Goldman Sachs | Economics Research

10 November 2020 | 5:42AM EST

Global Markets Analyst

Top Ten Market Themes for 2021: A Shot in the Arm

GS MACRO OUTLOOK 2021 Explore >

Following on from our Global Economics Outlook, here we lay out the top macro and market themes that we expect to dominate the investment landscape going into 2021. We expect that a strong vaccine-led recovery in global growth will provide a large boost to cyclical assets, including commodities, cyclical equity sectors and emerging markets. However, the path may be tricky as the market balances spot growth weakness with a forward outlook that is more supportive.

1. **Vaccine-led Recovery to Lift Cyclical Assets**
2. **Navigating the Path**
3. **A Steeper Real Yield Curve**
4. **Europe: Two Steps forward, One Step Back**
5. **China: Forging Ahead, with Assets in Tow**
6. **A New Commodity Bull Cycle**
7. **EM Outperformance: More than Before, Less than Sometimes**
8. **Rotations: Cyclical, North Asia in Focus but Vaccine News Key to Near Term**
9. **In Search of New (and Old) Safe Havens, Hedges and Diversifiers**
10. **Risks from Corona and Beyond**

Zach Pandl
+1(212)902-5699 | zach.pandl@gs.com
Goldman Sachs & Co. LLC

Kamakshya Trivedi
+44(20)7051-4005 |
kamakshya.trivedi@gs.com
Goldman Sachs International

Lotfi Karoui
+1(917)343-1548 | lotfi.karoui@gs.com
Goldman Sachs & Co. LLC

Damien Courvalin
+1(212)902-3307 |
damien.courvalin@gs.com
Goldman Sachs & Co. LLC

Christian Mueller-Glissmann, CFA
+44(20)7774-1714 | christian.mueller-glissmann@gs.com
Goldman Sachs International

Dominic Wilson
+1(212)902-5924 |
dominic.wilson@gs.com
Goldman Sachs & Co. LLC

George Cole
+44(20)7552-1214 |
george.cole@gs.com
Goldman Sachs International

Kenneth Ho
+852-2978-7468 | kenneth.ho@gs.com
Goldman Sachs (Asia) L.L.C.

Praveen Korapaty
+1(212)357-0413 |
praveen.korapaty@gs.com
Goldman Sachs & Co. LLC

Amanda Lynam, CPA
+1(212)902-9238 |
amanda.lynam@gs.com
Goldman Sachs & Co. LLC

Caesar Maasry
+1(212)902-8763 |
caesar.maasry@gs.com
Goldman Sachs & Co. LLC

Danny Suwanapruti
+65-6889-1987 |
danny.suwanapruti@gs.com
Goldman Sachs (Singapore) Pte

For the exclusive use of MB@AURELYS.COM

Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html.

Top Ten Market Themes for 2021: A Shot in the Arm

1. Vaccine-led Recovery to Lift Cyclical Assets

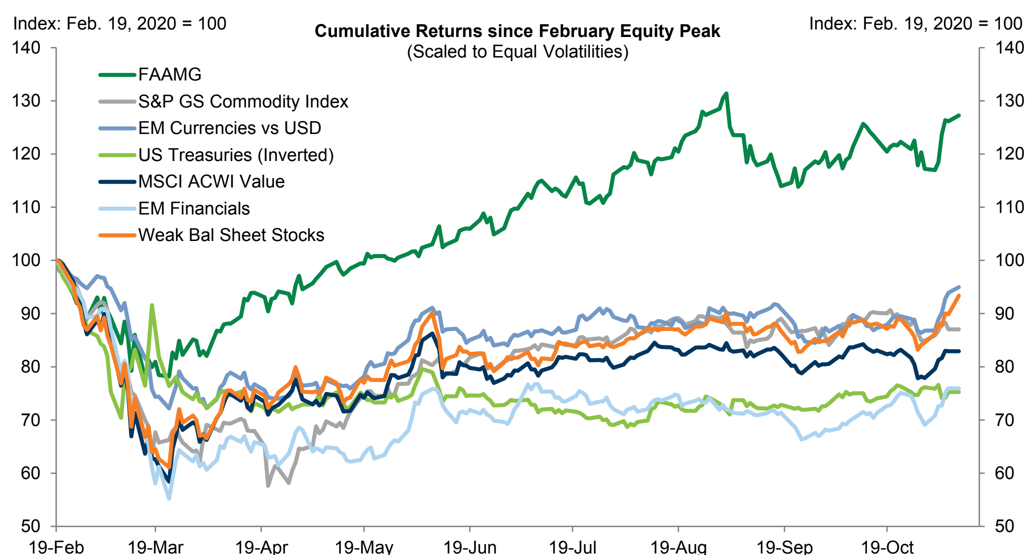
- Global economic recovery to broaden and deepen next year.
- Cyclical assets do not fully reflect our forecast of sustained expansion.
- A safe, effective vaccine is key to our confidence in the outlook.
- Policymakers will welcome, not prevent, easier financial conditions.

Despite an impressive rebound through the middle months of 2020, economic activity remains deeply depressed throughout most of the world. Our economists estimate that world GDP excluding China will be about 4% below pre-covid levels at the end of this year, and perhaps 6% or so below trend. Unlike most other business cycles throughout history, the world economy today is being held back by a public health crisis caused by a contagious virus. As a result, the economic and market outlook largely depend on the prospects for controlling the virus, and therefore the timeline for restoring activity in high-contact service-providing industries. Therefore, through a public vaccination campaign—and with the help of friendly monetary and fiscal policy—it should be possible to recover a large portion of lost output over the next year. Investors should position for a broader and deeper global economic expansion in 2021, which should favor risky assets in general, but the most growth-sensitive assets in particular, including commodities, cyclical equity sectors and emerging markets. This macro backdrop should also support our "down in quality" recommendations in credit and allow the volatility premium in risky assets to normalize further. Safe-haven assets such as the US Dollar and US Treasuries should continue to underperform, especially if inflation expectations pick up.

Global equity indices are on track for decent gains this year, but we do not think markets have yet priced a robust cyclical recovery. For example, while the S&P 500 is up this year, the gains have been extremely narrow: the five mega-cap "FAAMG" firms (Facebook, Apple, Amazon, Microsoft and Google, which account for about one-fifth of the index market capitalization) are up roughly 40%, while the rest of the market is still down on the year. Other conventional cyclical assets have moved sideways since the spring (Exhibit 1). Markets thus appear to have taken more credit for the large drop in real yields than for continued strong growth. Markets also appear doubtful that inflation will eventually pick up—inflation-linked bonds price the outlook for US CPI inflation 0.5-0.75% below the Fed's restated objective—and are arguably still discounting a type of "secular stagnation" across developed markets (with negative real rates priced far out DM yield curves). Our work mapping growth expectations into key assets still strongly suggests that the 6% increase in global real GDP our economists forecast for 2021 is not yet fully reflected in market pricing.

For the exclusive use of MB@AURELYS.COM

Exhibit 1: Cyclical Assets Poised for Stronger Performance



Source: Bloomberg, Goldman Sachs Global Investment Research

Regulatory approval of a safe and effective vaccine is included in our base case forecast and central to our optimistic market outlook. To end the covid crisis, we need to reach "herd immunity"—the point at which the susceptible portion of the population becomes small enough that new infections no longer grow into outbreaks. Vaccination provides a faster and safer path to herd immunity than infections, and therefore has been a top priority for policymakers and the medical community since the coronavirus appeared. We should learn much more about the vaccine outlook over the next few months, and the early indications from the Pfizer/BioNTech trial are at the more promising end of expectations in terms of vaccine efficacy. More complete Phase 3 trial results should be forthcoming from both Pfizer and Moderna through the next month, and results from several other firms (including AstraZeneca and Johnson & Johnson) should follow over the coming 1-3 months. If these trials result in a vaccine with relatively high efficacy, as preliminary Pfizer results suggest, it should be possible to inoculate large parts of the world's population over the next 12-18 months.

Cyclical assets should also benefit from a friendly policy mix—even if large fiscal easing in the US appears less likely after the elections. Major central banks (other than the PBoC) will likely keep policy rates at their practical minimums for at least a couple more years, and investors can expect active support for bond markets from quantitative easing (QE). Moreover, policy backstops put in place in 2020—e.g., the Fed's corporate credit facilities and the EU Recovery Fund—should also help limit the fallout from any temporary lockdowns. In most other countries (including China) policy should generally remain supportive of a continued recovery, even if it turns moderately less easy over the course of the year. Rapid growth and very easy macro policy should be a potent mix for cyclical assets next year.

We are optimistic about the global economic outlook for 2021, but are not necessarily expecting a smooth path. There will be a gap between the approval of vaccines and

For the exclusive use of MB@AURELYS.COM

reaching "herd immunity" that will need to be bridged with public health measures and ongoing policy support—so the (largely unhedgeable) risks to the economy and markets from the coronavirus will be with us for at least several more months. And the more upfront credit markets take for an effective vaccine, the more balanced the risks are further out. The remaining sections discuss our views on how best to navigate these issues and others in the year ahead.

2. Navigating the Path

- Market may look through weakness if medium-term (vaccine) news is solid ...
- ... but that creates a worse asymmetry for assets further out.
- Despite a robust 2021, near-term risks from lockdowns and the "wait" for fiscal support.
- So still some vulnerability to "spot" risks in the next few months.

The prospect of an effective vaccine that underpins our baseline economic forecasts is clearly bullish for the medium-term market outlook. With the US election out of the way and the potential for a worldwide vaccination campaign ahead, there are good reasons for risky assets and government bond yields to move higher. Investors are likely to closely scrutinize further vaccine trial results, but the Pfizer vaccine efficacy data appear to be coming in well ahead of expectations.

Under simplifying assumptions, reaching "herd immunity" requires immunity in the population (through infection or vaccination) equal to 1-1/R0, where R0 is the disease basic reproduction number.[1] If R0 were 2.5, for example (as suggested by some studies), reaching herd immunity would conservatively require immunity in 60% of the population, although that threshold may be lower because of population heterogeneity (some people are more likely to spread infections than others). If, hypothetically, 10% of the population has gained immunity through infection and will not initially get vaccinated (although in practice this group could choose to), a vaccination campaign would need to inoculate 50% of the population. This could be achieved, for example, by vaccinating 67% of the population with a 75% effective vaccine, but with a 90% effective vaccine (as indicated by the early Pfizer data) that could be achieved by vaccinating only 55% of the population. So it is not surprising that markets, and cyclical assets in particular, are responding so strongly to the Pfizer trial results. But the more credit that asset markets take upfront for this outcome, and the more growth upside they price, the worse is the asymmetry further out into 2021. At that point, markets will also still have to wrestle with the knotty questions of efficacy in elderly populations, plus production and distribution on a large scale. So while we are confident about the destination—significant further upside in cyclical assets—the path is complicated by the deceleration in our growth forecasts in the current quarter and the market pricing of a more upbeat forward outlook.

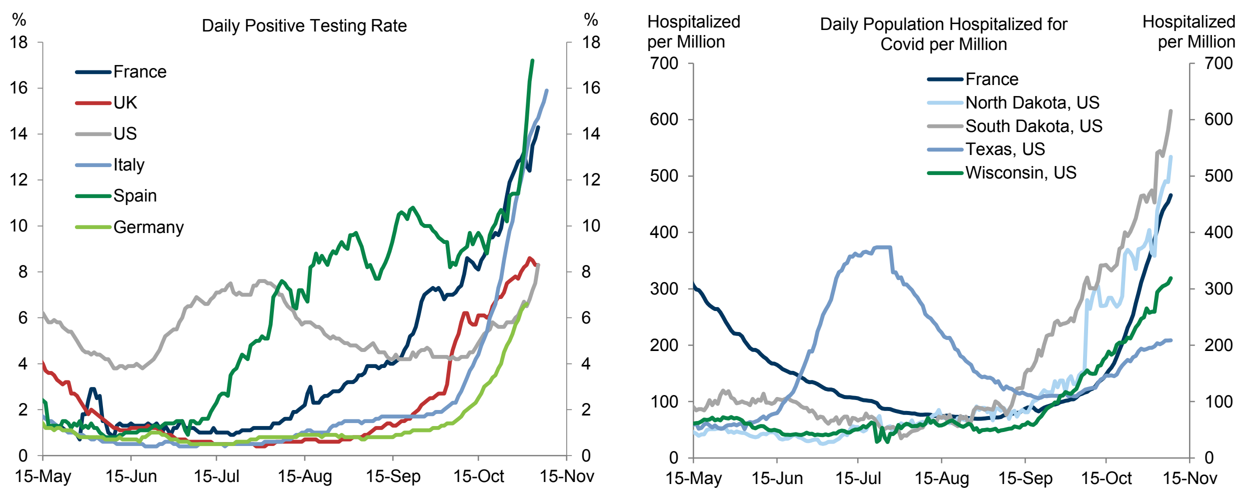
Chief among those risks is that of broader and deeper lockdowns, including in the US,

[1] In reality, the herd immunity threshold is not a fixed number, but a function of effective transmission rates, which are determined by the degree of social distancing and mask wearing, temperatures, immunity in sub-populations, and other factors.

For the exclusive use of MB@AURELYS.COM

which may temper optimism about the cyclical recovery—at least until a safe and effective vaccine has been confirmed. European governments have so far introduced milder restrictions on public activity compared with earlier this year: schools, factories, and some shops will remain open, for example. In some other countries that experienced "second waves" (e.g., Australia and Ireland), restrictions were tightened before case growth peaked. European countries may similarly have to tighten or lengthen planned lockdowns to stabilize the public health situation. Lockdowns in some US states also appear possible. The US national positive covid test rate is comparable to that of Western European countries, and several states are seeing daily hospitalization rates similar to in continental Europe (Exhibit 2). Downgrades to US growth expectations on the back of new covid restrictions would likely restrain pro-cyclical trades, especially longs in breakeven inflation and nominal rate payers. Recent market shifts mean that some upcoming weakness has now been priced in Europe and energy markets, but less clearly elsewhere.

Exhibit 2: Infections and Hospitalizations Rising



Source: The Covid Tracking Project, ECDC, Our World in Data

Next, the fiscal impulse in the US is likely to be smaller relative to a "blue wave" scenario and there is also risk of slippage. While the Senate run-off races in Georgia could still produce a united government after January, most likely meaningful fiscal support in the US will require compromise between incoming President Biden and the Republican Senate. Our economists expect a $1 trillion stimulus package (potentially enacted before the inauguration on January 20), although this is less than half of what we might have seen under a Democratic sweep, and should provide a small positive fiscal impulse to US growth in coming quarters. There are risks in both directions, however. On the one hand, while equity markets appear to be taking credit already for the fact that higher corporate taxes are unlikely to be enacted, it is possible that a fiscal package could take longer to hammer out or provide a much smaller boost. On the other hand, prediction markets ascribe around 1 in 4 odds of the Democrats winning both races in Georgia, and taking control of the Senate on January 5. If the Democrats do win those races, higher taxes and higher fiscal spending will be back on the agenda, with the associated rotations in markets.

For the exclusive use of MB@AURELYS.COM

The more general challenge over the next couple of months is that near-term cyclical momentum is forecast to be weaker (substantially so in Europe), even as the market may be processing news that the medium-term outlook is improving. A key question is how much the market will be willing to look through the first to price the second. With the potential for a large fiscal stimulus less likely, the market is even more dependent on positive vaccine news to support a cyclical repricing. The news from Pfizer certainly supports an aggressive repricing, but if there are setbacks or worse news on the virus, such as mutations, then attention may shift back to near-term cyclical risks. With lower likelihood of substantial upward pressure on rates from a large fiscal impulse, that may mean that yield-seeking once again becomes a dominant theme among investors—favoring spread products in both DM and EM, receivers in steep EM curves and dividend-yielding and "long duration" stocks.

3. A Steeper Real Yield Curve

- We expect a steeper nominal yield curve in the US.
- And a much steeper real yield curve as breakeven inflation rises further …
- … which should fuel further USD weakness.
- Negative rates still unlikely, but weak inflation should limit upside for yields outside US.

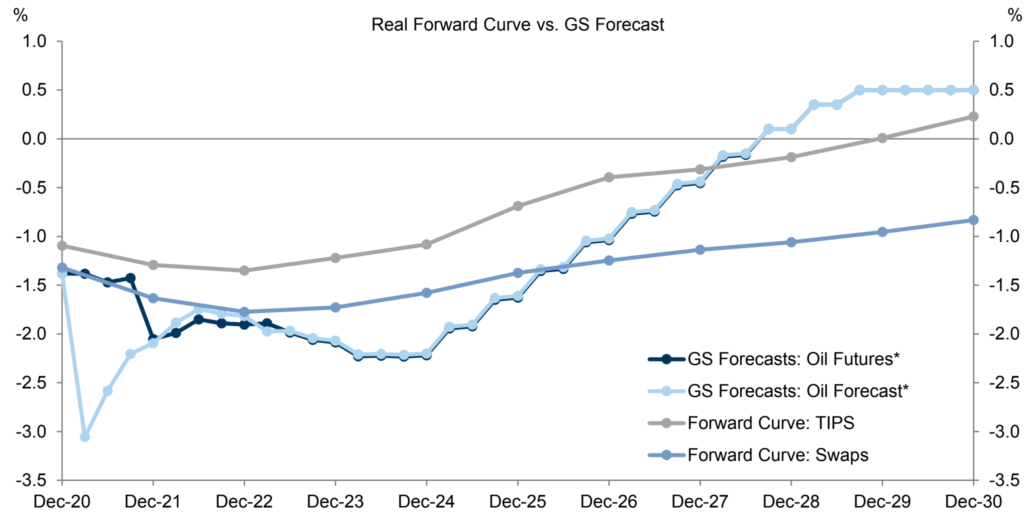
Government bond yields collapsed at the onset of the coronavirus recession as central banks cut policy rates to their lower bounds and launched new QE programs. As the economic recovery consolidates next year, we expect to see more differentiation across the curve, with policymakers committing to keeping front-end rates low, but higher expectations for real growth and inflation driving long-end rates higher. This should be especially true in the US due to the Federal Reserve's new Average Inflation Targeting (AIT) framework, which commits the central bank to holding off on rate hikes until inflation has reached its target and is on track to overshoot it. We forecast that 10-year US Treasury yields will reach 1.30% by the end of next year, but 2-year yields will increase to just 0.25%—implying a steepening of about 30bp from current levels.

But developments in inflation-linked markets could be even more important next year—both for active risk taking and for cross-asset signals. Exhibit 3 compares the real forward curve with the path for real short-term rates implied by our economists' forecasts—i.e., the implied shape of the forward curve if markets immediately priced in the GS baseline view (calculated by subtracting annualized headline CPI inflation forecasts from a projection of the funds rate). We do not expect markets to price in these levels (in part due to various risk premia), but they indicate our directional views for the real yield curve. Taken literally, our forecasts would imply a 5-year real rate of about -2.1% (-1.9% excluding our above-forwards oil price forecast), compared with market pricing of -1.2%, and a 5-year/5-year forward real rate of about -0.15%, compared with market pricing of about -0.30%. In other words, we expect a steeper real yield curve, especially if our bullish oil price forecasts prove correct (see Theme 6 below). Currency markets will likely take signals from front-end real yields, with more deeply negative real yields coinciding with Dollar weakness against most crosses (including gold). Although higher long-end rates could put upward pressure on the Dollar

For the exclusive use of MB@AURELYS.COM

against certain crosses, the Dollar index has historically been negatively correlated with the slope of the US real curve.

Exhibit 3: Our Forecasts Would Imply Steeper Real Curve



Source: Goldman Sachs Global Investment Research

Outside the US, a key question will be whether any central banks move policy rates into (or more deeply into) negative territory. This would open up much wider distributions for long-end rates and have major implications for G10 currencies. We cannot rule out this possibility, partly because a few central banks, including the BoE, continue to say the option could be considered. But experience over the past year suggests the bar for negative rates is very high: despite a deep recession in 2020, no central bank with negative rates cut more deeply negative; no central bank with positive rates entered negative territory; and the Riksbank, which only exited negative rates in December 2019, decided not to cut back below zero. With negative rates off the table in practice, non-US DM bond yields should also move higher next year. We forecast that Bund yields will reach -0.40%, implying a lower-than-average "beta" to changes in US Treasury yields, reflecting expectations of stubbornly-low inflation in the Euro area and ongoing ECB bond purchases. That said, paying 30-year EUR swap rates can offer an attractive way to express greater optimism on global growth given very depressed expectations.

We encounter frequent concern that higher nominal and real rates could pose a problem for risky assets. Although a much sharper move than we anticipate could be disruptive for equities and credit, we think these fears are generally overstated. Our forecasts are for a relatively modest increase in yields and are driven by a further upgrade to the US outlook. Historically, cyclically-driven yield increases are generally not a sustained headwind for risk markets. With a firmly dovish Fed, the mix of growth and rates that we forecast remains a very favorable one. So we think the significance of rate shifts for other assets may be felt more in "rotations" than at the headline level (see Theme 8).

For the exclusive use of MB@AURELYS.COM

For the exclusive use of MB@AURELYS.COM

4. Europe: Two Steps Forward, One Step Back

- Policy actions in 2020 mean European assets offer better asymmetry than in the past.
- Long-end payers and the Euro could be compelling "reflation" trades.
- But lockdowns mean Europe should underperform over the near term.
- For now, pro-cyclical trades are better expressed in other regions.

Until fairly recently, Europe appeared be weathering the covid crisis better than feared. Although GDP contracted very sharply in Q2 (-12%qoq), it came back strongly in Q3 (+13%), helped by a stable public health outlook. The Euro area also avoided the banking system and sovereign credit stress that followed the GFC through decisive policy action, which included, at the supranational level, the ECB's Pandemic Emergency Purchase Program (PEPP) and the EU's Recovery Fund (or Recovery and Resilience Facility, RRF). We consider the latter a major institutional upgrade for the European Union—in effect, a step towards fiscal federalism—that may help facilitate Euro internationalization over time. Over the medium term, we expect European equities to benefit from the global rally and EUR/$ to participate in a broad Dollar decline.

However, the near-term European growth outlook has darkened due to a resurgent covid outbreak. France, Germany and the UK have announced partial nationwide lockdowns for November, and our economists expect Italy and Spain to follow suit. As a result, they now expect Euro area GDP to contract by 2%qoq (not annualized) in Q4 and expand by just +0.5% in Q1 2021. As discussed in Theme 2, other economies, including the US, also face lockdown risk this winter. But for now we expect the US outcome to be slightly less damaging to the economy, reflecting the state-led approach, warmer average temperatures, and perhaps lower tolerance for lockdowns for a given level of infections. Lockdown risk has clearly been reflected to a degree in recent European asset performance, but the full extent of the weakness in our forecasts probably has not. At least until covid case growth peaks—and that point may come earlier than expected if the recent stabilization in the UK and Spain extends—we think that investors should position for European underperformance, for example, EM equities relative to Europe, Euro underperformance relative to other Dollar crosses, and European inflation compensation underperformance compared with the US (Exhibit 4).

Exhibit 4: European Inflation Markets to Lag Behind

Source: Goldman Sachs Global Investment Research

For the exclusive use of MB@AURELYS.COM

Beyond the winter lockdowns, the outlook for a European economic and asset market recovery looks more promising, but still far from assured. Compared with this time last year, Europe is much better prepared for a pullback in activity, so lockdowns should not spiral into something much worse. Policy actions during the acute phase of the covid crisis have stabilized European sovereign bond markets and thereby reduced tail risks for other European assets. The fact that the ECB looks unlikely to cut rates more deeply negative also limits downside for nominal bond yields and the exchange rate. Partly for these reasons, some European assets could offer attractive upside in a broad global recovery—e.g., 30yr EUR payers or longs in European satellite currencies vs USD (e.g., NOK or PLN). But unlocking the upside in European assets requires higher domestic and global growth, and markets will likely question that upside until local outbreaks ease. Moreover, political risks, debt sustainability concerns and regional fragmentation issues have not been entirely settled. Upcoming national elections in 2021 (Germany and the Netherlands) and 2022 (France and, possibly, Italy after the election of the President) will likely keep a spotlight on Europe's institutional fragilities.

5. China: Forging Ahead, with Assets in Tow

- After a long cycle of underperformance, China growth to stay ahead in recovery.
- China assets under-credited for that shift.
- CNY (and North Asia FX) strength can extend further ...
- ... as renewed trade surpluses warrant more appreciation.

China's economy has spent several years negotiating a bumpy slowdown, especially following the fading of the post-GFC boom. This has also led to a long cycle of underperformance in asset markets, most clearly after the bursting of the A-share bubble in 2015 and the CNY devaluation in that summer. But the remarkable early

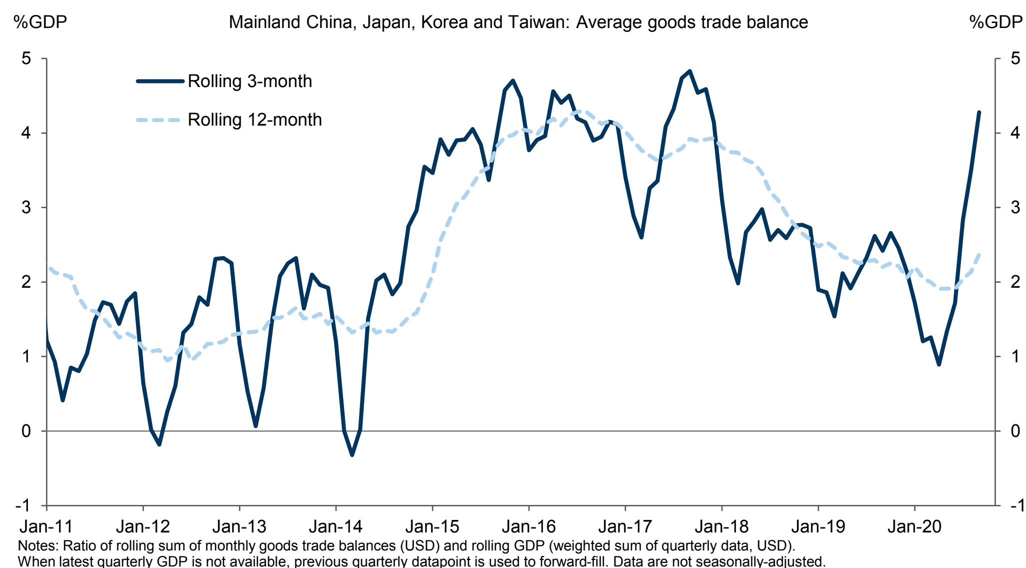
recovery from the covid-19 pandemic has meant that the level of GDP in China is already above pre-pandemic levels (something not likely to be achieved in the US and Euro area until next year at best). And, looking into 2021, even with some degree of tapering in the pace of credit growth and policy support, our China team's growth expectations of 7.5% real and 10%+ nominal sets us up for a period of solid outperformance that we think is still underappreciated by asset markets, notwithstanding recent rallies.

Alongside the growth outperformance, China is also the only major economy where interest rates have normalized back to pre-covid levels. Chinese government bonds are now included in major benchmark indices as part of efforts to internationalize the Renminbi, offer attractive yields of between 2.5% and 3%, and have a low correlation with other EM local rates. Apart from the consistent portfolio inflows that this is already bringing about, the case for further CNY appreciation—our new 12m forecasts for USD/CNY stand at 6.30—also rests on a friendlier trade policy outlook from an incoming Biden administration and growing undervaluation, which is helped by a sharp improvement in the external trade balance that is likely to persist into 2021. Moreover, as we have discussed, the declining correlation between CNY and CGB (Chinese Government Bond) returns suggests that combining exposures offers better volatility-adjusted carry relative to either simple FX forward positions or longer-end bonds on their own. More broadly, CNY and China-linked assets may be especially attractive as we traverse a tough winter given demonstrable outperformance in covid management, at least until there is definitive news about an effective vaccine.

The sharp improvement in trade balances and current accounts is a development that is being repeated across North Asia—including South Korea, Japan and Taiwan (Exhibit 5). All these markets have achieved a high degree of virus control, and face currency appreciation pressure. And indeed, CNY and these Asian currencies may need to accept more significant appreciations, in implicit exchange for a ratcheting down of tariff and quota pressure that escalated under the Trump administration. The reported suspension of the counter-cyclical factor in the CNY fixing suggests at least some openness to this outcome. But the risk is, of course, that without more significant appreciation, trade tensions and tensions between China and other parts of the world still reeling from the aftershocks of covid-19 may re-emerge in different forms, creating headwinds for Chinese assets in the medium term.

For the exclusive use of MB@AURELYS.COM

Exhibit 5: Sharp improvement in trade balances across North Asia (Mainland China, Japan, Korea, Taiwan) likely to beget further currency appreciation



Source: Haver Analytics, Goldman Sachs Global Investment Research

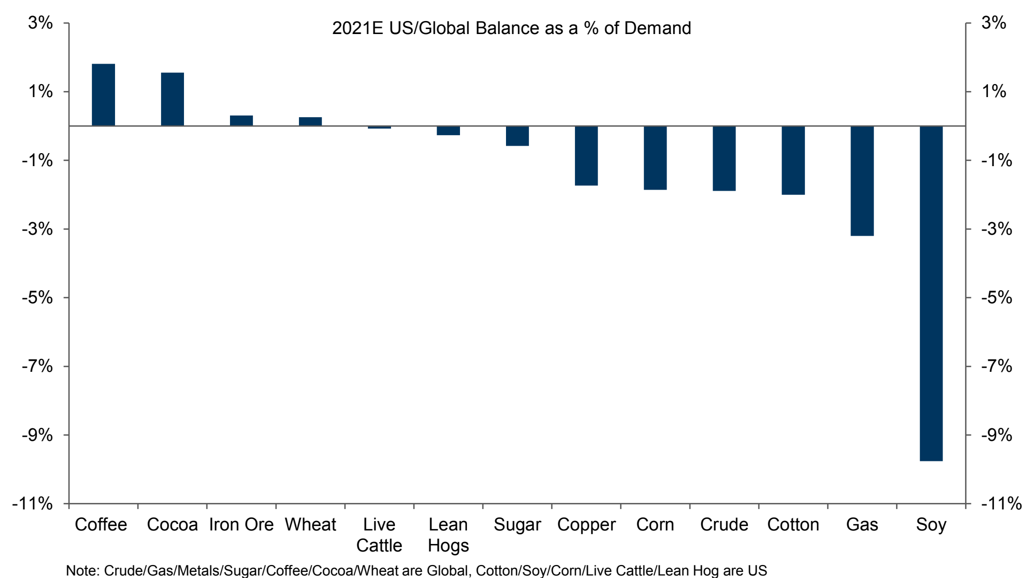
6. A New Commodity Bull Cycle

- Structural underinvestment plus demand boosts from a vaccine-led recovery.
- High oil inventories mean that upside may emerge more clearly after the winter ...
- ... with non-energy commodities (metals and ags) facing more near-term upside.
- Commodity equities, credit, FX—inferior translators of the commodity view.

The volatility in commodity markets in recent weeks is a reminder of the damage that lockdowns can do to commodity—especially oil—demand. But what is far less visible is the fact that structural under-investment in commodity-producing sectors over many years has meant that even the faltering recovery so far is generating a deficit in major commodity markets with inventories drawing. Given that inventories are drawing this early in the cycle, we see a new bull cycle for commodities emerging in 2021 as demand recoveries meet restrained supply (Exhibit 6). Because inventories of oil remain high, upside in energy prices will likely come after winter. However, non-energy commodities, including metals, face immediate upside as balances have tightened ahead of expectations, driven by large Chinese demand and adverse weather shocks. We expect copper prices to end 2021 at $7500/mt compared with current spot levels of approximately $6900/mt.

For the exclusive use of MB@AURELYS.COM

Exhibit 6: Commodity markets are moving into deficit early in the business cycle



Source: John Hopkins, Goldman Sachs Global Investment Research

Zooming in on oil, the recent price falls are already equivalent to European consumption falling to May levels, when stricter lockdowns were just ending. This is an aggressive repricing given that the new European lockdowns are less restrictive and will potentially "bend the curve" again in a few weeks. However, virus uncertainty, the potential for lockdown headlines to spread to the US and the aftermath of the election all point to further price volatility through November, and even some potential near-term downside. And if these current low oil prices are sustained, they will further impact supply, setting the stage for a material rally above current forwards when the vaccine-led recovery in demand faces supply under-investment and a diminished shale reaction function—we expect Brent oil prices to end 2021 at $65/bbl, an increase of more than 50% from current spot levels of around $40/bbl.

From a market perspective, a commodity bull market of this magnitude should translate into upside for commodity equities, credits and currencies. However, for a variety of reasons these have been less efficient translators of the commodity view of late. ESG (Environmental, Social and Governance) considerations have increasingly diverted capital away from energy stocks; there have been growing question marks around the ability of HY US energy credits to generate robust cash flows even in an increasing oil price environment; and across EMs and DMs, the beta of currencies to oil prices has fallen as governments have put in place intervention mechanisms to dull the sensitivity of currencies to oil price volatility. So commodities themselves may be the most efficient expressions of our bullish commodity forecasts, and leveraging recent work on ESG commodity investing, our commodities team argue for a long position in the enhanced S&P GSCI along with a CO_2 offset position by going long EU Allowance credits.

That said, for macro investors it is notable that a number of commodity currencies have lagged commodity prices quite materially over the last few months (the Chilean Peso

For the exclusive use of MB@AURELYS.COM

versus copper and the Russian Ruble and Norwegian Krone versus oil), and so provide attractive entry points. A positive terms of trade shock could also provide welcome relief to some EM economies (such as Brazil) which have used their policy bullets aggressively already.

7. EM Outperformance: More than Before, Less than Sometimes

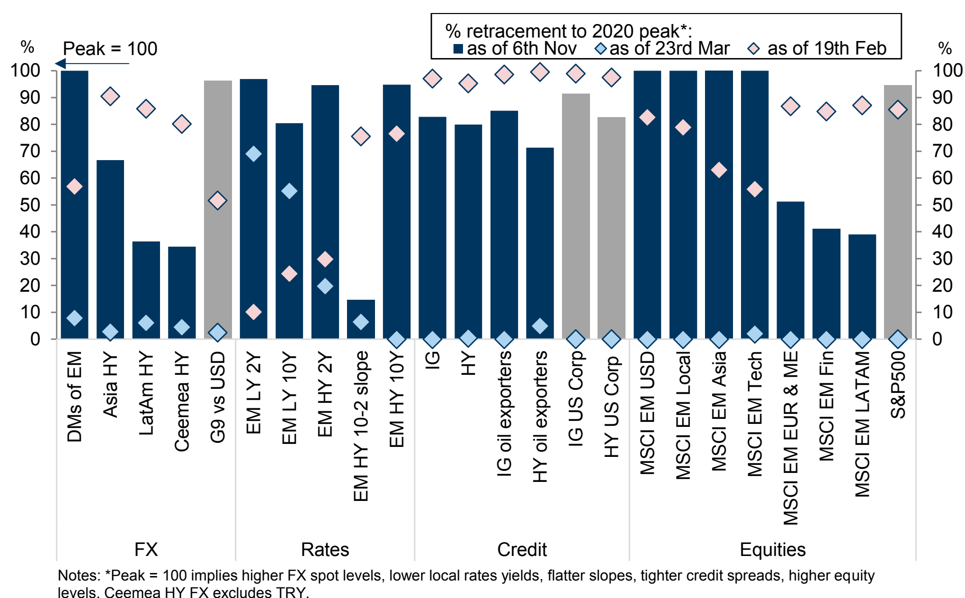
- EM asset recovery means value is mostly in cyclical and commodity exposures.
- EM high-yielders embed premium in steep local curves as much as in FX ...
- ... as do EM bank stocks and EM HY credit spreads.
- Potential for forces—cyclicality, commodities, valuation, China—to come together, so scope for broader outperformance for the first time in years.

Emerging markets have been hit hard by the covid pandemic, but even as the scar tissue from the lost growth and impaired fiscal trajectories will persist for several years, there has also been a remarkable resilience across EM asset markets. EM IG credit spreads have compressed most of the way back to pre-covid levels at the same time as absorbing a surge in issuance, EM local rates quickly undid their selloffs and policy rates have moved to new lows, EM equities have moved through pre-covid highs led by Asian tech stocks, and, while EM FX has underperformed, at least in part that reflects a preference from EM policymakers.

So as investors look into 2021, pockets of value are more tightly defined than may be expected after such a significant shock, and are concentrated in the most cyclical and commodity-exposed parts of the EM universe: the (not-so) high-yielding currencies in LatAm and CEEMEA, LatAm stocks, but also EM bank equities, and high-yield sovereign credits (Exhibit 7). Our recent deep dive into expected losses across EM sovereigns suggests that, while we are likely to see more defaults over the next 12 months, we are likely past the peak of widespread distressed pricing EM HY credits—so the vaccine-led recovery in growth and commodity prices that we expect should allow further spread compression. It should also allow EM banks to reflect their typical beta to the recovery, and probably most intriguingly allow an unlocking of the value in EM HY currencies (such as MXN, ZAR, RUB and BRL), which increasingly represent cheap cyclical options. A vaccine-led cyclical recovery is almost a sine qua non for these assets to flourish; but there are also opportunities that are less full-throated cyclical exposures. Equities and FX in NJA low-yielders (such as the Kospi and the KRW) should benefit from a better cyclical backdrop, and are less vulnerable to vaccine disappointments. And while the premia across EM local rates markets have compressed meaningfully already, steep curves across EM high-yielders (government bonds in South Africa, India and Brazil) still offer an opportunity to earn carry as long as inflation stays low and the cyclical recovery is not entirely derailed.

For the exclusive use of MB@AURELYS.COM

Exhibit 7: Strong EM asset recovery after the covid shock has left only the most cyclical exposures behind
The % retracement to the 2020 peak* in each asset class at each given date



Notes: *Peak = 100 implies higher FX spot levels, lower local rates yields, flatter slopes, tighter credit spreads, higher equity levels. Ceemea HY FX excludes TRY.

Source: Goldman Sachs, Bloomberg, Goldman Sachs Global Investment Research

Over the past few years, EM outperformance has occurred in fits and starts, but has seldom been sustained. As a result, investors are well-attuned to ask "what could go wrong in EM this year?" And there are certainly candidates—from the general to the specific: vaccine distribution is likely to be challenging and the fiscal deterioration from this crisis will leave long-lasting scars; currency volatility in Turkey has risen again and wide parallel market spreads in Argentina mean that sharp devaluations are possible in both places; further exchange rate adjustment may also occur in Nigeria; and the risk of debt distress has increased in Iraq, Sri Lanka, Gabon and Angola.

But while there are always risks when it comes to EM assets, 2021 could be the year when it may be equally important to ask "what could go right for EM?" Across global markets, EM assets embed most tangibly a combination of cyclicality, commodity exposure, China sensitivity and pockets of deep value, all of which could be in favor through the course of the year, as discussed above. If this heady cocktail comes together all at once—something that hasn't really occurred since the 2000s—EM outperformance may finally move beyond occasional short-lived bursts and become something more sustained through the year. Having some exposure to the notion of such sustained outperformance, either through more ambitious targets in some core EM longs or some out-of-the-money options, may make more sense than in other years.

8. Rotations: Cyclical, North Asia in Focus but Vaccine News Key to Near Term

- Cyclicals to outperform defensives in central case, but the path may be bumpy.
- North Asian markets have a favorable mix of exposures.
- Macro forecast shifts generally more beneficial to "value" than "growth"…
- … but a clear rotation may need a sharper rise in real yields.

Beyond the EM/DM split, the macro shifts implied by our forecasts imply that the focus

For the exclusive use of MB@AURELYS.COM

on other rotations is unlikely to let up. Differences in cyclicality, sensitivity to interest rates, commodity exposures and valuations are key to judging which rotations we think are most likely to occur.

With our US growth view still above what we believe the market is pricing, the outperformance of cyclical sectors of the equity market over defensives is ultimately likely to run further. The combination of better growth and higher nominal yields is generally supportive for that trend. While our central forecast still points firmly to cyclical outperformance over the medium term, the tensions in timing between vaccine news, fiscal stimulus and near-term growth weakness (see Theme 2) still need to be navigated. Our current forecast of some slowing in growth momentum before renewed acceleration in 2021 would normally lead us to expect that cyclical outperformance would follow a more back-loaded path. But positive vaccine news in the coming months could allow the market to look through that weakness to a greater extent than usual. And with volatility declining after the election, we think the upside tail here is once again being underpriced.

At the regional level, we have also highlighted the growing appeal of some non-US markets that could see a boost from an improved cyclical picture but face lower risks from winter virus problems. With Europe potentially facing cyclical headwinds in the next few months, the North Asian markets of Japan, China and Korea still stand out among major markets as potentially facing a relatively favorable mix.

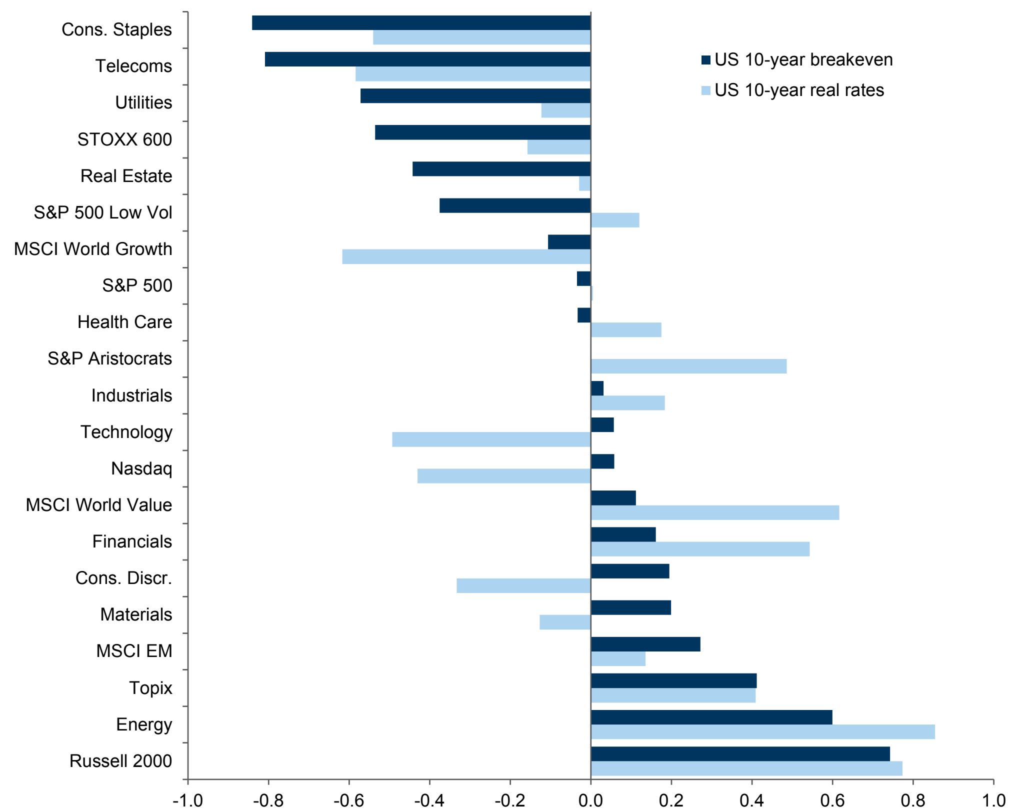
The equity market's favorite focus—on the split between "growth" and "value" and its various proxies—is more complicated on a macro basis, partly because both categories are more mixed in terms of their macro exposures. Valuation measures between the two groups are clearly historically stretched; and the macro shifts from the vaccine also generally favor more traditional cyclicals than long-duration tech stocks. Our more bullish commodity backdrop would also favor "value" indices, where commodity assets overwhelmingly reside, while rising nominal yields could ultimately provide a tailwind for banks. And a Democratic Senate (still possible if not the most likely outcome) could revive the market's expectations of a stronger fiscal expansion. But there are still real headwinds to that shift, particularly in the near term. The "divided government" scenario is arguably the most Nasdaq-friendly of the possible election outcomes and the market has moved firmly back in that direction in the last week. Headwinds from potential winter virus issues—and more of an impetus to "stay-at-home" activities—also push towards a continuation of the growth outperformance trend. To shift investors away from growth stocks in a persistent way, a sustained move higher in real rates and an end to the current dynamic where cyclical optimism translates into lower real rates may be needed. We expect moves in both directions over the next year, but quite gentle ones. The increased sensitivity of equity indices to real yields may also help to make attempts to price a large shift in real rates self-defeating. So while we see scope for "value" outperformance around a vaccine-driven growth upgrade, it may take longer for a more persistent shift here to emerge.

Similar considerations inform our relative credit views. The "divided government" outcome, which is likely to keep yields more anchored in the near term and removes some growth upside relative to a "Democratic sweep outcome", has renewed appetite

For the exclusive use of MB@AURELYS.COM

to search for yield. This has strengthened the appetite for credit as an asset class and our own view of its relative merits. Policy support remains a key advantage and, partly for that reason, we retain our preference for IG over MBS, MBS over Treasuries and cash over synthetics. The combination of anchored yields and a further normalization in the vol premium should allow this search for yield to extend. This dynamic should reinforce our "down in quality" theme (HY over IG), particularly if our move bullish commodity view plays out, and our preference for 30-year over 10-year IG. As with equities, the cyclical picture is complicated by the balancing act between vaccine news and near-term virus risks and more modest fiscal support. Absent positive vaccine news, we think cyclically exposed credit sectors could prove more vulnerable until further out in the forecast horizon. The good news is that we think that both the funding and liquidity/microstructure risks that were such a powerful part of the downdraft in March are unlikely to be revisited to the same degree, even if the outlook deteriorates. With that experience still fresh, policymakers are likely to be proactive in stepping in to prevent those problems from emerging. Against that backdrop, we would put more emphasis on valuation (e.g., AAA CLO vs. AAA CMBS or BBBs vs. A-rated credit and BB corporate credits).

Exhibit 8: Yield shifts could drive rotations, but real yields critical for growth/value shift
Correlation of 12m relative returns vs. MSCI with changes in US yields since 2018



Source: Datastream, Goldman Sachs Global Investment Research

For the exclusive use of MB@AURELYS.COM

For the exclusive use of MB@AURELYS.COM

9. In Search of New (and Old) Safe Havens, Hedges and Diversifiers

- Government bonds less effective as diversifying assets.
- FX offers alternatives, at a cost, as do ‘DMs of EM’ rates.
- Equity risk replacement or reallocation may help.
- At higher yields, long-dated Treasuries could quickly regain hedging value.

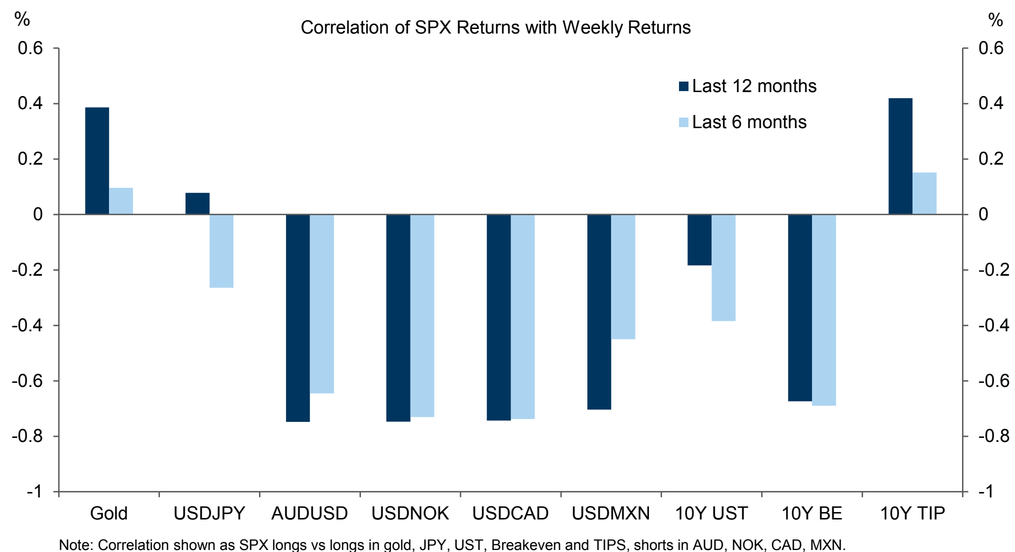
Hedging and diversification remain major challenges for many investors. For most of the last two decades, as growth and financial shocks have dominated markets, government bonds have offered both positive returns and a fairly reliable negative correlation with equities. During March’s equity rout, those benefits were on strong display again. But with large parts of DM yield curves close to the Effective Lower Bound, the path since then has been more complex. Not only have expected returns fallen further, but the prospect for gains if equities were to fall again faces natural limits on nominal yields, even for longer-duration bonds. For similar reasons, the correlation structure between bonds and equities has also changed. The negative correlation between nominal government bond returns and equities has fallen. And with market inflation expectations still positively correlated to cyclical and risky assets, relatively anchored nominal yields mean that real US Treasury yields have become negatively correlated to equity markets to an unprecedented degree. Although these dynamics may begin to change over the course of the next 6-12 months, that shift may be gradual.

With the prospect of lower (and more negatively skewed) returns and reduced correlation benefits, investors have been searching for ways to mitigate the loss of diversification. There are no easy answers. One option is to look at other assets to fulfill a similar purpose. Assets such as gold, which are closely linked to real yields, have also seen their correlation with equities shift from negative to positive. FX has proved to be a more promising area. The Yen has fared relatively better, and screens as one of the cheapest of the major safe havens, though shifts in the behavior of global rates has made its correlation with risk assets less reliable too. Other FX crosses—particularly the commodity currencies and parts of higher-yielding EM versus either USD or JPY—have maintained high correlations with equities over the last year and, while shorts here generally have a carry cost, it is low relative to history. Since we expect these assets to be beneficiaries of many of the same forces that could benefit equities, however, their hedging value comes mostly where downside is generally cheaper than in equity markets.

Another option is to replace equity risk itself. Longer-dated calls provide one way of limiting downside exposure (at a cost), while substituting dividend swaps may help to lower the duration of equity portfolios. With quite high levels of volatility and skew, put-selling may also benefit portfolios as an equity replacement. Increased exposure to non-US equity markets (see Theme 8) may also have diversification benefits in the current environment, given differing regional sensitivity to covid risks and to long-duration equities. Although we think that equities offer better upside in our central forecast than credit, assets such as cash credit and MBS in the US and corporate credit in Europe—which have direct central bank support—do have greater downside protection in an environment where hedging is difficult.

Ultimately, it may be that bond markets themselves will offer better options over time. We have highlighted the so-called "DMs of EM" rate markets as a way to pick up somewhat higher yield and greater distance to the Effective Lower Bound along with reliable correlations to cyclical forces. And, of course, if the market begins to entertain the possibility of negative rates in a broader range of places, then the Effective Lower Bound could itself provide more room for bonds to rally than it currently appears. We still think this is unlikely, but not impossible (see Theme 3). We also remain confident that inflation markets would reprice lower downside shocks, though our more positive views there argue against outright shorts. If, however, US Treasury yields and breakeven inflation pick up from here, as our forecasts imply, the value of both assets as downside hedges may improve relatively quickly. In particular, if we are right that longer-dated US bonds will move further from the lower bound over the next year, then Treasuries themselves may quickly become the most obvious hedge against risk assets again. This is one reason why we think a very large move in yields may be hard to sustain. But it may be that if the best "old hedges" reprice a little they will be the best "new hedges" too.

Exhibit 9: Recent correlations with equities highest for cyclical FX, breakevens



Source: Goldman Sachs Global Investment Research

10. Risks from Corona and Beyond

- Health outcomes still the biggest risk.
- Persistent lockdowns could amplify risks of corporate and fiscal "scarring"…
- … and might see renewed focus on European and EM sovereign tails.
- Uncertainties over fiscal path and Senate outcome remain.
- A stronger recovery could reintroduce rate and releveraging risk.

The biggest risk to asset markets—and our own central forecast—still comes from health outcomes. A sharper deterioration than we expect in virus case growth in Europe

For the exclusive use of MB@AURELYS.COM

For the exclusive use of MB@AURELYS.COM

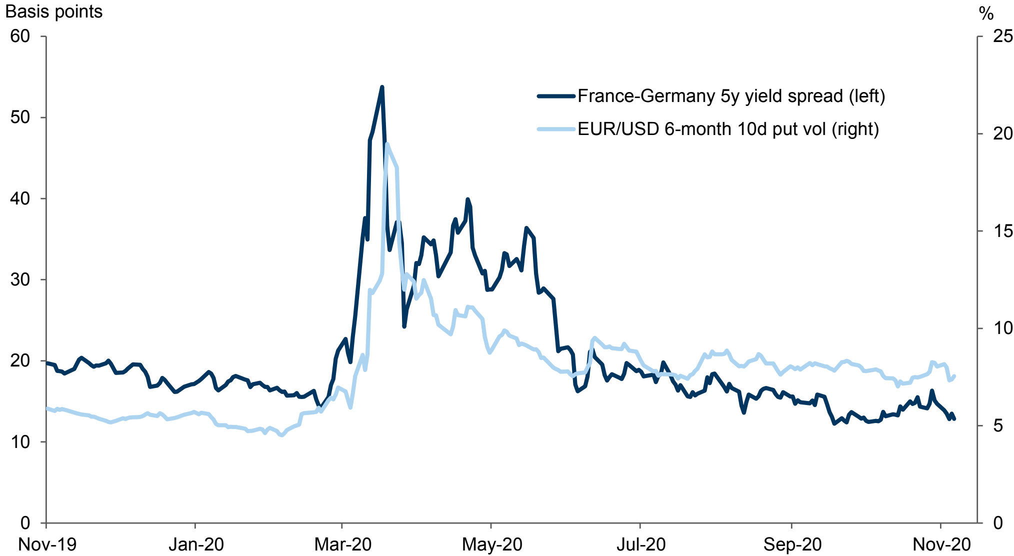
and the US—and the prospect of a long period of new restrictions on activity—could clearly weigh on markets in the winter months. And disappointing (or delayed) outcomes from Phase 3 trial results from the leading vaccine candidates would make it harder for the market to look through that weakness, as discussed above.

Several other key risks would likely be amplified in those scenarios. The impact of the crisis on corporate sector balance sheets has so far been surprisingly benign, helped by the aggressive policy response. But the risk of persistent "scarring" from corporate bankruptcies and defaults would rise if an extended second wave or persistent lockdowns occurred. In Europe, renewed growth weakness could also reopen the thorny issues of fiscal capacity in the weaker economies and put fresh focus on sovereign backstops. So far, the market has remained quite confident that the combination of an expanded ECB PEPP commitment and the Recovery Fund will be sufficient despite increased near-term cyclical risk. But a longer period of weakness than we expect, and its impact on public finances, might see the market worry again about some of the systemic risks that are now only barely priced into sovereign credit and EUR/$ options markets. Anticipation of fresh ECB action in December may keep a lid on those pressures, but the risks could rise beyond that point if the outlook does not improve as much as expected. In a similar vein, extended growth weakness will refocus attention on the fiscal deterioration across EM sovereign balance sheets, the sustainability of aggressive policy responses and the scale of external funding requirements, especially if official sector support is not as forthcoming as this past year.

Several important political and policy uncertainties remain unresolved. We already highlighted the risks in both directions around the US fiscal outlook because of the Georgia Senate elections and uncertainties over the scope and timing of a fiscal package before that point (see Theme 2). The prospect of further increases in geopolitical tensions—both in the months between now and Inauguration and beyond—is also a potential risk, even if the specific risks from tariff conflicts may now be lower.

A stronger recovery next year may also bring its own risks. In credit markets, a more powerful growth impulse and further gains in equity markets over the next year could bring "releveraging" risk more firmly into focus as we move into 2021. Asset market valuations are another potential constraint. While we are not in the camp that sees equity market valuations as broadly stretched, given the current ultra-low real yield environment, valuations in large parts of equity and credit markets do not build in a large cushion against disappointments in growth or a sharper shift in real yields than we expect. If the market continues to embed positive early vaccine news into asset valuations, the risks to the outlook will look more symmetric going forward. So it will be important to keep a close eye on when those developments may be fully priced. We think a "divided government" scenario reduces these risks relative to the higher growth outcomes likely under a "Democratic sweep", but does not remove them.

Exhibit 10: Market has remained relaxed about deep Euro system risk



Source: Goldman Sachs Global Investment Research

For the exclusive use of MB@AURELYS.COM

Disclosure Appendix

Reg AC

We, Zach Pandl, Kamakshya Trivedi, Lotfi Karoui, Damien Courvalin, Christian Mueller-Glissmann, CFA, Dominic Wilson, George Cole, Kenneth Ho, Praveen Korapaty, Amanda Lynam, CPA, Caesar Maasry and Danny Suwanapruti, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of the Global Investment Research Division of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Brazil:** Disclosure information in relation to CVM Instruction 598 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Instruction 598, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** Goldman Sachs Canada Inc. is an affiliate of The Goldman Sachs Group Inc. and therefore is included in the company specific disclosures relating to Goldman Sachs (as defined above). Goldman Sachs Canada Inc. has approved of, and agreed to take responsibility for, this research report in Canada if and to the extent that Goldman Sachs Canada Inc. disseminates this research report to its clients. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. **Japan:** See below. **Korea:** This research, and any access to it, is intended only for "professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. **Singapore:** Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU) (2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan and Type II Financial Instruments Firms Association.

For the exclusive use of MB@AURELYS.COM

Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Ombudsman Goldman Sachs Brazil: 0800 727 5764 and / or ouvidoriagoldmansachs@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Ouvidoria Goldman Sachs Brasil: 0800 727 5764 e/ou ouvidoriagoldmansachs@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by either Goldman Sachs Canada Inc. or Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

European Union: Goldman Sachs International authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, has approved this research in connection with its distribution in the European Union and United Kingdom.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.jsp and https://www.fiadocumentation.org/fia/regulatory-disclosures_1/fia-uniform-futures-and-options-on-futures-risk-disclosures-booklet-pdf-version-2018. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by the Global Investment Research division of GS may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.

© 2020 Goldman Sachs.

For the exclusive use of MB@AURELYS.COM

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.

For the exclusive use of MB@AURELYS.COM