined for abusing their market power. Abrupt policy shifts may prompt businesses and their backers to hold off investment until they understand the direction and extent of these changes.

Investor confidence may be strained. Tensions amid ongoing policy changes and a rapid deterioration in economic momentum could put business and investor confidence to the test. The growing distresses among property developers may play out with significant consequences for the economy. Faced with challenges both at home and externally, China will need to thread its policy steps with taut and finesse.

The slowing property sector will hit local and regional governments

Corporates | Will Supply Shortages And Surging Costs Sink Margins?

Profit margin pressure will start to ratchet up in 2022. Supply disruption is likely to persist through the year, cost mitigation efforts weaken, and pay pressures intensify.

How this will shape 2022

Profitable growth. Nonfinancial corporate sectors have weathered supply disruptions and surging non-labor costs well so far. Last 12-month (LTM) data for 4,900 companies rated by S&P Global Ratings shows sales surging 13% versus 2020, and EBITDA growth outpacing this with a 23% increase. This has taken current LTM EBITDA margins to a record high of 18.4% for the 2005-present period.

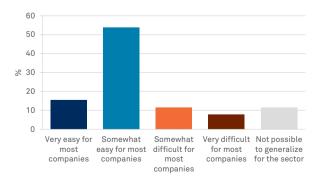
S&P Global Ratings-Rated Nonfinancial Corporates



Source: S&P Capital IQ, S&P Global Ratings. All data expressed in USD converted at historical rates. LTM--Last 12 months, incorporating midvear and third-quarter results where available

Weathering the supply storm. Companies have absorbed or negated cost increases in a variety of ways--demand offsets, demand shifts, product mix adjustments, hedging, indexation, positive operational gearing, cost pass throughs, and by keeping pay growth low. Our recent survey of 78 global sectors showed four out of five sectors reporting cost pass-through as being very easy or somewhat easy for most companies. And current conditions (surging demand, supply and labor shortages, higher input costs) have created winners as well as losers. Our analysts assess that current conditions are proving difficult for 40% of sectors, and positive for 33%.

Chart 23 Cost Pressures Are Being Readily Passed On Question: How easy is it to pass on cost increases?



45 40

35

30

25 20

15

10

Supply Disruption Has Created Winners As Well As Losers Question: Considering current global operating conditions

(surging global demand, supply and labor shortages, higher input costs), what is the average impact on your sector?

Neutral

negative

Strongly

negative

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We expect 55% of global sectors will see supply disruption persisting through 2022

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Supply Chain Strains and Rising Costs Will Pressure Profitability in 2022, Nov. 18, 2021

Source: S&P Global Ratings' corporate ratings sector analysts were surveyed between Nov. 1 and Nov. 14, 2021.

S&P Global Ratings December 1, 2021 30

beneficial

beneficial

Challenges. This benign handling of 2021's challenges may not be able to be sustained into 2022, particularly if supply disruptions persist and elevated costs are sustained. A more difficult environment for profitability, and a catch-up in pay in particular, may have significant repercussions for market sentiment and rates.

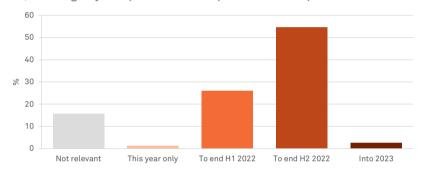
What we think and why

Prolonged disruption. Supply chain issues are likely to persist well into 2022. Our analysts suggest that 55% of global sectors will see supply disruption persisting through next year, while an additional quarter of sectors may see problems at least through the first half. This suggests input cost pressures may also persist, with 36% of sectors expecting further moderate increases and only 9% expecting nonlabor costs to fall.

Chart 25

Supply Chain Disruption To Persist Through To The End Of 2022

Question: If your sector is being affected by or benefitting from supply chain and cost issues, how long do you expect the most important effect to persist?



Source: S&P Global Ratings' corporate ratings sector analysts were surveyed between Nov. 1 and Nov. 14, 2021.

Labor cost pressures. Weak pay growth has been one factor helping profit margins increase in 2021. For rated nonfinancial corporates, LTM pay has been flat versus 2020. Even in North America, where salaries and benefits are up 6% over the last 12 months, they are only 1% higher than in 2019, whereas sales and EBITA are 11% and 17% ahead, respectively.

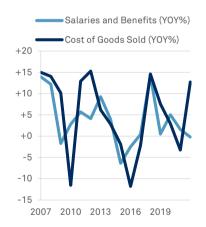
Downward pressure on margins. In our view, profit margin pressure will start to ratchet up in 2022. It will likely be harder to sustain some mitigants against higher costs as hedges run off, product mix shifts become harder, and demand growth slows. Moreover, against a background of labor shortages and dropouts, it is difficult to see corporate salary costs staying as subdued as they have been relative to rising revenues and profitability.

What could go wrong

Upside. A more rapid resolution of supply problems could allow bottlenecks to clear, enable greater sales of in-demand products, and see an inventory rebuild. Non-labor cost pressures would likely ease. This would likely see profit margins remain elevated and support healthy growth in cash flow. It would help central banks maintain accommodative monetary policy and set the stage for a prolonged upturn.

Downside. Margins could come under much more severe pressure. Persistent supply problems--potentially made worse by continued COVID-19 restrictions--and structurally higher energy costs could keep non-labor costs elevated and make a wage-price inflation spiral more likely. This would likely necessitate a tightening of financing conditions and bring a deterioration in profits growth and profitability.

Chart 26
Global Wage Growth Has Not (Yet)
Followed Other Costs Higher



Source: S&P Capital IQ, S&P Global Ratings. LTM--Last 12 months, incorporating midyear and thirdquarter results where available. Refers to nonfinancial corporates rated by S&P Global.

Energy | Are High Prices Here To Stay?

Volatile, record-breaking gas, coal and power prices have diverging effects. We see prices remaining strong, with possible spikes, but likely moderating in 2022.

How this will shape 2022

Hydrocarbon producers will generate surplus cash. Financial policy decisions about capital expenditure, debt reduction, and shareholder returns are now important rating drivers.

Regulation and hedging can support ratings on utilities and power generation companies. Predictable regulation for networks, long-term contracted generation and hedging provide a cushion for many utilities since they can be a shield against spot price volatility.

Heavy industrial users of gas and power face tough decisions. Electricity prices and gas shortages have led to some shutdowns in 2021 for fertilizer producers and others. Securing supply for 2022 may mean committing to much higher prices, which would depress profit margins.

What we think and why

Oil prices will reduce somewhat in 2022. In our base case, we assume that Brent crude oil will average \$65 a barrel from next year, and European gas, based on the Dutch benchmark Title Transfer Facility, will almost halve but remain higher than historical figures at \$12 per million British thermal unit. We are mindful that supply constraints could push these prices higher.

Power prices will likely stabilize at a higher level. We have therefore rebased our price assumptions over 2022-2023 (see our related research). We also see increased volatility becoming the norm as the energy transition accelerates, owing to faster retirement of fossil fuel use and more unpredictable ramp-up of renewables capacity, alongside greater dependence on weather conditions.

Security of supply and affordability are again key energy issues. But global decarbonization isn't going into reverse, as COP26 has signaled. While the current energy crisis may act as a wake-up call for markets and politicians, defining the role of gas in a decarbonized economy remains complex.

What could go wrong

Political intervention could deter investment. As already seen across Europe, governments may seek to manage the social impact of high prices through fiscal reforms or market adjustments. Such uncertainty about regulation and energy markets is usually negative for participants' credit quality, but could also jeopardize investment decisions at a time when policies are aiming to accelerate the energy transition.

Power producers' discipline could crack. A supply surge could up-end markets. A sharp increase in investments could reverse balance-sheet improvements made since 2020.

Price volatility brings spikes, troughs, and uncertainty. When unexpected price changes occur in commodity markets, energy producers can cope with them, but only if investments and shareholder distributions are still covered or can be adjusted when the cycle turns. For users, cost inflation may be the price of greater energy security.

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The energy transition and increased price volatility risks that we highlighted in January 2021 will remain in 2022 and beyond

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<u>Price Tremors Threaten Europe's Gas Bridge</u>, Oct. 5, 2021

<u>S&P Global Ratings Revises Oil And Natural Gas</u> <u>Price Decks</u>, Oct. 4, 2021

The Energy Transition And What It Means For European Power Prices And Producers: September 2021 Update, Sept. 17, 2021

<u>Global Debt Leverage: Risks Rise, But Near-Term</u> <u>Crisis Unlikely</u>, Oct. 27, 2020

Emerging Markets | Will Inflation Be The Next

Pandemic?

We see risks of an extended period of higher inflation in some EMs, as higher energy prices and prolonged supply-chain problems may spill over to core prices in countries with weakly anchored inflation expectations.

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How this will shape 2022

The rapid recovery of demand and lagging supply are increasing inflationary pressures. Restarting the economy after the severe pandemic lockdowns is proving highly complex and is contributing to large fluctuations in inflation. In emerging markets (EMs) where lockdowns and other pandemic restrictions have been lifted, people are eager to resume activities and kickstart consumption. This is helping many EM economies, such as Russia, Poland, Indonesia, Chile, and Brazil, recover GDP close to or above pre-pandemic levels, while in Turkey and China, GDP is already well above pre-pandemic levels. These same conditions are true for most developed economies. Yet, such a rapid recovery of demand is bringing supply-side challenges. Uneven reopening across the globe and sectors has led to labor and component shortages. It is also causing bottlenecks at seaports, leading to logistics disruption. All these factors raise inflationary pressures, as prices of commodities, food, and other goods rise.

Prolonged price pressures could spill over to core prices in countries with weakly anchored inflation expectations. Persistently high inflation could erode households' disposable income and profit margins for corporations unable to fully transfer costs to their customers. At this point, many EM central banks face a dilemma between anchoring inflation expectations and supporting short-term growth.

The lag between rising producer and consumer prices could signal upward pressures on consumer prices ahead

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<u>Supply Chain Strains and Rising Costs Will Pressure Profitability in 2022</u>, Nov. 18, 2021

What we think and why

Inflationary pressures are proving broader and more persistent. Some of the factors causing them might dissipate as demand cools, supply-chain wrinkles iron out, and base effects dissipate. On the other hand, some concerning trends might result in lingering inflation, especially those related to the supply side. Pass-through has been limited so far. Input costs for producers across major EMs have been rising much more rapidly than consumer prices (see chart 27). This suggests producers may currently be absorbing a higher burden of rising input costs at a time when recovery in consumer demand is still fragile in some EMs. However, there tends to be a lag between the increase in producer prices and consumer prices, which could be a sign that upward pressure on consumer prices will remain in the coming months.

Chart 27

Consumer And Producer Indices, Regional Median, % Change Year Over Year







Source: Haver, S&P Global Ratings. EM ASIA: China, India, Malaysia, Philippines, and Thailand; EM EMEA: Poland, Russia, Saudi Arabia, South Africa, and Turkey; LatAm: Brazil, Chile, Colombia, and Mexico.

What could go wrong

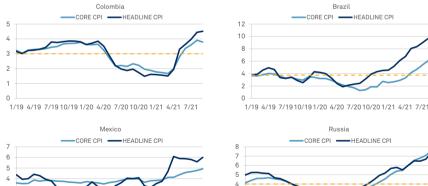
Rising energy prices and prolonged supply disruptions could keep inflation in most EMs above central bank targets for longer. Hydrocarbon prices remain elevated (see chart 28) after surging in recent months as the strong recovery in demand interacts with supply constraints. Oil prices, already at a multiyear high, may go higher given that utilities and industrial companies across the world could switch from high-priced natural gas and LNG to oil. The ongoing recovery in global demand could keep the demand-supply mismatches for an extended period of time, keeping upward pressure in oil prices, as well as preventing supply-chain disruptions from clearing sooner.

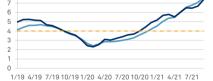
EM central banks might run more restrictive monetary policy for longer if inflationary pressures prevail. Inflation in many EMs, including Brazil, Chile, Colombia, Mexico, Russia, and Turkey, is running above central bank targets (see chart 29). There's little EM central banks and domestic authorities can do to address global supply chain disruptions or the spike in gas and oil prices. Central banks need to stick to their mandates of keep inflation expectations anchored around their targets.

EM rated corporations have been absorbing higher costs, but stress could build if inflation lasts much longer. Persistent supply chain disruptions, high input prices, and potentially steeper labor costs could erode companies' profit margins. At the same time, higher interest rates could also mean higher debt servicing cost and tighter financing conditions.

Prolonged inflationary pressures and lingering high energy prices could result in fiscal slippage for some EMs. EM households are more vulnerable to increasing food and energy prices as they allocate a larger portion of their income to these expenses. This means EM governments could pursue additional fiscal stimulus and delay consolidation to stabilize price pressures and prevent social discontent, especially in the context of upcoming elections in some EMs.

Chart 29 Key Emerging Markets With Inflation Rates Running Above Central Bank Targets





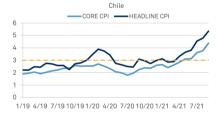
Oil prices are high but could go higher

Chart 28
Oil and Natural Gas Prices



Source: Bloomberg. Dec. 31, 2019=100.

More hikes are likely in the coming months across EMs that need to further anchor inflation expectations





Source: Refinitiv, S&P Global Ratings.

. 1/19 4/19 7/19 10/19 1/20 4/20 7/20 10/20 1/21 4/21 7/21

Note: Monthly inflation year-over-vear change, %. Dotted lines show the country's central bank inflation target. In some cases, central banks have a tolerance range around the target, as follows: Brazil (+/- 1.5%), Chile (+/- 1%), Colombia (+/- 1%), Mexico (+/- 1%), and Turkey (+/- 2%).

Real Estate | Is A Reckoning On The Doorstep?

Probably not. Healthy economic growth and steady cash flow will support the recovery. That's unless pockets of risk, like spillover from China, erupt and reduce investor risk tolerance.

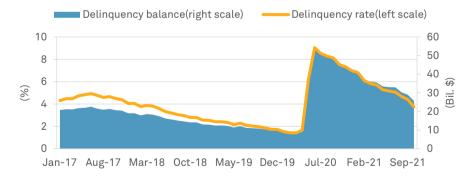
How this will shape 2022

Economic recovery should drive growth. Absent an unexpected sharp increase in interest rates that would weaken values or a big shift in investor risk tolerances, global real estate will continue to recover, though carry some pockets of ongoing risk. Continued economic expansion, robust consumer demand, and healthy job growth should feed demand for real estate. Rent collection should stay at prepandemic levels, while CMBS delinquencies continue to fall (chart 30). Across the global REIT sector, our negative rating bias fell to less than 20% from over 30% a year ago, while positive rating actions are outpacing negative ones in 2021 in the U.S. and EMEA.

Demand for housing is set to remain firm. The dearth of supply and growing affordability issues in major U.S. and EMEA markets should buoy pricing and revenue for homebuilders and landlords. In the U.S., we don't believe there's a home price bubble at this point. Rising building costs could turn off residential real estate developers, limiting new supply, but protecting them against competition.

The Chinese residential sector should slow, not spill over. Chinese government tightening measures are driving the downturn, which we expect will reduce residential property sales 10% in 2022 and 5%-10% in 2023. Compounding factors are inadequate liquidity management and concerns about off-balance-sheet or unreported debt. We expect defaults to increase over the next six-12 months, as indicated by our recent rating actions. That said, we are seeing more incremental easing lately, including more mortgage availability. We gather that policymakers believe this fine-tuning will stabilize the market, and that a few defaults won't escalate systemic risk.

Chart 30
Delinquency Rate And Delinquency Balance



Source: S&P Global Ratings

What we think and why

Residential property values remain strong and commercial property values have largely recovered. The landscape for commercial real estate is stabilizing, except in some segments. Lodging will take longer to recover given travel restrictions and an uncertain comeback for business and group travel. Societal changes will continue to depress demand for retail and office but lead to outperformance of industrial and residential assets.

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We see only limited direct risk of a spillover from events in China. Local demand and supply drive the real estate market there, and U.S. and EMEA issuers have no direct exposure.

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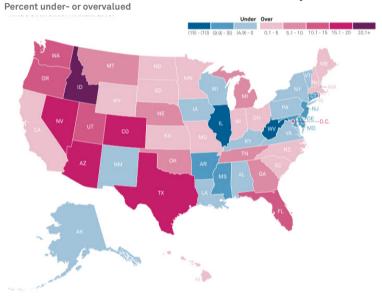
Why China Property Firms Are Succumbing To Evergrande Effects, Nov 18, 2021

The Shift From Under To Overvalued: What It Means For U.S. RMBS, Oct. 29, 2021

Office demand will decline only gradually. It's uncertain when or if a big return to the workplace will take place soon. The pandemic will continue to weigh on vacancy and rent growth. However, rent collections should remain high because the tenant base is strong and diverse, and leases long, supporting cash flow. Therefore, declines will occur gradually as leases expire, allowing landlords time to adjust.

Healthy fundamentals are fueling residential housing demand. In the U.S., the current price-to-income ratio is on average only about 5% higher than its long-term average (see chart 31). We are far away from the overvaluation leading up to the financial crisis. Record low mortgage rates, limited supply, and a growing share of the population in their homebuying years (mostly millennials) have firmed prices over the past several years. The bigger and noticeable jump In the past 15 months is not arising from speculation, but higher pandemic demand for housing as remote working and schooling became the norm and intensified the need for greater square footage. We see similar dynamics in other developed markets across the world.

Chart 31
U.S. Residential Real Estate Under- and Overvaluation By State



Source: S&P Global Ratings

What could go wrong

Another round of lockdowns could delay recovery. Although not our base case, another round of pandemic-driven restrictions and property closures in 2022 could delay the recovery of a few asset classes, such as retail and hotel in some markets. A resurgence of COVID-19 infections in several European countries threatens the reintroduction of social-distancing measures.

Persistent inflation leading to rate increases could weaken property values.

Commercial real estate landlords, such as REITs, are somewhat protected from rising inflation because most leases have rent escalators tied to inflation indices. Assets with shorter-term leases without provisions to adjust rent could feel more impact. Longer-term leases are more insulated, providing stable cash flow.

Spillovers from China's property market could derail recovery. We see only limited direct risk because real estate is primarily driven by local demand and supply, and U.S. and EMEA issuers have no direct exposure to Chinese real estate. Still, that could change if conditions worsen in the debt capital markets in China, distress spreads to other developers or industries, and investors reduce their risk tolerance. That could spill over to the global capital markets, limiting access, widening risk premiums through higher capitalization rates.

Sovereigns | Can The Books Be Balanced Without Toppling Growth?

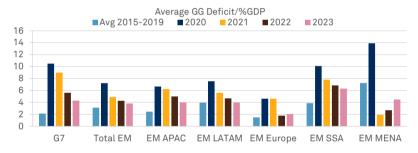
As governments seek a delicate balance between growth and fiscal rebalancing, there is a risk that inflation and higher commodity prices could throw a wrench in the recovery.

How this will shape 2022

Economic recovery is still uneven and highly correlated with the pace of vaccination and the size of the fiscal and monetary stimulus available. While strongly under way in developed sovereigns, recovery is lagging in Latin America, Africa, and to a lesser extent in South East Asia.

Fiscal consolidation will take longer. While most economies expect to return to pre-COVID output levels by the end of 2021 or in 2022, we forecast that, in 2023, average general government deficits to GDP in 2023 will still be above the 2015-2019 average in nearly all regions (see chart 32). 2022 is likely to be a year of transition in terms of fiscal rebalancing. While sovereigns will unlikely be able to implement serious revenue-increasing measures or reforms, the overall fiscal picture should continue improving, primarily from the recovery of revenue--as economies reopen--and from the end of temporary expenditures/subsidies measures that will not be extended.

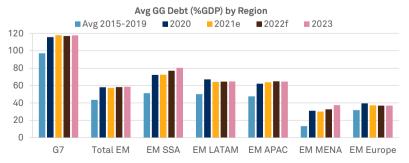
Chart 32
Most Regions' Deficits In 2023 Will Still Be Above The 2015-2019 Average



Source: S&P Global Ratings

All sovereigns are entering 2022 in a weaker fiscal position than before the pandemic (see chart 33). Some have used up a large share of their fiscal buffers and were able to sustain ratings levels. Others had little to no room for fiscal deterioration and their pre-pandemic creditworthiness was not able to withstand the crisis. The larger share, however, is somewhere in the middle of these two groups. Between January 2020 and September 2021, approximately 25% of our sovereign portfolio had at least one downgrade, and seven sovereigns defaulted.

Chart 33
Sovereigns' Fiscal Positions Are Weaker Than Before The Pandemic



Source: S&P Global Ratings

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Sovereigns that cannot stabilize or improve their fiscal position could see negative rating pressure

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China Balances Policy Risk With A Need For Reform, Oct. 13, 2021

What we think and why

Governments face the delicate task of withdrawing fiscal stimulus without hurting growth in a more fragile social context after the damage left by COVID-19. In Peru, for example, the pandemic contributed to a very fragmented congress that could make it harder to manage the political challenges of fiscal consolation and, in turn, hurt growth. We revised our outlook on Peru to negative in October. Sustaining growth rates that could aid fiscal consolidation will be difficult once the temporary fiscal stimulus phases out. In this context, both the EU and the U.S. have designed longer term programs to recover from the pandemic, such as the EU Recovery and Resilience and the U.S. Build Back Better. Such large-scale programs are less feasible for emerging markets and we expect those struggling before the pandemic in terms of economic growth, mainly in Latin America and Sub-Saharan Africa, will go back to those dynamics in 2022, The costs that sovereigns had to incur to counter the pandemic since early 2020 will be around for years to come.

Sovereigns that cannot stabilize or improve their fiscal position will likely see negative pressures on their credit ratings over the next 12 to 18 months. This was the case for Colombia and Chile, which we downgraded earlier this year, as well as for Spain, Malaysia, and Indonesia, which saw the rating outlooks revised to negative. Currently, 20 sovereigns have negative outlooks, versus nine with positive outlooks. All but one of the negative outlooks (Spain) are in emerging or frontier market economies (see chart 34).

Chart 34
Global Sovereign Ratings Outlook Balance As of Nov. 12, 2021



Source: S&P Global Ratings

What could go wrong

Monetary tightening and rising interest rates could complicate governments' attempts to balance growth and fiscal rebalancing. Inflationary pressures are mounting. A combination of supply-chain bottlenecks, labor dislocations, and production facilities that are still not operating or are doing so at reduced capacity are pushing wages and prices higher. Commodities reached their highest prices of the past five years. In response, monetary authorities have started to reduce the massive stimulus put in place to fight the pandemic. This indicates that interest rates in advanced economies will start to rise in 2022, while the rates hike has already started in emerging markets.

The combination of inflation, higher commodity prices—especially energy—and measures to counterbalance them, could throw a wrench in the recovery. In particular, emerging markets that are net importers of oil could see their current account deficits widen because of higher import bills at a time when foreign currency funding will be more expensive and difficult to access. In addition, persistently higher energy prices will likely mean that some of the temporary fiscal measures put in place during the pandemic, instead of being phased out, could be extended, or replaced by new ones. This would likely push growth downward and extend the timing of fiscal rebalancing further to future years, negatively impacting creditworthiness and ratings.

Banks | Have Lessons Been Learnt?

Even though most banks have built stronger balance sheets since the global financial crisis, the pandemic has highlighted the ongoing importance of government support in a systemic shock.

How this will shape 2022

In our base case, we anticipate relatively stable ratings, although risks are more prevalent than upside potential. Our net outlook bias for the global banking sector improved significantly, to about positive 1% in October 2021 from about negative 31% in October 2020.

Banks' balance sheets should stay in reasonably good shape. Most banking sectors emerged from the global financial crisis better capitalized (see chart 35) and more liquid than before, with significantly improved asset quality (see chart 36). Stronger capitalization progressively built up over the past 10 years has helped banks cope with weaker operating conditions amid COVID-19.

High credit losses and tight interest margins will continue. We expect banks' credit losses to total about \$1.6 trillion in 2021 and 2022, still significantly higher than before the pandemic (see chart 37). Profitability will remain constrained in some jurisdictions—especially in Japan and Western Europe—where low interest rates are hampering revenue growth (see chart 38).

The timing of governments' withdrawal of support hinges on the strength of economic recovery. Intervention by public authorities has assisted banks both directly and indirectly. Households and corporations benefited from extensive fiscal support, which saw global sovereign borrowings reach about \$16 trillion; and monetary policy shifts, leading to ultra-low interest rates. Markets received massive liquidity support from central banks, including the U.S. Federal Reserve's \$2.3 trillion lending programs, and the European Central Bank's facilities totaling over €2 trillion. These initiatives by public authorities reduced asset quality, funding, and liquidity risks for banks. Banks will cope with the eventual withdrawal of intervention by public authorities, but the way forward will be bumpy for some.

What we think and why

The pandemic highlights the enduring role of public support in banks' business models. However, because COVID-19 is an unusual shock, it does not represent a reliable blueprint about how public authorities will handle future stress scenarios. Regulation isn't a substitute for financial aid, if needed occasionally to address a systemic issue that could affect banks, or potentially to assist individual banking groups. To support the economies where they operate, banks take on risk-borrowing money for short timeframes to lend out for longer timeframes--and operate with a smaller proportion of equity than most nonfinancial corporates. Regulations can only influence the extent to which banks can play these maturity transformation and credit creation roles, balancing the economic benefit against the likelihood of banks needing support in certain stress scenarios.

Bank ratings have scope to solidify at current levels. Noting the significant turnaround in the net rating outlook bias to +1% from -31%, most banks' credit profiles look set to stay at current levels. The net outlook bias is unlikely to improve much, however, and could regress. By comparison, the global corporate sector showed a net negative outlook bias of about 6% in November 2021. The gap versus banks is mainly due to government support for households and corporates ultimately benefiting banks, as well as banks' diversified loan books, while certain corporate sectors (e.g. aviation and hotels) are still hampered by COVID-19.

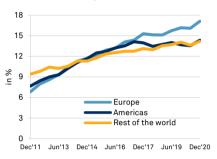
Gavin Gunning

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Without support from the authorities during the pandemic, banks would have fared worse

Chart 35

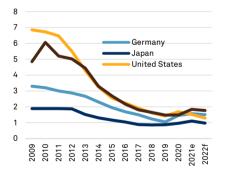
Tier 1 Ratios By Region - Group 1 Banks



Source: Basel Committee on Banking Supervision, Bank of International Settlements. Note: Group 1 banks are those that have Tier 1 capital of more than €3 billion and are internationally active

Chart 36

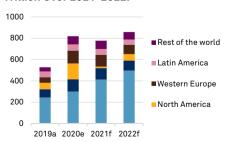
Nonperforming Assets - Selected G20 Jurisdictions.



Source: S&P Global Ratings. e--Estimate. f--Forecast. Nonperforming assets as a % of systemwide loans.

Chart 37

Estimated Bank Credit Losses of US\$1.6 Trillion Over 2021-2022.



Source: S&P Global Ratings. a--Actual. e--Estimate. f--Forecast.

Recovery will be uneven. For about half of the top 20 banking jurisdictions, we estimate that a return to pre-COVID-19 financial strength will occur by year-end 2022; and for the rest, not until 2023 or later (see chart 39). Some banks in emerging markets face additional risks, including reliance on external funding, concentration in economies, or lack of government capacity to provide support.

What could go wrong

Risks could intensify. Key risks for banks include (i) the economic recovery stalling, (ii) high debt leverage in the corporate and government sectors resulting in higher corporate insolvencies than we expect, and less government support; (iii) disorderly reflation; and (iv) property sector challenges that vary by jurisdiction, noting current stress in China and spiking house prices in many markets. Potential positive rating changes are likely to be constrained. Currently, across developed markets, we see positive economic risk trends giving a boost to banks in only two jurisdictions (Ireland and Italy), and positive industry risk trends in three jurisdictions (the U.S., Korea, and Australia).

Authorities may mistime their actions. Should monetary, fiscal, and liquidity support diminish too early, then market disruption or a drawn-out recovery is likely. This could result in more damage to households and corporates. Public authorities have to perform a delicate balancing act, however, since measures in place for too long could also have adverse consequences for banks.

Nonbank sectors could command a larger share of the financial market. As bank regulations have tightened over the past decade, new unregulated or less-regulated, nonbank financial institutions (NBFIs) have gained market share. NBFIs now account for almost half of global financial assets according to the Financial Stability Board, compared with 42% in 2008. Financial risks posed by nonbank entities are on supervisors' radar, and regulations may well change to cover their activities.

The lessons of the past may not help banks cope with new risks. Disruption from new technologies as digitalization of the financial ecosystem evolves, cyber risks, and markets' clear focus on ESG factors present risks and opportunities. Yet we expect the Basel Committee will have limited appetite for another hike in capital requirements in the next two years, given concerns about banks' business model sustainability amid low rates, and a shift in focus to different emerging risks (e.g. technology and climate related). The importance of risk management culture is an enduring lesson that banks can take forward.

Chart 39
Banking Recovery Prospects Vary Across Geographies

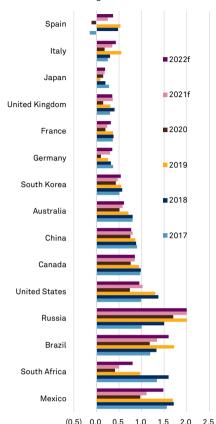


Source: S&P Global Ratings

Chart 38

COVID-19 Is Dampening Prospective Returns

Return on average assets (%) - Selected Banking Jurisdictions



Source: S&P Global Ratings. e--Estimate. f--Forecast.

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The Basel Capital Compromise For Banks: Better Buffers, Elusive Comparability, June 3, 2021

<u>Digitalization Of Markets: Framing The Emerging Ecosystem</u>, Sep. 16, 2021

U.S. Jobs | Will The "Big Quit" Transform The Labor Market?

Labor constraints--partly structural--are likely to limit growth, add inflationary pressures, and expediate a tighter monetary policy.

How this will shape 2022

One reason the U.S. economy can't grow faster is lost productivity from the drop in labor participation. Enormous job market constraints are crippling business capacity, resulting in much lower economic activity than would be the case if business operations were running smoothly. On supply constraints, we have lowered our 2021 and 2022 growth forecast to 5.5% and 3.9%, from 5.7% and 4.1% in our September forecast.

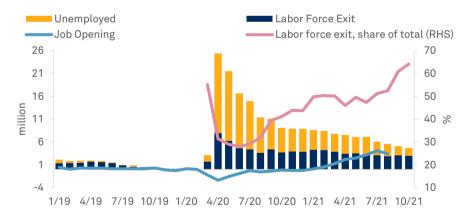
Business costs will go up as managers bid on fewer prospective workers.

Approximately 3 million people have left the workforce. We calculate about 42% of them have left permanently, tied to retirement, while 58% made short-term, likely pandemic-specific decisions to leave the market. In the face of these shortages, wages are already climbing higher, with the Atlanta Fed's Wage Growth Tracker at 4.2% year over year, its highest since 1995. It remains to be seen how many of them will return to the workforce--and how soon--so stabilizing wages. Prime-age workers (25-54) account for 45% of the 3 million who have left and who are key to stabilizing the jobs market.

Higher inflation will prompt a more hawkish Fed. Bottlenecks across the supply chain will force the Federal Reserve to move faster it currently indicates. Once bond purchases reach zero, we expect the Fed lift off to commence next year, with the first interest rate hike in September 2022. The risks tilt to an even faster Fed response. Both the easing of labor supply constraints—as the pandemic fears subside and more people get vaccinated—and tighter monetary policy later will likely cap price increases later in the year.

Chart 40

U.S. Labor Market Conditions Suggest A Structural Shift In The Labor Force



Source: BLS, S&P Global Economics calculations

What we think and why

It's not about extended unemployment benefits. Of the 4.5 million fewer people working in October 2021 relative to pre-pandemic levels, about 1.5 million were unemployed. Many have argued generous extended benefits kept people from finding work. But our analysis of jobs data found that those states that ended extended unemployment benefits and reopened earlier, increased economic activity and had a greater need to create jobs to meet increased demand. The

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About one-third of the 4.5 million who have left the workforce will not return

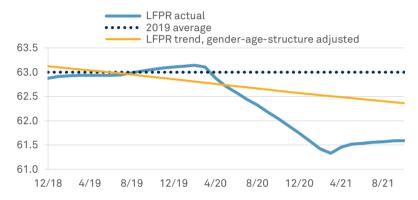
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Where Are the Workers? Three Explanations Point To An Answer, Nov. 4, 2021

unemployment rate in these states in April was 4.5%, lower than the 6.0% in states that did not end extended benefits early.

It's about the "big leave". The pandemic accelerated a structural change in the workforce. Older skilled workers may have taken retirement earlier than previously planned due to the pandemic, which may in turn have worsened the skills mismatch, another structural issue. The labor participation rate of people 65 years and older is still 8.1 percentage points (pp) below pre-crisis levels, and among those aged 55 to 64 it is 1.1% lower. Other reasons for leaving the workforce are likely to be temporary and related to the pandemic, such as savings cushions, difficulties commuting a much longer distance, ongoing virus fears, and increased childcare demands. Our analysis shows the structural "age" component explains about 42% of the shortfall from the 2019 labor participation average, while temporary pandemic-related factors explain about 58%. We suspect many younger potential workers who left the workforce will rejoin once vaccinations are available to children under five, or when the U.S. reaches herd immunity. The question is when will that be?

Chart 41
Reasons Behind Labor Force Participation Deficit



Source: BLS, S&P Global Economics calculations.

The drop in the labor force will make the Fed move sooner on higher wages. A smaller workforce means higher wage gains, increasing the risk of a wage price spiral. Wage gains are now at a 14-year high, as indicated by the Atlanta Fed wage tracker and other measures. Together with widespread price gains, the federal funds rate will lift off next year, with its first rate hike in September 2022. We expect three more rate hikes in 2023 and another two in 2024.

What could go wrong

A structural shift rather than temporary change. If more people of working age remain out of the workforce longer than currently anticipated, the structural shift in the labor force would be greater, resulting in continued job market supply constraints and higher wage pressure in the foreseeable future.

The Fed falls behind the curve on inflation pressure. In a scenario in which the Fed did not address inflation pressure in 2021 in the belief that higher prices were "largely transitory", it could be forced to move quickly to contain inflation pressures in 2022. Such an interest rate shock strategy would eventually tame price readings, but not without economic growth declining sharply as well.

Fed monetary policy exacerbates income inequality. The Fed indicated in 2020 that it would broaden its job market scope beyond targeting just the national unemployment rate (which tracks closely with the white unemployment rate) to include job market conditions for other demographics. If it was forced to respond to higher inflation readings, it may tighten monetary policy well before other demographics, such as Black and Hispanic Americans, fully experience the benefits of a healthy economic recovery on job prospects.

Global Debt Leverage | Has Soaring Debt

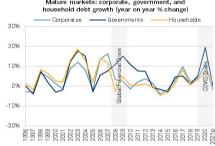
Sown The Seeds Of Crisis?

An immediate crisis stemming from the COVID-induced debt surge is unlikely, but inflation and the prospect of rapidly rising interest rates could weigh on credit quality.

How this will shape 2022

Higher debt alone unlikely to trigger crisis. While rapid debt growth can contribute to a financial crisis, it doesn't always lead to one (see charts 42 and 43). Equally (if not more) important is the interplay of factors including supply disruptions, changing consumption patterns, and government policies that raise inflation and interest rate risks. These can strain borrowers in a climate of high debt levels.

While Debt Growth Surged Before The GFC...





... Not All Surges Were Followed By Crisis

Leverage should stabilize in 2022 but some sectors and geographies are still

vulnerable

Note: Corporates refer to nonfinancial corporates. p--Projected. GFC--Global financial crisis. Source: International Institute of Finance

Global leverage will ease after the surge. Leverage has been slowly trending up since the 2008-2009 global financial crisis (GFC) and surged during COVID (see chart 44). In 2020, gross debt-to-GDP for governments rose 19%; corporates, 15%; and households, 9%. Overall, higher debt contributed four-fifths of the surge; lower GDP, the remainder. But we expect some easing in 2022, particularly for corporates.

Chart 44

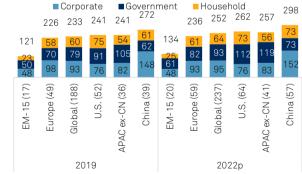
Debt Leverage Surge Should Ease Global debt to GDP trends, 2009-2022p



Note: Corporates refer to nonfinancial corporates, p--Projected, Source: 2009-2020 corporate--International Institute of Finance; other--S&P Global Ratings.

Debt Mix Represents Different Vulnerabilities

Debt to GDP (%) by region and sector, 2019 vs. 2022p



Note: Data in brackets are total debt amounts in U.S.-dollar trillions. p--Projected. APAC ex-CN--Asia-Pacific ex-China, EM-15--15 emerging markets, namely Argentina, Brazil, Chile, Colombia, India, Indonesia, Malaysia, Mexico, Philippines, Poland, Russia, Saudi Arabia, South Africa, Thailand, and Turkey. Source: S&P Global Ratings.

Vulnerabilities differ by region and sector. The leverage of corporate, government and household sectors within geographies differ (see chart 45) implying different sector vulnerabilities. For example, government leverage in the U.S. and Asia ex-China is higher than corporate leverage, while it is the reverse in Europe and China.

S&P Global Ratings December 1, 2021 43

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Rapid debt growth does not always lead to crisis

What we think and why

Global debt growth will ease. The rising debt trend pre-COVID was enabled in part by a "lower for longer" interest rate environment and investors' search for yield. The COVID-19 shock led to governments spending a likely US\$10.9 trillion in 2020 and 2021, to support their economies. Corporate and household borrowing rose in 2020 amid curtailed income. In 2022, the borrowing needs are likely to somewhat stabilize for all segments. We expect gross debt growth for corporates to be 3% in 2022; governments, 6%; and households, 6%.

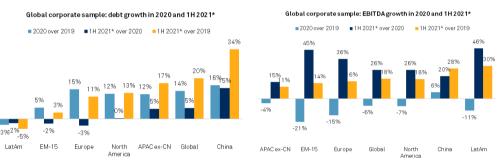
Debt growth to moderate while the income trend points up

Incomes will climb. While the momentum of income recovery may have stalled because of fresh COVID outbreaks, the robust economic recovery, a steadily increasing global percentage of vaccinations, and public acceptance of "living with COVID" support the view that the income trend should, even with some stumbles, still point upward in 2022.

Leverage will stabilize. The combination of the above two trends underlies our expectation that debt leverage will ease, albeit at still high levels, going into 2022. Indeed, based on a global sample of more than 24,000 corporates we found that, as of first fiscal half-year 2021, debt growth has slowed in all regions except for China, while earnings have rebounded strongly (see charts 46 and 47).

Chart 46
Surge In Debt Has Eased (Except China) ...

...While Earnings Have More Than Recovered



Source: S&P Global Market Intelligence.

*annualized. 1H--first financial half-year. APAC ex-CN and EM-15 are as defined in chart 4. LatAm--Latin America.

What could go wrong

COVID Worsens. A fast-spreading COVID-19 variant could derail the economic recovery, reducing corporate and tax revenues. This could necessitate additional fiscal support from governments, delaying credit metric improvement.

Inflation expectations become ingrained. While the markets are fairly confident that central banks of advanced economies will respond to recent inflation in a way that brings medium-term inflation back to target, the capacity of emerging markets' central banks to do so is less clear. If the supply-demand imbalance continues to push up prices, markets and consumers may reset their inflation expectations.

Interest rates reset in disorderly fashion. Central banks could misjudge inflation dynamics and may have to raise rates more aggressively than they plan to. Investors could also demand higher risk premiums amid greater uncertainty. In either case, assets and financial markets will reprice and borrowers will be confronted with tighter financing conditions and higher servicing costs.

Credit quality may deteriorate for heavily indebted borrowers. For corporates, especially those at the lower end of the ratings scale, earnings could suffer if cost pressures persist and pass-through ability wanes. This, coupled with higher borrowing costs, could weigh on credit quality (although many have taken advantage of low interest rates to push out maturities). Chinese corporates, which are more indebted than the global average, could face more challenges given policymakers' focus on deleveraging. Meanwhile, emerging markets that heavily rely on foreign funding or with large external/fiscal imbalances will be at risk; their households could also take a hit if purchasing power erodes as high prices linger.

Inflation and higher interest rates are threats

China | How Will The Government Address The Corporate Debt Trap?

China's corporate debt is 31% of the world total. With credit quality below the global average, policymakers are focused on deleveraging-leading to higher defaults, contagion effects, and slower growth.

How this will shape 2022

So many policies, so little time. The scope of China's reform agenda is vast, involving many unintended consequences. Efforts to be carbon neutral by 2060 led to the closure of "dirty" coal mines. In turn, the country experienced significant power outages in the second half of 2021. The rollback on tech firms shook investor confidence about the private sector, involving significant equity losses. The government is curtailing the credit available to developers, prompting a liquidity crunch. The result has been defaults and sliding home prices (the average price across 70 cities dropped a further 0.25% in October, an escalation from September 2021's 0.08% decline). These fuel more stresses to the real estate sector--property developers drive about one-quarter of China's economy.

Curbs to borrowing. Suffice to say, the agenda is sweeping. Of all these measures, the most ambitious perhaps is the government's desire to curb corporate borrowing. China has the most corporate debt of any nation, and the most heavily leveraged firms among large economies. In our survey of over 5,000 Chinese corporates, 58% are "highly indebted" (the group we deem to have the highest credit risk). To address this issue, China is capping the credit available to developers and state-owned enterprises SOEs, among others.

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China's corporate debt is increasingly getting the attention of Beijing

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<u>Can China Escape Its Corporate Debt Trap?</u> Oct. 19, 2021

<u>The Great Game And An Inescapable Slowdown,</u> Aug. 29, 2019

China Balances Policy Risk With A Need For Reform, Oct. 13, 2021

Chart 48

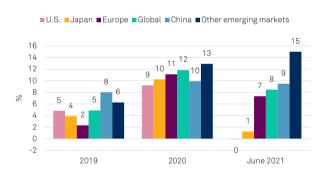
Nonfinancial Corporate Debt-To-GDP



Source: International Institute of Finance

Chart 49

Corporate Debt Change (Year-On-Year)



Source: International Institute of Finance. Note: Debt in U.S.-dollar-equivalent except for China and Japan, which is in local currency.

More defaults are likely. Beijing wants Chinese corporates to have more financial discipline, and in particular to contain their credit excesses. The country's corporate debt of US\$27 trillion is almost one-third of the global total. Its debt-to-GDP ratio of 159% is markedly higher than the global rate of 101% and twice the U.S.' 85%, implying substantial financial and economic contagion risk.

Contagion risks. With officials refusing to bail out the troubled developer China Evergrande Group, fears of contagion risks are mounting. This dents investors' willingness to fund other Chinese developers with stretched finances. This was recently apparent in missed bond payments by Fantasia Holdings Group Co. Ltd. ("Fantasia", SD), Sinic Holdings (Group) Co. Ltd. ("Sinic", SD), China Properties Group Ltd. (unrated), and Modern Land (China) Co. Ltd. (unrated). Prior to Fantasia's and Sinic's defaults, they were rated at the 'B' category given their weak creditworthiness and high leverage. The point is that Beijing has been unusually

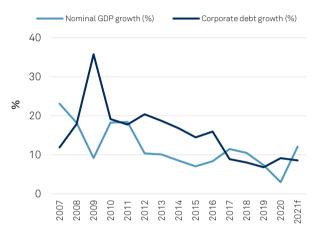
tolerant of these strains in 2021. It sets a tone for 2022, when we anticipate more market discipline, and many more corporate failures.

What we think and why

The push for deleveraging will slow economic growth. China's buildup of corporate leverage is drawing scrutiny. The government's pullback from credit-backed growth points to an increased focus on curtailing speculative activities and reducing financial-stability risks. With China stepping up on deleveraging, economic growth will slow. This will play out against a backdrop of structural factors (such as demographics, and a shift to services from manufacturing) that could drive a yearslong downward trend of China's GDP growth rate.

Chart 50

China Corporate Debt Growth Versus Nominal GDP Growth



Source: GDP--World Bank except 2021f, which comes from S&P Global Ratings¹ "Sovereign Risk Indicators," July 13, 2021; debt--Bank for International Settlements except 2021f, which uses actual first quarter 2021 data as a proxy.

f--Forecast. Debt growth is in domestic currency.

Chart 51 Corporate Debt Growth Over Nominal GDP Growth



Source: GDP--World Bank except 2021f, which comes from S&P Global Ratings' "Sovereign Risk Indicators," July 13, 2021; debt--Bank for International Settlements except 2021f, which uses actual first quarter 2021 data as a proxy.

f--Forecast. Debt growth is in domestic currency.

What could go wrong

Ambitious policies bring contagion risks. The reforms undertaken by the Chinese government are meant to reduce domestic risks and achieve more sustainable growth. However, the rapid implementation of many ambitious policies may involve contagion effects that could hit investor confidence, rattling financial systems and the economy. The successful implementation of reforms will require finesse

Change will be difficult. China could see itself being caught in numerous traps, particularly a middle-income trap and a corporate debt trap. The former describes a poor transition to more productive industries, risking economic stagnation. The latter points to the difficulty of borrowers to come off debt-fueled income growth. Chinese authorities have in the past successfully pressed entities to deleverage, and in particular to reduce their use of unproductive debt. We believe it can do so again. However, this will come with pain.

Digitalization | Will DeFi Destabilize Finance?

Decentralized Finance (DeFi) will continue to send shockwaves through traditional financial models. But regulators will be instrumental in determining how far DeFi can go and how smoothly.

How this will shape 2022

DeFi will continue to complement, not supplant, traditional finance in 2022. This new financial ecosystem uses smart contracts on blockchains instead of central financial intermediaries to offer financial products and services. We believe it will continue evolving in 2022 toward complementing the current financial system rather than substituting financial services companies. To remain relevant, we think incumbent players will have to further step up investments in new technologies-otherwise the balance could shift away from them in the longer run.

Growing volumes will accelerate the regulatory debate. Stablecoins, for instance, are attracting increasing interest from policymakers and have become a focal point for regulatory review (see chart). This form of cryptocurrency is a crypto token linked to underlying assets, such as national currencies. Stablecoins are designed to ensure price stability and enable investor access to a wider range of digital assets. But the transparency of the underlying assets can be limited, which could impact financial system stability should they significantly substitute traditional money.

Progress in the regulatory debate could both frame and spur growth in 2022.

Regulatory progress is a precondition for many traditional players to enter some DeFi activities with confidence and compete with players native to this ecosystem.

Central bank digital currencies (CBDCs) will remain a key focus. For policymakers, they represent a tool to curb the rise in cryptocurrencies, which many view as a potential threat to financial stability, and ensure an evolution rather than revolution of money.

What we think and why

Most DeFi applications (dApps) currently don't compete with incumbents. They are mostly still restricted to transactions within the emerging digital ecosystem-for instance for the purchase, exchange, lending, or insurance of digitally native assets. But this could change as technology and acceptance evolve.

It is difficult to predict the long-term scope and degree of decentralization ahead in the financial system. Greater scale is a key necessity for dApps. The efficiency gains that decentralized structures offer will largely drive the adoption rate of these new technologies. Interdependencies can also hamper growth. For example, fully digital, decentralized, bonds require the existence of CBDCs (or widely accepted stablecoins), and decentralized know-your-customer (KYC) capabilities.

DeFi could support financial stability by generating greater competition and diversity. The systemic importance of existing players could decline as a result. Accessibility to finance and to more diversified investment opportunities could improve. In turn, this could ultimately support greater liquidity and a better market allocation of it.

Supervision is catching up with a lag. The future will tell whether DeFi will become a transformational force for markets. Regulators and policymakers will likely increase regulation of DeFi, but they often still lack the frameworks to fully monitor it. Some areas of DeFi present a challenge under existing regulations, which are tailored for a financial system with accountable centralized agents. Policymakers must find the right balance between regulation and innovation to steer DeFi growth.

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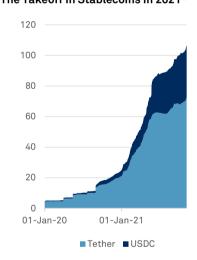
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Regulators will have to strike the right balance between encouraging innovation and ensuring stability

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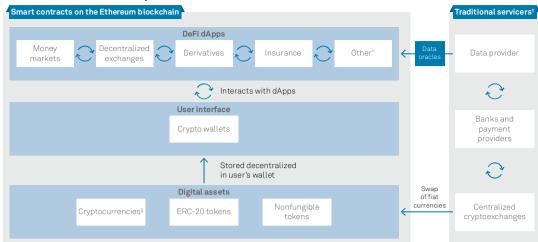
<u>Digitalization Of Markets: Framing The Emerging</u>
<u>Ecosystem</u>, Sept. 16, 2021

Chart 52 The Takeoff In Stablecoins In 2021*



Source: Source: CoinMarketCap. *Market capitalization of largest two stablecoins.

Decentralized Finance Simplified



Source: S&P Global Ratings.

What could go wrong

Should DeFi capture a large share of the financial system, new tools would be needed to tackle future crises. Cryptocurrencies emerged in part as a reaction against central bank policies that materialized on the back of the financial crisis. The prevalence of private money over fiat and CBDCs could, for instance, tie the hands of central bankers. This could, in turn, weaken a coordinated response to future crises, or decisions based on algorithms could lead to greater procyclicality.

Risks may shift to different stakeholders. Intermediaries, such as banks, manage a number of risks for their clients, including credit, market, and operational risks. In a decentralized world, households and corporates would increasingly bear some of these risks directly. Or they will trust newer, less experienced, and less supervised, players to assume these functions. This will require better education and transparency to avoid confidence crises and contagion to conventional finance.

Decentralization will not eliminate concentration risks. While the technology underlying dApps is decentralized, it relies on central service providers (e.g., cloud computing, external data providers). dApps rely on a central code, a similar core technology, and often a small number of software developers. And some of them already dominate specific market segments.

DeFi operational risks are not necessarily higher, they are different in nature.

Decentralized systems may in some cases be less vulnerable to cyber risk or technical failure than centralized systems and ensure better integrity of record-keeping and service availability. This is underpinned by the dispersion of information through multiple nodes. On the other hand, participants typically use identical technology and/or computer code. And with smart contracts, the risk of fraudulent developers or deficient coding can't be excluded. In addition, progress in quantum computing could also threaten the cryptographic security in distributed ledger technology.

In the longer run, DeFi could disrupt financial service companies. At the moment, most functionalities relate to newly created digital assets. But DeFi's potential is greater in higher-cost activities, which often provide higher margins to incumbents. If DeFi captures a large share of existing liquidity, it could also amend the funding profile of incumbents. Ignoring this trend might lead to a difficult wake-up call in the future, although we think this is a few years off given that DeFi is still in its infancy.

Decentralization will not eliminate concentration risks

Cyber | Are Credit Markets Ready For A Systemwide Attack?

How much a global cyber attack might hurt entities, financial markets, services, and economic growth depends heavily on how cyber preparedness ramps up in 2022.

How this will shape 2022

The number of credit relevant cyber attacks will keep rising. Most of the rating actions linked to cyber risks have followed direct attacks on specific entities. Often, those attacks led to a meaningful balance-sheet event, business disruption, and a risk of long-lasting reputation damage. We believe 2022 will see more meaningful systemwide attacks, given the opportunities hackers have had over the last 12-18 months to gain access to IT infrastructure, owing to increased remote work and reliance on common third-party vendors. Although such systemwide attacks have not had a huge impact on entity creditworthiness in the past, compared with direct attacks on individual companies, we believe the increased interconnectedness of the global digital infrastructure has amplified exposure to them.

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Ever greater reliance on remote work and third-party vendors means systemwide attacks are more likely

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Cyber Risk in a New Era

Chart 53

Cyber Insurance Premiums Are On The Rise

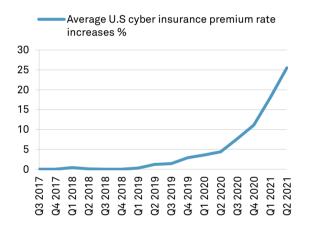
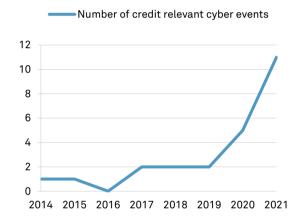


Chart 54

Number of credit relevant cyber events



Source: AON, The Council of Insurance Agents and Brokers.

Source: S&P Global Ratings

Cyber defenses need to at least keep pace with cyber risks. Otherwise, future cyber-related systemic shocks could lead to widespread rating actions. Risks relating to IT network breaches have accelerated and there is no real sign of this abating. Entities operate in an increasingly digital ecosystem, with opaque and complex global supply chains, and they often rely on a small number of cloud service providers; so it is crucial for them to understand their exposure and mitigate risks relating to this intricate level of interconnectivity. This will also help to ensure that an attack on one entity doesn't become an attack on all related parties.

We anticipate more information sharing on a global scale and deeper involvement of government bodies. Governments will play a crucial role in helping to reduce exposure to systemic events and bolstering awareness of cyber risks across all sectors of their economies. They can do this by providing direct support for the costs of improving cybersecurity, strengthening requirements regarding disclosure of events, providing best practices, and sharing information. This needs to happen quickly and proactively, for example, assuming a systemic cyber event next year, so entities are prepared to act rather than only react in case one occurs. We also expect to see a greater degree of information sharing among peers, competitors,

and whole industries, helping economic sectors stay abreast of cyber developments and new pockets of risk.

Cyber (re)insurers are playing an increasing role apart from pure risk indemnification. Although the (re)insurance sector has the potential to provide substantial and tailored insurance coverage, we see opportunities for this sector to provide a wider range of end-to-end cyber assistance services to ensure entities have more comprehensive protection and plans. The market for cyber insurance and premium levels need to become more sustainable in 2022 and beyond to ensure that they work better for both the (re)insurance sector and entities buying cover. Premiums may rise to adjust for increases in underlying risk, but entities that invest in cyber defenses must be rewarded with lower premiums than for companies with a higher risk profile.

What we think and why

Sectors' cyber exposures are converging, and no entity is immune. Different sectors and asset classes have tended to face markedly dissimilar exposure to cyber risks. However, this is changing, and the gaps between sectors are narrowing. We see a wider range of entities becoming targets of cyber attacks than before. Robust cyber-governance protocols have shown their ability to limit the impact of both isolated and systemic cyber risk exposures, and this will remain a key credit focus.

Cyber governance will remain crucial. A systemic cyber event would likely trigger widespread rating actions on entities with weak balance sheets that handle the event poorly and lack adequate cyber insurance or other means to address the potential financial impact. Our wider focus on governance as part of our forward-looking credit analysis helps us detect weaker risk management policies, including those for cyber; there is a strong link between weak general governance standards and weak cyber governance.

Stress testing to simulate the future and deep dives to learn from the past need to continue. The former remains key to helping entities size up exposures and ensure that preagreed protocols are executed as intended following an attack. Regarding the latter, we believe entities should make it part of their DNA to learn from previous cyberattacks and take measures to detect ongoing incidents and prevent future threats.

What could go wrong

Complacency could set in. There is substantial momentum regarding investment in cyber security. This is particularly important because we believe that cyber threats will continue to evolve, including to avoid detection. Although attacks are still at unprecedented levels, for some sectors they seem to be occurring at a slightly lower frequency. Despite this, maintaining investments in cyber defense and progress toward its full integration into risk management frameworks are paramount; companies should not let their guard down. The slightly lower observed frequency may be due to attacks going undetected, with risks and exposures becoming known only later, and often too late.

Cyber governance protocols may not be executed as intended after an attack. We continue to believe that strong leadership, communication, and external transparency are key to limiting the damage caused by a cyber attack. These factors may come under pressure in the face of a real-life attack. Different types of attacks may require markedly different response strategies. Understanding this dynamic upfront will help entities manage through an attack, and be ready to recover, reassess, and rebuild.

Crypto Assets | Evolution Or Revolution?

Crypto assets and tokenization will increasingly disrupt financial markets. Central bank digital currencies may act as a trusted bridge between traditional and virtual worlds.

How this will shape 2022

Adoption of cryptocurrencies will continue to gather pace. As of Nov. 11, 2021, their total market capitalization was around \$2.8 trillion--about 6% of the U.S. equity market. Around 45 corporates have taken positions on cryptocurrencies (bitcoin and ethereum), totaling around \$24 billion. Three companies--Block.one, MicroStrategy, and Tesla--hold almost 84% of corporate investments in bitcoin. Yet, growing interest from institutional investors augurs accelerated expansion for cryptocurrencies as investment vehicles. Beyond the corporate world, senior elected officials in New York and Miami have expressed a desire to receive their salaries in cryptocurrencies. Miami has launched MiamiCoin, and New York City has announced a similar intention. Still, we don't think cryptocurrencies will constitute a viable global means of payment until technological enhancements, such as changes in consensus mechanisms, allow for greater efficiency.

Cryptocurrencies are likely to continue experiencing major price swings in 2022.

This is because of their extreme volatility, regulatory uncertainty, and high energy consumption. While cryptocurrencies have laid the foundations, greater disruption of financial markets may come from tokenization, in our view. Tokens are the digital representations of a physical or nonphysical asset managed on distributed ledgers and representing the right to the asset (such as right to use or proof of ownership).

Central bank digital currencies (CBDC) are likely to act as a trusted bridge. We expect a number of central banks to progress toward launching digital versions of their currencies. These could encourage broader adoption of crypto assets and tokenization by offering a smooth and reconcilable link between the traditional and the virtual worlds. Up to now, stablecoins have tried to fulfil this role. But investors cannot be totally immune to the valuation volatility of their reserve assets or their lack of capacity to be self-sustaining.

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The race is on between central bank digital currencies and private cryptocurrencies

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<u>Digitalization Of Markets: Framing The Emerging</u> <u>Ecosystem</u>, Sept. 16, 2021

Net Debt: Why Digital Currencies Like Bitcoin Are Not Akin to Cash In Our Ratio Analysis, May 3, 2021

Stage Of Development In Key Banking Systems For CBDC



Information are estimates based on public information including central bank announcements and CBDCTracker.org. CBDC--Central bank digital currency. Source: S&P Global Ratings.

What we think and why

Fast adoption, expanding use cases, and evolving technology augur further digitalization of markets. The COVID-19 pandemic highlighted the importance of digitalizing the financial services industry. While cryptocurrencies created the

framework, tokenization is expanding the use cases and opportunities for further digitalization.

Tokenization is creating new opportunities. The fractionalization of assets could enhance liquidity and open the door for investors or borrowers excluded from existing instruments. Tokenization allows also for an efficient exchange of assets by reducing the need for intermediaries and streamlining back-office operations. This could potentially allow for markets to open 24/7, shorten clearing and settlement times, and ultimately reduce counterparty risk and free up collateral.

Regulators and policymakers are slowly catching up. The industry faces several hurdles, including the need for a regulatory framework that recognizes the rights of token holders and smart contract protocols. The technology will also have to reliably meet the requirements of network stability, scalability, settlement finality, interoperability, and immunity to cyber risk. Yet, the key challenge in our view is the current lack of a bridge of trust between the traditional and the virtual worlds for key stakeholders and policymakers. CBDCs will facilitate this because a CBDC represents a liability of the issuing central bank and, like cash, its legitimacy would mirror that of its central bank. A CBDC would be widely and easily accessible and, more importantly, its value would remain stable. CBDCs could foster broader adoption of tokenization by providing a smooth and reconcilable link between the traditional and digital worlds.

What could go wrong

Energy consumption and validation models will be key to the future sustainability of cryptocurrencies. Bitcoin consumes a large amount of electricity, according to the Cambridge Bitcoin Electricity Consumption Index. Cryptocurrency supporters counter that the highest amount of energy is spent on the issuance of new coins rather than network maintenance. A change in the model of validation could also make them more energy-efficient. We think currently high electricity consumption could deter investors with environmental, social, and governance (ESG) considerations. Still, while the 'E' seems to be the most relevant factor for now, once it is fixed, the 'S' could open up access to financial services for excluded parties, while the 'G' could ensure that cryptos are not misused or manipulated..

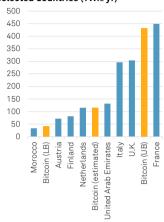
Striking the balance between innovation and prudential regulation will be a critical challenge. The pace of crypto adoption already outpaces the adoption rate of the internet in the 1990s and portends more change to come. In the absence of solid technological and regulatory foundations, crypto assets could have a significantly negative impact on the financial markets through, for instance, volatility in liquidity flows between digital and traditional markets, vulnerability in sometimes largely untested technologies--including cyber risk--or increasing opacity in financial transactions. In addition, should the development of CBDCs fail or be to slow to stem the rise in private money, the monetary system could become more fragmented, which could reduce the ability of central banks to respond to emerging crises through monetary policy. It could also increase risks for retail and institutional investors given price volatility and the lack of regulatory oversight.

Top 10 Corporate Investors In Bitcoin.

Data as of Nov. 11, 2021	Total holding	Bil. US\$
Block.one	140000	9.1
MicroStrategy Incorporated	114042	7.4
Tesla, Inc	38300	2.5
Galaxy Digital Holdings	14932	1.0
StoneRidge Holdings Group	10000	0.7
Square, Inc.	8027	0.5
Marathon Digital Holdings	4813	0.3
Coinbase Global, Inc	4502	0.3
Hut-8 Mining Corp.	2271	0.1
Nexon Co. Ltd.	1717	0.1
0 0 1 1		

Source: Cryptotreasuries.org

Chart 55
Electricity Consumption: Bitcoin Network Vs.
Selected Countries (TWh/yr)



Sources: S&P Global Ratings, International Energy Agency, CBECI.

Note: The Cambridge Bitcoin Electricity Consumption Index (CBECI) provides a real-time estimate of the total electricity load and consumption of the Bitcoin network. Given that the exact electricity consumption cannot be determined, the CBECI provides a range of possibilities consisting of a lower bound (floor) and an upper bound (ceiling) estimate. Within the boundaries of this range, a best-guess estimate is calculated to provide a more realistic figure that we believe comes closest to Bitcoin's real annual electricity consumption.

Climate Risks | How Far Will They Affect

Credit?

Climate transition and physical risks may be among the most significant ESG credit factors influencing the creditworthiness of rated entities next year.

How this will shape 2022

Elevated unmitigated exposure to climate risks will continue to affect credit quality. The past year has seen an unprecedented number of rating actions triggered by disruption and uncertainty over unexpected costs from severe climatic events, such as hurricanes, wildfires, and droughts. In September 2021 alone, five out of 14 ESG-driven rating actions in U.S. public finance were linked to physical climate risks. This trend will likely escalate as global temperatures continue to rise, leading to erratic weather patterns affecting real assets and infrastructure in particular.

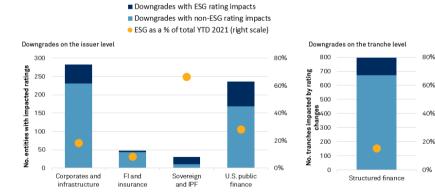
Growing awareness of physical climate change risks could encourage a faster transition to net zero. Following the COP26 Climate Change Summit in late 2021, governments are considering a wider range of policy tools, including market mechanisms, to support ambitious pledges aimed at achieving carbon neutrality by 2050. The costs of the transition to net zero may become more material. Our scenario analysis assuming a \$100 per ton carbon tax found the effect on China's GDP would be four times higher than EU GDP by 2030. This is because China relies on more carbon-intensive sources of energy to support growth.

Efforts to standardize ESG reporting will continue to gather momentum. As many countries target a green recovery following the pandemic, banks and insurers have a key role in supporting the agenda through the way in which they allocate capital and underwrite, presenting an opportunity for significant growth and returns.

We expect the rest of the financial reporting ecosystem to follow in mandating task force on climate-related financial disclosures (TCFD). Financial disclosures will likely become more robust and, as the materiality of climate risks escalate, such risks will top the enforcement agenda, including by the European Securities Market Authority.

Chart 56

ESG Versus Non ESG-Affected Downgrades (January-October 2021)



Source: S&P Global Ratings. Note: Includes downgrades from January to October 2021. Entities reflect issuers (ultimate parent only without subsidiaries), except for issues/tranches for structured finance. Multiple rating actions are only counted once.

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The past year has seen an unprecedented number of rating actions triggered by disruption and uncertainty over unexpected costs from severe climatic events

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Mind The Gap: Pledges At COP26 Give Hope But Significant Shortfall Still Exists, Nov. 18, 2021

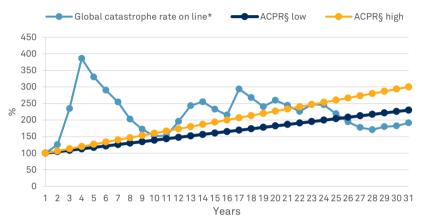
Green Spending Or Carbon Taxes (Or Both): How To Reach Climate Targets, And Grow Too, By 2030? Nov. 4, 2021

What we think and why

Combining policy tools could soften the hit to economic growth. Green public spending, regulation, and carbon taxes in the U.S., EU, and China could provide important assistance to the most vulnerable sectors and households. However, current commitments are unlikely to reach more ambitious climate targets.

Green public spending could boost EU and U.S. GDP by 6.6 percentage points (pp) and 2pp, respectively, by 2030. Green stimulus measures are taking place during a time of economic slack and low financing costs, which means that the fiscal multiplier--and therefore the potential for economic growth--are at their highest.

Chart 57
Historical Catastrophe Rates Demonstrate The Challenge Reinsurers Face In Relying
On Annual Repricing To Reflect Physical Climate Risk



Source: Guy Carpenter, Autorité de contrôle prudentiel et de resolution, S&P Global Ratings *Guy Carpenter: Global Property Rate on Line Index (1990-2020). §ACPR (Autorité de contrôle prudentiel et de resolution): Estimate on premium increase necessity of about 130%-200% from the stress test result for catastrophe business in France over 30 years.

What could go wrong

Current policies are not sufficient to stay within of 1.5 degrees of warming, according to scientists. While they could avoid the worst climate change impacts, more aggressive policies could offset some of the positive growth effects of current policies, especially in countries reliant on carbon-intensive energy sources and at an earlier stage in their transition.

Carbon taxes are likely to have a negative impact on growth. While carbon taxes may be the best policy lever to tackle environmental problems, they may cause more direct economic losses, especially for lower-income households and smaller firms if not offset. This is in contrast to green spending, which is growth-enhancing.

What Could This Mean For Reinsurers?

Reinsurers' risk is currently underestimated. Our scenario analysis suggests that reinsurers' estimates of their exposure to physical climate risk could be underestimated by up to 55%-91% of the sector's buffer above the 'AA' capital requirement. This illustrates significant potential for earnings and capital volatility.

Exposure to physical climate risk is a key factor in our ratings on 19 of the top 21 rated reinsurers. Companies that take a more proactive approach to understanding and adapting their exposure to climate risk will be better protected against future capital and earnings volatility linked to climate-related losses.

The reinsurance industry's ability to reprice for the risk of climate change may not be sufficient. To offset the capital burden, they would likely need to increase natural catastrophe premiums. But they may find it difficult to be responsive enough, particularly in a largely commoditized market with differing viewpoints on the adequacy of pricing for physical climate risks.

<u>Global Reinsurers Grapple With Climate Change</u> <u>Risks</u>, Sept. 23, 2021

Energy Transition | How Will Climate PoliciesSpeed Up Change?

Reducing emissions will be costly, so globally harmonized policies and financial backing are prerequisites for a successful shift away from fossil fuels.

How this will shape 2022

In Europe, soon-to-be decided "Fit for 55" targets will likely yield important changes. For example, we anticipate annual renewable capacity additions will need to reach 45 gigawatts (GW) to 55 GW per annum versus 30 GW in 2020. Carbonintensive industries, such as steel, cement, and chemicals, may need to adjust strategies and step up spending on environmentally focused projects. Exposure to carbon prices, which recently rose to more than $\leqslant\!60$ per ton, may not have a major credit impact just yet, since many players benefit from free allocations or hedge CO_2 costs over the medium term. Our view of credit quality could nevertheless change if we believe new regulatory targets and reductions in free allocations from 2025 could, in the long term, hurt companies' financials or weaken their competitive positions.

The U.S. goal of achieving 100% carbon-pollution-free electricity by 2035 shows that policy change is accelerating. The share of U.S. coal-fired generation already halved over the last decade and we expect it to be phased out possibly by the end of this decade. At the same time, compared with 15 GW in 2020, renewable capacity additions may need to double by 2025 and reach 60 GW per year over 2026-2030. At COP26, the U.S. announced significant methane emissions control and reduction plans, which would affect its oil and chemicals industries, as well as agriculture.

China's energy transition is likely to remain gradual for now. At COP26, China announced that it will wind down coal-fired power generation but only from 2026. China's carbon trading in the national united market has remained restricted to the power sector so far. Other sectors such as steel, nonferrous metals, chemicals, and building materials will be allowed to enter the carbon market later. However, based on current carbon price trading levels of less than \$10 per ton, we expect the impact to be manageable.

What we think and why

Germany's recent revision of its Climate Change Act and the new coalition's green objective point to more rapid policy implementation. Carbon-reduction objectives and costs will be extended to the transport and buildings sectors, with industrials and utilities already covered by the EU's Emissions Trading System. Germany's tougher climate policy shows the need for companies to adjust their strategies and continue reducing scope1 and 2 emissions. The coalition also supports Fit for 55 to address higher carbon prices with a floor of €60 per ton, as well as a regional carbon border adjustment mechanism.

Cross-border adjustment mechanisms, proposed by the EU and some U.S. senators, could hasten policies elsewhere. In Europe, a carbon border tax system could start as early as 2026, thereby reducing or preventing carbon leakage for the power, steel, aluminum, fertilizer, and cement sectors. Any such policy would ultimately extend the focus on carbon emission reductions to other exporting countries.

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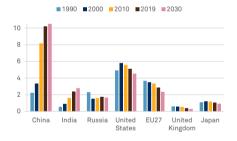
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Politicians will need to balance the urgency of reducing emissions with affordability concerns

Chart 58

CO2 emissions from energy combustion only (Gigatonnes)



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One-Third Of German Companies Are Behind On New 2045 Net-Zero Deadline, Nov. 29, 2021

Mind The Gap: Pledges At COP26 Give Hope But Significant Shortfall Still Exists, Nov. 18, 2021

Economic Research: Green Spending Or Carbon Taxes (Or Both): How To Reach Climate Targets, And Grow Too, By 2030?, Nov. 4, 2021

A \$1 Trillion Infrastructure Plan: Credit Perspectives For U.S. Investor-Owned Regulated Electric Utilities, Nov. 9, 2021

Economic Research: Green Spending Or Carbon Taxes (Or Both): How To Reach Climate Targets, And Grow Too, By 2030?, Nov. 4, 2021

<u>Decarbonization Efforts Are Shaking Up Global</u> <u>Energy Markets</u>, Sept. 28, 2021

What could go wrong

Increased costs of renewable energy generation could slow down the energy transition. In 2021, commissioning costs for solar and onshore wind plants have likely risen by up to 10% and 8% respectively, according to S&P Global Platts Analytics, on the back of higher prices of raw materials. This contrasts with an expected cost decline of 40% by the next decade.

Technologies for carbon capture, use, and storage, as well as for green hydrogen, might remain expensive. Cost reductions will depend on scaling effects and lessons learned from current pilot projects. In any event, these technologies will require supportive policies that value the cost of carbon savings.

The energy transition will come at a cost for final consumers, implying a greater risk of political and regulatory events. A recent example of this occurred in Spain, where price affordability and social concerns have already triggered caps and clawbacks on utilities, stemming from increasing gas and CO2 prices. In Germany, this could lead to a later coal exit than the ruling coalition's ambition of "by 2030" or slower network expansion than expected. To ensure continued support, the new government is seeking to increase financial support for lower-income households, mandate the CO2 price burden to be shared between tenants and landlords, and remove the renewable energy levy from consumer bills by 2023, a surcharge that was as high as €68 per megawatt hour in 2020.

Delays in achieving global policy alignment could derail the emissions-reduction trajectory, since China and developing countries will account for a much higher share of emissions by 2030. To address the transition in emerging markets, developed countries must deliver on their commitment to mobilize \$100 billion per year for those countries, which so far has been well out of reach. Also, the implementation of a carbon border tax may face significant hurdles, since it needs WTO clearance and risks being viewed as protectionist. In addition, firms may react only by adjusting their value chains to import intermediate products or other carbon-heavy goods that cross-border mechanisms may not cover.

Nature Risks | At What Price?

While pricing nature could lead to risks for companies, it could also incentivize its protection, so valuation will be important.

How this will shape 2022

Governments now see the decline of nature as a key policy matter. Big policy shifts, though with distant targets, could trigger regulation in 2022 to set the world on the right trajectory to arrest the decline in biodiversity. At COP 26, dubbed the "Nature COP," global leaders announced a target of halting and reversing forest loss and land degradation by 2030, which, importantly, included Brazil and Indonesia. In the EU, the biodiversity strategy announced in July will see 30% of lands and seas protected by 2030.

Investors are turning their gaze to reliance on unpriced natural capital where biodiversity risks are immediate and high, such as in consumer goods, agribusiness, and mining. One reason: companies will have to report and act on nature-related risks under a framework the Taskforce on Nature-Related Financial Disclosures will deliver in 2023. Equally, consumer-goods companies and their suppliers are responding to demand for deforestation-free goods, such as palm oil and soy. Plus, various certification schemes, like the Roundtable on Sustainable Palm Oil, and sourcing policies, such as No Deforestation, No Peat, No Exploitation (NDPE) should thwart clear cutting for palm oil production, such as in Indonesia. Other nature-dependent supply chains, such as mining and fisheries, could see greater investor and consumer scrutiny in 2022.

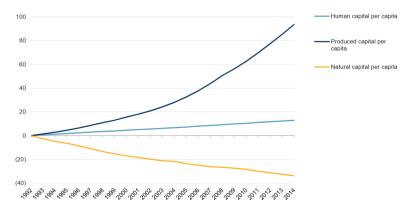
More efficient food systems will help eliminate food loss and waste while reducing their impact on the environment, especially since about 14% of the world's food is lost before reaching supermarket shelves. Companies able and willing to adjust their business models and adopt sustainable agronomic practices can strengthen their resilience to operating setbacks and reduce food-related emissions, while delivering higher margins through value-added product offerings.

What we think and why

Business and finance are becoming more aware of nature-related risks. We believe more companies will develop robust monitoring capabilities and adopt universal standards, such as NDPE sourcing policies to reduce nature-related financial risks like supply chain disruption and volatility in raw material prices—such as the drop in maize output and the 36% year-on-year spike in prices in Brazil February-July 2021.

Chart 59

The Value Of The Stock Of Natural Capital Has Declined By Nearly 40% In The Past 20 Years Global Wealth Per Capita: 1992-2014



Source: Inclusive Wealth Report 2018, Managi and Kumar..

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Accounting for the ecosystem services nature provides could encourage more forest-friendly farming practices

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Natural Capital And Biodiversity: Reinforcing Nature As An Asset. Apr. 12, 2021

Natural Capital Valuation: An Incentive To Protect Nature? Nov. 8, 2021

A Food Industry Reset Can Cut At Least 10% Of Global Emissions, Nov. 17, 2021

Policy analysts suggest nature pricing as a means to encourage protection.

Natural capital valuation, much like carbon pricing, would internalize the wider environmental impacts and encourage more nature-friendly practices. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services suggests payments for ecosystem services to encourage more forest-friendly farming practices. We found the cost of deforesting the Amazon to produce beef in 2020 was \$4 billion, in a hypothetical case study.

What could go wrong

Deforestation targets may not be achievable. Meeting targets to protect nature protection while ensuring adequate sustenance for a growing global population will be difficult, given that climate change will disrupt food production. However, a dietary shift toward plant-based foods could narrow the food gap, the land gap, and the greenhouse gas emissions gap: reducing land use requirements 76%, GHG emissions 49% and scarcity-weighted freshwater withdrawals 19%, according to Poore and Nemecek, 2018.

Nature-dependent supply chains are tricky to monitor. For instance, supply chains are extremely fragmented for beef produced in Brazil. Smallholder farmers often breed animals before selling them to larger farmers who then sell directly to beef processors. This indirect part of the supply chain can be up to five times larger than the direct one and is thought to account for much of the deforestation.

Putting a price on nature could be a source of false precision. Such pricing is unlikely to reliably indicate optimal natural capital usage, points of no return associated with nature's depletion, or nature's future benefits. Yet the implied current price of zero, as is now the case, does not foster protection, so some form of valuation will be important.

Biodiversity and disclosure policies could prove ineffective. These need to be implemented and at the same time as nature-damaging policies end. Indeed, such subsidies globally total an estimated US\$6 trillion a year.

What are Ecosystem Services?

Ecosystem services are the services and goods provided by nature, such as wild pollination, clean water and carbon dioxide sequestration that people, companies and nature rely on to function.

Types Of Ecosystem Services



Provisioning services

Material output from nature (e.g., fresh water)



Regulating services

Services that regulate the environment (e.g., carbon sequestration)



Supporting services

Processes that support the delivery of other ecosystem services (e.g., habitat for species)



Cultural services

Non-material benefits (e.g., spiritual)

Sources: Millennium Ecosystem Assessment, Natural Capital Coalition, S&P Global Ratings.

Credit Conditions Asia-Pacific:

China Slows, A Chill Wind Blows

Key Takeaways

- **Overall:** COVID-19 trends and policy responses, contagion risk from Chinese property woes, and rising inflation expectations have introduced regional uncertainty.
- New COVID variant: The omicron variant threatens the reimposition of mobility and travel restrictions, just as Asia-Pacific authorities are seeking to reopen their economies.
 Meanwhile, China and Hong Kong's zero-COVID policy underpins localized lockdowns and tight border restrictions. Still soft domestic consumption and dependence of exports points to uneven recovery patterns among geographies and industry sectors.
- Inflation worries: While inflationary pressures remain controlled in the region, persistently high input prices could hike inflation expectations. This could propel demand for higher risk premiums. A disorderly reset of financial and real assets repricing could hit financing conditions for the region's borrowers, particularly highly leveraged ones.
- China real estate woes: China's recent wave of property developer-related defaults point to mounting liquidity and funding challenges. Slower real estate sales, and recent enforcement of socioeconomic policies to promote "common prosperity" have increased uncertainty about the credit and growth trajectories of the country and individual borrowers. Consequently, we lowered China's GDP growth to 4.9% in 2022.
- Credit outlook: Credit quality of the rated portfolio remains steady with a net rating outlook bias of negative 5%. However, the contagion fears from China's real estate crackdown and spillovers from above-mentioned risks cloud the outlook.

Regional Credit Conditions Chair

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(Editor's Note: S&P Global Ratings' Asia-Pacific Credit Conditions Committee took place on November 23, 2021.)

COVID trends. The omicron variant is threatening the reimposition of extended mobility and border restrictions by Asia-Pacific governments, just as they are seeking to ease mobility and border restrictions (resuming economic activities) on the back of higher vaccination rates. In contrast, China and Hong Kong's zero-Covid tolerance stance points to the occasional imposition of localized lockdowns regardless of variant. These lockdowns disrupt supply chains and depress consumer spending, particularly for the discretionary and mobility-dependent sectors. Wariness in allowing broad resumption of international travel could dent recovery for tourism-dependent sectors and economies.

China slowdown. Persistent funding woes continue to haunt China's real estate developers as authorities maintain firm grip over debt built-up. These measures hit property developers' liquidity, sparking a wave of defaults. Slower unit sales and contagion fears could keep investors and lenders at bay, exacerbating already tight financing access. Consequently, we revised down China's economic growth forecast to 4.9% in 2022 from 5.1%. The country's 'common prosperity' policy directives to reduce income disparity underpins lower private sector income and tolerance for slower economic growth. While recent re-engagement between U.S.-China seems cordial, geopolitical disputes pertaining to South China Sea area could derail the momentum.

Cost spikes. High input prices will likely squeeze corporates, which are finding it difficult to fully pass on higher costs to customers, amid still soft domestic demand. Rising inflation expectations could transpire into higher wage demands, denting profit margins further. Disorderly reset in expectations around economic growth, inflation, and interest rates, could see financial and real assets repricing – prompting higher risk premia demands by investors and lenders. Particularly for emerging market borrowers reliant on U.S. dollar funding, weak domestic currency and higher interest payments will intensify refinancing costs.

Carbon limits. Governments are likely to accelerate efforts to control carbon emissions, intensifying efforts to curtail carbon-intensive segments. China's imposition of environmental regulations led to power outages, impacting manufacturing and supply chains. Carbon-intensive sectors (such as oil and gas, fossil-fuel intensive utilities, and metals and mining firms) could see narrowing funding access as investors limit their exposures.

Financing costs could mount on the back of inflation concerns and contagion effects from China's real estate sector woes.

Top Asia-Pacific Risks

Risk level



Very high



High



Improving



Risk trend

Worsening

Risk levels are based on the likelihood and systemic impact of such an event occurring over the next one to two years. Typically, these risks are not factored into our base case rating assumptions unless the risk level is very high. Risk trend reflects our current view on whether the risk level could increase or decrease over the next 12 months.

Uneven income and profit recovery amplify debt overhang

With debt levels high, some borrowers remain vulnerable to credit deterioration and defaults if income recovers more slowly than expected—especially if the cost of debt starts to rise. As extraordinary government stimulus tapers, pressures will build up on industries that may not fully recover earnings before late 2022. Domestic consumption in China and some developed economies remains lackluster. Highly indebted SMEs may be unable to rebuild revenues and earnings before their financing costs rise to more normal, pre-COVID levels.



Recurring COVID outbreaks weigh on recovery expectations

The emergent omicron variant threatens the reimposition of extended mobility and border restrictions by governments, given the uncertain efficacy of existing vaccines against it. This runs against the preference ("living with COVID") of many Asia-Pacific governments seeking to ease such restrictions on the back of higher vaccination rates. In contrast, China and Hong Kong's zero-Covid tolerance stance points to the occasional imposition of localized lockdowns regardless of variants. Consequently the risk of economic disruption from reimposed restrictions remains high.



Higher inflationary pressures and interest rates

Inflationary pressures in the region are not yet as evident as elsewhere in the world. Nevertheless, persistently high input prices (e.g. raw materials and energy) driven by global high demand and supply bottlenecks, could fuel higher inflation expectations. Consequently, major central banks may be forced to tighten monetary policy while investors may demand higher premiums or tighten financing as they reset expectations about growth, risk, and monetary policy (e.g. Fed tapering). Financial and real assets repricing could hit currency exchange rates and capital flows, exposing borrowers reliant on U.S. dollar funding to higher debt servicing costs. In addition, mounting inflation will pressures corporates which are unable to fully pass on higher costs to customers.



China policy stance clouds credit and growth trajectories

The Chinese government's intent to reduce income disparity and aligning social values ("common prosperity") and reduce dependence on foreign technology and economies ("dual circulation") increases the likelihood of lower economic and income growth. First, crackdown on real estate, technology, gaming, and education may widen to other private-sector industries. While curbs on overborrowing may moderate the debt overhang, rapid execution of new policies could affect business and consumer confidence, fuel contagion risk. Second, on "dual circulation", further weakening of U.S.-China relations would raise the cost of trade, intellectual property, investments, and financial transactions between these economies. Third, China's enforcement of environmental regulations has led to power outages, affecting production and supply chains. Fourth, should geopolitical disputes over the South China Sea area intensify, it would be detrimental for investment, trade and supply flows within and outside the area. Beyond China, its policy and economic developments affect others reliant on the country for exports or finance (e.g., emerging markets) and imports (e.g., component parts).



Structural Risks

Climate change and government environmental policies imposes business costs

Climate change and global drive towards carbon-neutrality has intensified focus on energy transition and the changes required (e.g., policy, legal, technology, market, reputation risks). The recent COP26 event further validated these ongoing concerns. Governments are likely to impose environmental policies affecting business operations and costs. More financing providers shying away from presumed non-climate friendly industries and borrowers (such as coal and oil). Furthermore, low-carbon developments (e.g., electric vehicles and carbon capture and storages) can challenge established business models. Adverse climate events, including hurricanes, wildfires and droughts are happening more frequently and producing more losses, these could impact economic activity, and likely raise insurance costs.



Technology disruption and cyber-attacks exposes business vulnerabilities

Advances in digitalization, artificial intelligence, and other technologies (e.g., new materials) raise the risk that borrowers may fail to adapt to technological changes, and threats, such as cyberattacks. Business models for banks and corporates remain vulnerable to technological disruption while cyber risk could pose as a systemic threat and significant single-entity event risk. Separately, intensifying technology race between U.S.- China could impact supply chains (e.g., semiconductor manufacturing) and restrict access to intellectual property and markets.



Credit Conditions Emerging Markets:

Inflation, The Unwelcome Guest

Key Takeaways

- Overall: Risks are increasing for emerging markets (EMs) as inflation keeps accelerating in many key countries, adding to existing challenges. On the bright side, higher prices are partly fueled by the strong economic rebound. COVID-19's economic impact is decreasing and vaccinations are progressing, but the recent emergence of the omicron variant threatens the positive momentum.
- Risks: Risk for an extended period of high inflation and lingering high prices has risen for many EMs. Rising prices could also prompt a faster-than-expected normalization of Fed interest rates, possibly leading to tighter financing conditions and market volatility. China's shifting policy stance and real estate woes could depress growth, which could spill over to EMs' key trade partners. A resurgence of COVID-19 cases could hit hard, since vaccination rates remain low in many EMs.
- Credit: The negative rating bias (the percentage of ratings with negative outlooks or on CreditWatch negative) has stabilized across most EMs but remains high in emerging Asian markets, where the pandemic's effects are still weighing on issuers' credit quality amid worsening financing conditions.

(Editor's note: S&P Global Ratings' Emerging Markets Credit Conditions Committee took place on Nov. 22, 2021.)

Higher fuel and food prices, supply-chain disruptions, and a robust economic rebound are stoking inflation. EMs in Asia remain the notable exception. Risk of an extended period of higher inflation in some EMs remains, especially if supply-chain disruptions continue. Prolonged price pressures from supply-chain problems can lead to a rise of core prices in countries with weakly anchored inflation expectations.

Households could bear the brunt of inflationary pressures, and social tensions are building up. Inflation has a greater impact on households in EMs compared with those in developed

economies, since spending on food, gas, and transport represents a larger portion of their disposable income. EM households also have lower savings and are vulnerable to job losses or medical emergency, both consequences of the pandemic. Rising energy costs, alongside elevated food prices and unemployment, raise concerns about potential social instability in several EMs, ultimately reducing policy predictability.

Higher interest rates could give EM banks a boost if inflation is temporary. However, if interest rates rise too high and too fast, nonperforming loans and credit losses could soar as debt service needs for loans at variable rates increase. Such a scenario would have the potential to slow credit supply and demand, and hinder economic activity.

So far, rated EM corporations have been absorbing higher costs, but stress could build if inflation lasts much longer. Companies have offset cost increases in various ways, including through demand offsets, demand shifts, product-mix adjustments, hedging, indexation, positive operational gearing, cost pass-through, and curbing pay growth. Persisent supply chain disruptions, high input prices, and potentially steeper labor costs could erode companies' profit margins and cause temporary disruptions in production.

A deeper slowdown in China could have knock-on effects on EM economies. This could hurt big exporters to China, such as those EMs relying on China's demand for metals and raw materials, including Chile and South Africa, and others that depend more on energy demand.

Financing conditions have tightened. This is mostly due to rising benchmark yields. Overall, funding costs have risen toward pre-pandemic levels. In EMEA and Latin America, central banks have been working on rate normalization, pushing up benchmark yields. In Asia, we see the opposite. Central banks in EM Asia are not yet raising rates but spreads have widened, particularly in the high-yield space, leading to higher overall funding costs.

Regional Credit Conditions Chair

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Top Emerging Markets Risks

Risk level Risk trend Very high High Elevated Improving Unchanged Worsening

Risk levels are based on the likelihood and systemic impact of such an event occurring over the next one to two years. Typically, these risks are not factored into our base case rating assumptions unless the risk level is very high. Risk trend reflects our current view on whether the risk level could increase or decrease over the next 12 months.

COVID-19 aftershocks posing persistent challenges for highly indebted governments and low-rated corporations

The quick recovery from the pandemic as economies reopen is causing a dislocation between supply and demand, creating new difficulties, including inflationary pressure and the potential for higher interest rates domestically and abroad. Furthermore, as economies rebound, governments will need to carefully time the withdrawal of stimulus and support measures. Central banks in many EMs have already begun raising interest rates, still facing the dilemma of anchoring inflation expectations, supporting short term growth, and keeping financing conditions stable. Excessive monetary tightening could expose heavily-indebted corporations to additional pressures and the risks of downgrades and defaults, especially among entities in the 'B' and 'CCC' rating categories. Considerable fiscal consolidation is necessary to stabilize government debt levels in many EMs but this comes with substantial risks. These include weaker real and nominal GDP growth due to extended pandemic effects, premature stimulus withdrawal (fiscal and monetary), failure to cut spending due to political resistance, and materializing contingent liabilities. In our view, failure to stabilize debt will probably weaken credit quality.



Faster normalization of U.S. monetary policy could lead to volatile financing conditions and reduced access to credit markets

Inflation in the U.S. has accelerated to levels not seen in 30 years, and the risk of a prolonged period of high prices is increasing. While sequential consumer price index inflation has moderated, and supply-side bottlenecks are starting to show signs of easing, these factors complicate the Fed's efforts to convince markets that the latest price increases are largely transitory. We forecast policymakers will lift the benchmark federal funds rate in September next year, three months earlier than we previously predicted. Rapid, uneven market repricing would weigh heavily on low-rated corporate issuers, as well as on EMs., especially those relying heavily on foreign funding and with large external and/or fiscal imbalances.



The prevalence of COVID-19 across key EMs, slow vaccination progress, and new variants could dampen the economic recovery

The new omicron variant is a stark reminder that the pandemic is far from over. Vaccinations have sped up in most key EMs. However, many countries remain far away from widespread immunity thresholds (70%-80% of population fully vaccinated), especially in EM Asia and Sub-Saharan Africa. Countries with low vaccination levels remain vulnerable to heightening contagion waves and new variants. The emergence of a new variant of concern (omicron) has elevated the risk of one-off lockdowns and further containment measures, which could undermine consumption and investment. More coordinated and decisive efforts are needed to vaccinate the world's population to prevent the emergence of new, more dangerous variants.



China's policy stance may cloud credit and growth trajectories

The government's intent to reduce income disparity and prioritize social values ("common prosperity"), and reduce dependence on foreign technology and economies ("dual circulation"), increases the likelihood of lower economic and income growth. First, crackdowns on real estate, technology, gaming, and education may widen to other private-sector industries. While curbs on overborrowing may moderate debt overhangs, rapid execution of new policies could further hit business and consumer confidence, fueling contagion risk. Second, a further weakening of U.S.-China relations amid "dual circulation" would raise the costs of trade, intellectual property, investments, and financial transactions between these economies. Third, China's enforcement of environmental regulations has led to power outages, hitting production and supply chains. Fourth, should geopolitical disputes over the South China Sea intensify, this would be detrimental for investment, trade and supply flows within and outside the area. China's policy and economic developments affect others reliant on the regional colossus for exports or finance (e.g., emerging markets) and imports (e.g., component parts).



Wide income inequality, increasing poverty, and poor access to health services are spurring social unrest

Rising energy costs, food prices, and unemployment could trigger bouts of social instability in several EMs, ultimately reducing policy predictability. This is especially the case in Latin America, where several countries have already experienced periods of widespread protests this year, in some cases, causing a watering down of proposed fiscal consolidation bills (Colombia). A busy electoral cycle in the region this year and next implies a greater likelihood of less-known candidates, with less predictable policies, becoming more popular.



Credit Conditions Europe:

Reining In As Full Recovery Nears

Key Takeaways

- Overall: Strong demand and falling unemployment create a fundamentally positive outlook for credit in 2022, although cost pressures, monetary policy tightening, and Europe's fourth COVID-19 wave, now compounded by omicron, are headwinds to monitor.
- Risks: Broadening cost pressures accelerating the pace of tightening and vulnerability from
 the further accumulation of debt are our two top European risks. We see elevated risks
 around building and maintaining immunity to COVID; accelerating the transition to a lowcarbon economy; and protecting vital digital infrastructure from cyber attacks.
- Credit: Financing conditions and credit trends remain supportive, tempered by growing shareholder-friendly activity and a still high proportion of 'B-/CCC' corporate ratings.

(Editor's note: S&P Global Ratings' Europe Credit Conditions Committee met on Nov. 22, 2021.)

Credit prospects are broadly favorable as the region fully recovers lost output, growth remains above trend, vaccines remain effective against the delta variant, and financing conditions remain benign despite a gradual rise in benchmark yields. Rising inflation pressures and central bank responses, pandemic fatigue amid new variants and vaccine hesitancy, and potential negative spillovers from slowing growth in China are key headwinds to monitor.

Solid demand-led recoveries in most sectors with ends to restrictions are enabling businesses to pass through sharply higher input costs and adapt to supply shortages so far, with a limited hit to financial performance. While this remains the case, we expect credit quality broadly speaking to continue transitioning positively, even though the recovery in some more COVID-19-sensitive service sectors is lagging – such as travel, hospitality, and leisure. Nonetheless, with almost 60% of our corporate analysts expecting cost pressures to persist until year end, the possibility remains that margins may falter if demand slows faster than we expect, wage pressures rise, and businesses lose pricing power.

The landscape for European banks appears stable as the operating environment poses far less threat to balance sheets than a year ago. While problem assets remain likely to rise, we expect provisioning needs will be contained. Capital ratios could decline as shareholder distributions rebound, and large banks will be less constrained by now diluted and delayed Basel III reforms until January 2025. Transforming business models remains key to increase profitability to at least match costs of capital while adapting to transformative digitalization trends and competition from fintech entrants. Investment, cost-cutting, exiting noncore businesses, domestic consolidation, and fee income generation are all areas in focus. Even so, we expect average RoE for the top 100 European banks to rise to only 5.9% from 5.4% in 2021.

This improving economic outlook is increasingly positive for credit performance in structured finance. Transactions backed by consumer assets look set to see minimal deterioration as the wind-down of borrower support schemes appears well-synchronized with counteracting improvements in labor markets. The declining default rate also indicates fewer risks in the CLO sector, although areas of commercial real estate--and therefore CMBS--remain under pressure.

European insurers are well prepared for forthcoming challenges now that capital surpluses have returned to pre-pandemic levels. Despite some pick-up of competition in motor insurance, non-life insurance is likely to maintain solid insurance margins. While low and negative interest rates remain a burden for life insurers, we observed a bottoming out of margins. Progressive dividends, share buybacks, and M&A have reemerged as the main factors limiting potential ratings upside.

Local and regional governments face a particular confluence of challenges next year. Near term, the phasing out of government grants, subdued tax growth, and inflation will make it harder for them to adapt to longer-term issues coming back into focus--principally demographic pressures and decarbonization. This could lead to higher LRG credit volatility over the medium term.

Regional Credit Conditions Chair

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Top European Risks

Risk level Risk trend Very high High Elevated Improving Unchanged Worsening

Risk levels are based on the likelihood and systemic impact of such an event occurring over the next one to two years. Typically, these risks are not factored into our base case rating assumptions unless the risk level is very high. Risk trend reflects our current view on whether the risk level could increase or decrease over the next 12 months.

Supply chain constraints and broadening cost pressures prove longer lasting

High demand, rising energy prices, and supply bottlenecks are driving input costs and inflation higher, highlighting vulnerabilities in global supply chains. With the majority of corporate sectors being able to pass these higher costs through to end-customers and expecting little respite until second-half 2022, the risk is that a rise in inflationary expectations and wage pressures would require the ECB to bring forward the start of their rate tightening cycle. The return of rates in the EU to positive territory is likely to create some financial market turbulence and tighten financing conditions. While inflation pressures are a greater near-term concern in the U.S. at this point in the cycle, Europe faces a similar predicament and is exposed to potential financial spillovers from the U.S.



Accumulated corporate and government debt creates fragility on the path to policy normalization

Economic recovery and ongoing extraordinary monetary and fiscal stimulus could create complacency about the enormous step-up in corporate and sovereign debt over the last 18 months. Though debt-servicing costs remain historically low, fragilities may become more pronounced in the coming years, especially for corporates, given the still high 30% of speculative-grade companies (rated 'B-' and lower) that we view as vulnerable. The structural task of strengthening balance sheets also extends to governments and central banks. This will be a multiyear process with the prospect that political considerations could impede and delay the necessary budgetary consolidation we expect to commence in 2022. This is required to maintain sovereign credit quality and restore the fiscal headroom necessary to fight the next financial shock.



Vaccine-resistant coronavirus strains slow the economic recovery

High vaccination levels have underpinned rising consumer and business confidence, with mobility and footfall in the retail and domestic leisure sectors back close to pre-pandemic levels. But delta infections are rising and back above peaks in some Northern European countries, even though hospitalizations remain well below previous highs. While this could still cause some disruptions over the winter if high community transmission levels require some incremental restrictions (particularly for the unvaccinated), greater downside economic risks could arise from a rapid decline in vaccines' efficacy, growing mistrust of vaccines as boosters are rolled out, or, importantly, if omicron proves to be an escape variant that overwhelms health care systems once again.



Structural Risks

Transition toward a net-zero economy presents challenges and risks as ambition ratchets upward

Mounting concern about the impacts of severe man-made climate change has raised the bar for governments' commitment to protect the environment. The EU's Fit for 55 program, targeting a 55% cut in carbon emissions by 2030, remains the most ambitious regional plan, even after many countries raised their targets at COP26. This ambitious target will disrupt industries and business models, creating winners and losers. The hardest hit are likely in the automotive, building, cement, steel, transportation, and utilities sectors. More broadly, the move away from fossil fuel to renewables for electricity generation calls on companies to plan now to secure future power needs. Plus, global policy alignment, including regulation, is needed to reach the net-zero target but will inevitably create tensions among governments, as seen in the COP 26 pledge to only "phase down" instead of phase out the use of (unabated) coal in certain countries.



Critical global infrastructure and interdependent digital networks are highly vulnerable to cyber attacks

The next major threat to the global financial system could easily be cyber related, given greater correlated risk and more rapid contagion than suggested by historical experience. This is due to opaque and complex global supply chains as well as a digitally interconnected ecosystem, often with reliance on a concentrated number of cloud service providers. Such an event could trigger widespread rating actions, particularly for entities with weaker balance sheets that lack adequate cyber insurance or other means of liquidity to address the potential financial impact.



Credit Conditions North America:

As Recovery Rolls On, Inflation Risks Remain

Key Takeaways

- Overall: Credit conditions remain largely favorable, although risks are looming—primarily
 those around inflation pressures and supply disruptions (including labor shortages) that many
 borrowers face. The potential for coronavirus variants such as omicron adds another layer of
 uncertainty about the pandemic and its effects on the economy and credit.
- Credit: The North American net negative outlook bias among corporate borrowers has narrowed to just 5%, the lowest since December 2014. In this light, we see the U.S. trailing-12month speculative-grade default rate reaching 2.5% by September of next year.
- **Risks:** With inflation running "stronger and longer," the potential for central bank policy missteps has increased. As price pressures combine with supply constraints, investors could soon demand higher returns for the risks they're assuming. This could result in the repricing of financial and real assets, higher debt-servicing costs, and tighter financing conditions.

(Editor's note: S&P Global Ratings' North America Credit Conditions Committee took place on Nov. 22, 2021.)

Credit conditions remain largely favorable for North American borrowers, but risks are looming—not the least of which are the heightened input-cost pressures and ongoing supply disruptions many corporate borrowers face. At the same time, with inflation running hotter and for longer than most economists expected, the potential for central bank monetary-policy missteps has increased. This could result in investors' rapid repricing of risk, raising financing costs for borrowers we rate—particularly those at the lower end of the ratings scale.

We still expect U.S. GDP growth to reach a 37-year high, but we've lowered our forecast for the full year to 5.5%, down from 5.7% in our previous forecast and 6.7% a quarter before that. Complicating the prospects for growth is a jump in coronavirus cases in most U.S. states as the winter weather sets in. A sharp resurgence of the pandemic could exacerbate supply-chain constraints, cause renewed consumer caution, and further curb economic activity.

For corporate borrowers in many sectors, ongoing supply constraints and/or labor shortages will likely persist into second half of 2022, hurting profit margins for some. While pent-up demand has so far outweighed the effects of increasing costs, with many able to pass through prices and maintain profit margins, some sectors have found pass-through to be more difficult. Either way, this capability may not last forever. Barring a stabilization (or drop) in input costs, borrowers in a number of corporate sectors may soon suffer profit-margin erosion.

Companies are trying to balance this push-and-pull with debt leverage near record levels.

Spreads on corporate debt are historically low, helping borrowers push out maturities, and the North American net negative outlook bias has narrowed significantly. Still, the ratings distribution among U.S. nonfinancial corporate borrowers is still heavily speculative-grade (63%)—with 44% of borrowers in the 'B' category (which included 'B+' and 'B-'), and 26% at 'B-' or below.

Still, we see the U.S. trailing-12-month speculative-grade corporate default rate reaching 2.5% by September of next year, up from 2.4% as of September 2021. But while all indicators imply a slow pace of defaults ahead, we recognize growing risks that, in our pessimistic scenario, could push the default rate to as high as 5.5%.

Meanwhile, the \$1.2 trillion infrastructure bill President Biden signed into law will benefit borrowers in many areas—including those in U.S. public finance, from local governments to higher-education entities. Elsewhere in Washington, Congress faces another deadline, in December, to raise the U.S. debt ceiling, with the Treasury Department relying on "extraordinary measures" to pay its bills through then. S&P Global Ratings doesn't expect the U.S. to default, which would be catastrophic for the economy and financial markets. But as we get closer to the drying up of extraordinary measures, investors could spur significant volatility in financial markets or look to flee from riskier assets. This could drive up financing costs, especially for spec-grade borrowers. In some cases, low-rated borrowers could even be shut out of the capital markets completely.

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Persistent inflation may push investors to demand higher returns, thus raising financing costs—particularly for borrowers at the lower end of the ratings scale

Top North American Risks

Risk level





Risk trend

Risk levels are based on the likelihood and systemic impact of such an event occurring over the next one to two years. Typically, these risks are not factored into our base case rating assumptions unless the risk level is very high. Risk trend reflects our current view on whether the risk level could increase or decrease over the next 12 months.

Persistent high inflation pushes investors to reprice risk

As persistent price pressures combine with continued supply constraints, investors could soon demand significantly higher returns for the risks they're assuming because of fears of runaway inflation, escalating credit concerns, or an unexpected adverse event—such as market turbulence caused by the Fed's tapering of asset purchases or a perceived central bank policy misstep. This could result in the repricing of financial and real assets, higher debt-servicing costs, and tighter financing conditions.



High debt, sustained cost pressures threaten credit quality

With corporate debt leverage near record levels, companies are trying to balance the push-and-pull between increased demand for products and services and the sharp rise in input prices and supply-chain disruptions—many have relied on their ability to pass through prices to maintain profit margins. If cost pressures persist/intensify, or, if inflation begins to weigh heavily on demand, profit erosion could become more widespread and steeper than we expect—and, thus, credit quality could suffer. And while welcoming markets have eased maturity pressures, the draw-down of government support could expose operational and structural headwinds for many.



COVID crisis persists, curbing economic activity

While economic activity has proved more resilient to each COVID wave, the omicron variant amplifies the risk of further outbreaks as the cold-weather months force people indoors. An uncontrolled resurgence of the pandemic could cause renewed consumer caution, exacerbate supply-chain and labor constraints, and curb economic activity.



Structural Risks

Energy transition and ESG factors affect business operations, borrowing costs

As the focus intensifies on ESG factors, borrowers that are (or are perceived as being) risky from an ESG perspective could be forced to pay a premium to borrow or be shut out completely from the capital markets. In light of climate change, beyond the physical risks many companies are subject to, the global drive toward a "net-zero" economy also heightens the transition risks (e.g., policy, legal, technology, market, reputation risks) across many sectors, and will likely require significant investments. The recent COP26 event further validated these ongoing concerns.



Cyberattacks disrupt business operations and hurt credit quality

Cyber risk continues to pose a systemic threat and significant single-entity event risk, as new targets and methods emerge. The ransomware attack that shut down the U.S. Colonial Pipeline in May exemplifies the growing sophistication and potential ramifications of cyberattacks. As public and private organizations are forced to accelerate their digital transformation, a key to resilience is a robust cybersecurity system, from internal governance to IT software. Entities lacking well-tested playbooks (such as active detection or swift remediation) are most vulnerable.



U.S.-China strategic confrontation worsens

The White House is maintaining pressure on China, while taking a more multilateral approach than the previous administration. Meanwhile, China is striving to be less reliant on foreign markets and technology. While tensions look set to persist in the longer term, we expect less short-term volatility, with actions by both sides to be somewhat more measured. Still, further worsening of the relationship could weigh on trade, intellectual property, investments, and financial transactions, for both and other economies—with some sectors suffering disproportionately.



Declining demand for commercial real estate (office space, in particular) pressures asset valuations, hurts lenders

Because of behavioral shifts in working, living, and spending demand for commercial real estate (CRE) could drop. The recovery of the office sector could lag and lead to a longer-term decline in demand—particularly office space in central business districts, thus pressuring cash flows and asset valuations. While there has been improvement in rent collections, asset performance, and property prices, we may see elevated CRE-related loan losses for debtholders, such as U.S. banks, insurers, REITs, and CMBS, particularly for lower quality assets. For local government issuers, delayed return to office could have implications for tax revenues and property valuation in the downtown core of urban centers.



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