Economics

Annual Economic Outlook — December 9, 2021

2022 Annual Outlook

Restoring Balance in the Post-Pandemic Economy

Summary

The global economy continues to be whipsawed by the ups and downs of the pandemic. The initial collapse in economic activity was followed by sharp rebounds as economies reopened amid strong policy support. But economic growth has waxed and waned as new case counts continue to fluctuate, and the imbalances that have arisen have led to an almost-forgotten phenomenon: inflation. We project that U.S. real GDP will grow 5.7% in 2021 before downshifting to about 4.4% next year. But we also forecast that consumer price inflation will exceed 5% in 2022, a rate that hasn't been experienced since 1990. Many foreign economies likely will post solid rates of economic growth, but with relatively high rates of inflation in 2022 as well. Will economies be able to restore some semblance of "balance" in the foreseeable future?

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Introduction & Summary

Regaining Balance in the Wake of Unprecedented Demand and Inadequate Supply

The global economy has been materially affected by the COVID pandemic over the past two years. The nosedive in economic activity in spring 2020, which was caused by the lockdowns that most governments imposed, was followed by sharp rebounds as economies reopened amid unprecedented policy support. But economic growth has waxed and waned in many economies as upswings and retreats in new COVID cases have come and gone. Meanwhile, meaningful increases in aggregate demand coupled with gummed-up supply chains have led to the highest inflation rates that many economies have experienced in a generation. How do economies find balance again?

There are some tentative signs that balance is starting to be restored, at least on the demand side of the economy. Because many parts of the service economy were more or less shut down during the darkest days of the pandemic, consumer spending on goods became supercharged. For example, the level of U.S. retail sales currently stands about 21% above its pre-pandemic peak. During the previous cycle, it took almost nine years for retail spending to rise by a similar amount above the previous peak. But real spending on durable goods, which was pulled significantly forward, has declined by more than 9% on balance since its peak in March. Meanwhile, real spending on services, which usually accounts for about two-thirds of consumer spending, continues to make steady gains.

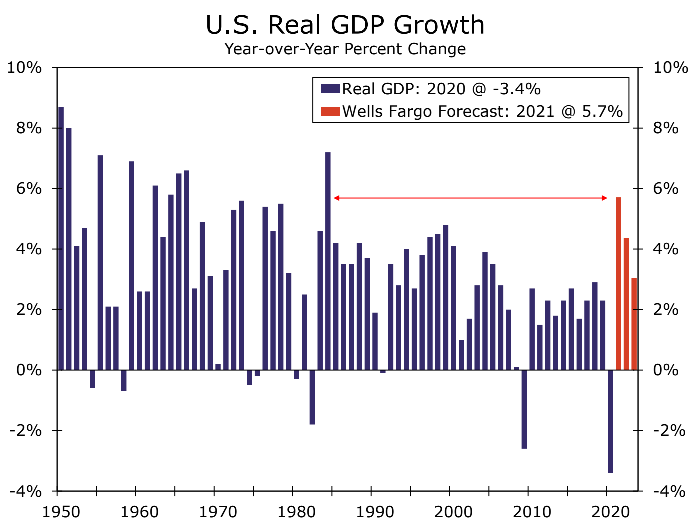
We project that real GDP grew at a blistering pace of 5.7% this year and will downshift to about 4.4% in 2022.

But restoring balance in the U.S. economy will not happen overnight due to the outsized imbalances that developed. We project that real GDP grew at a blistering pace of 5.7% this year, which would be the strongest year of economic growth since 1984 (Figure 1). Looking forward, we forecast that real GDP growth will downshift to about 4.4% in 2022, which is still an above-trend rate of growth. However, supply chains remain clogged, and they likely will not be restored to "normal" anytime soon. As we discuss further in the U.S. Economic Outlook, we believe that inflation will continue to be an issue for the U.S. economy through much of 2022, and we forecast that the overall rate of U.S. CPI inflation will average 5.3% next year, which is markedly higher than the consensus forecast.

We forecast that the overall rate of U.S. CPI inflation will average 5.3% over the course of next year.

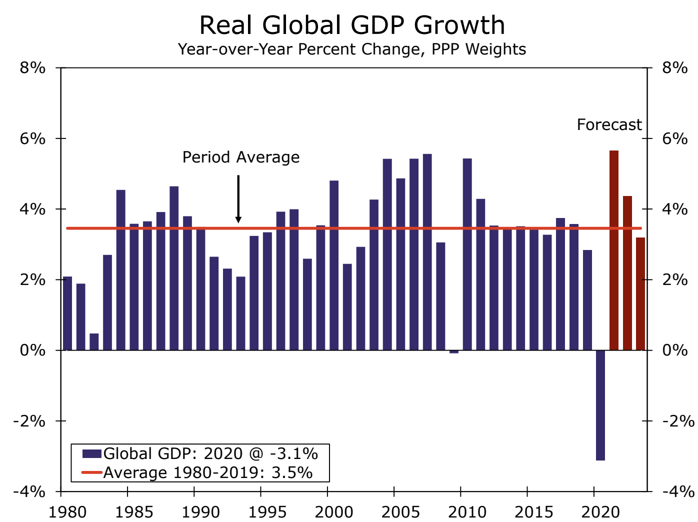
The recent emergence of the Omicron variant clouds the outlook, but we do not believe it will lead to wide-scale lockdowns à la the early days of the pandemic. There seems to be little public support for the reimposition of onerous restrictions. But the variant poses a downside risk to our GDP growth forecast and an upside risk to our inflation forecast, which are difficult to quantify until we know more about its virulence. Under our base-case scenario, which we detail in our U.S. Monetary & Fiscal Policies section, we look for the Fed to begin tightening monetary policy in the second half of 2022. Although monetary policy tightening will not unclog supply chains, it can help ensure that inflationary expectations, which could lead to even higher inflation in coming years, do not become unmoored. We forecast that the FOMC will hike rates by a cumulative 50 bps in the second half of next year followed by 75 bps more tightening over the course of 2023.

Figure 1



Source: U.S. Department of Commerce and Wells Fargo Securities

Figure 2



Source: International Monetary Fund and Wells Fargo Securities

The pandemic has also had profound effects on different regions of the U.S. economy. Although some of these effects may be short-lived, others likely will have more permanence. For example, work-from-home (WFH) may become more of a permanent fixture of the post-pandemic work environment. Although not all individuals will be able to work exclusively from home on a permanent basis, the flexibility that is inherent in WFH should favor suburbs and exurbs at the expense of city centers. Indeed, many individuals were moving back to the suburbs in search of more affordable housing even before COVID struck. The pandemic accelerated this trend. We also look for cities in the lower-costs areas of the Mountain West and South, such as Denver, Dallas-Fort Worth, Austin, Phoenix, Nashville, Atlanta, Charlotte and Raleigh-Durham, to continue growing at a robust pace.

These diverging effects are also playing out in the commercial real estate market. The shift to e-commerce, which has been going on for some time but has accelerated since the pandemic, continues to drive a seemingly insatiable appetite for industrial space (i.e., warehouses). Furthermore, businesses fortifying their supply chains and keeping precautionary inventory on hand likely will support demand for industrial space over the long term. At the other end of the spectrum, there is still a long road ahead for the office market. Although office markets in suburban areas and the high-growth Sun Belt region may hold up reasonably well in coming years, excess supply in some traditional gateway markets such as New York City, Chicago and San Francisco may take some time to be absorbed.

The economic aftershocks of the pandemic arguably have been most profound in the U.S. economy, but imbalances are not limited solely to the United States. Most major foreign economies are also experiencing rising inflation, albeit not quite to the same extent as in the United States, amid solid growth in aggregate demand and constrained supply. As we discuss in the Global Economic Outlook section, we believe that this momentum will generally carry into next year in most major foreign economies, and we forecast that global GDP will grow in excess of 4% in 2022, which is above the 3.5% per annum rate that it averaged between 1980 and 2019 (Figure 2). As in the United States, however, the Omicron variant adds uncertainty to economic outlooks for foreign economies.

We forecast that global GDP will grow in excess of 4% in 2022; however, the Omicron variant adds uncertainty to the global economic outlook.

Consequently, we suspect that some major foreign central banks will also be tightening monetary policy in the coming year. Specifically, we expect the Bank of England to raise its policy interest rates by a cumulative 65 bps between now and the end of 2022, while we look for the Bank of Canada to hike rates by 75 bps over the same period. Tightening by central banks in Norway and New Zealand could be even more pronounced. In emerging markets, central banks from Brazil, Mexico, Chile and Korea are among those that are likely to raise interest rates further in the coming year.

But not all foreign central banks are likely to tighten policy next year. We expect the European Central Bank to refrain from hiking rates through at least the end of 2023, and the Reserve Bank of Australia may also be on hold for an extended period. Moreover, we forecast that some central banks will not hike rates as much as many market participants currently expect. In our view, monetary tightening by the Federal Reserve along with less-than-expected rate hikes by many foreign central banks should cause the U.S. dollar to appreciate modestly versus many foreign currencies over the course of 2022.

U.S. Economic Outlook

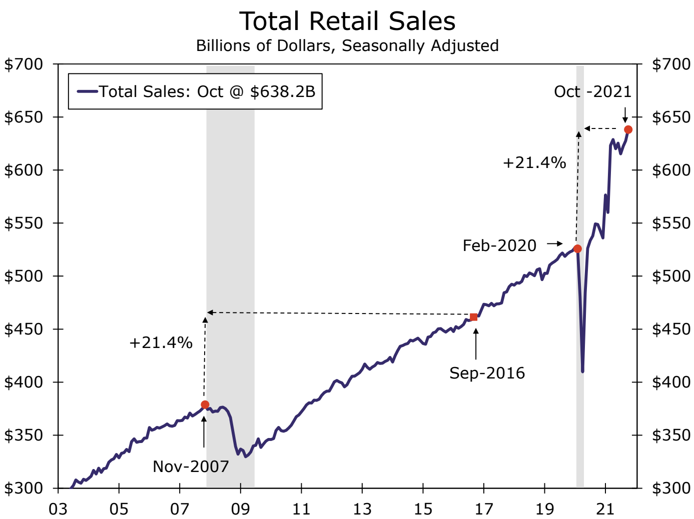
Are You Sure It's Just a Supply Chain Problem? Soaring Demand Is Also a Factor

No one is casting doubt that supply chains are in complete disarray, and most economists would tell you that nothing is more consequential to the growth outlook than getting these blockages cleared. Having said that, a factor that often goes unnoticed, or at least under-appreciated, is just how colossal the surge in consumer demand for goods has been.

In the span of 20 months, we have witnessed a spending increase that took roughly nine years in the prior cycle.

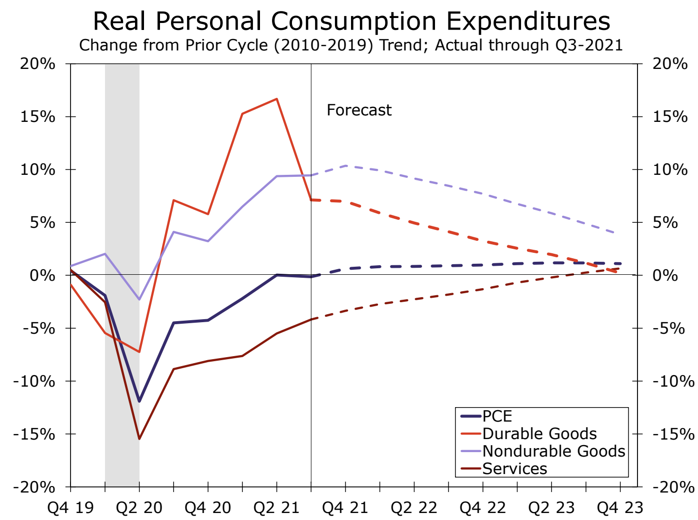
Retail sales, which mostly measures goods spending, offers an illustrative example of how uncanny and unprecedented the outpouring of spending on goods has been. Through October, the level of retail sales had risen 21.4% above its pre-pandemic, February 2020 peak. In the prior cycle, retail sales peaked in November 2007 before spending was cut back sharply during the financial crisis. It took until September 2016 before retail sales rose 21.4% above its pre-recession peak. In the span of 20 months, we have witnessed a spending increase that took roughly nine years in the prior cycle (Figure 3).

Figure 3



Source: U.S. Department of Commerce and Wells Fargo Securities

Figure 4



Source: U.S. Department of Commerce and Wells Fargo Securities

Much attention has been paid to the narrative that goods demand has been pulled forward and the "pivot to services" will characterize the trends for consumer spending. We certainly maintain the rough contours of that argument, but our analysis reveals some nuance to these trends. Yes, durable goods spending shot up well ahead of other categories for the first year of this cycle, but after sharp declines in durable goods outlays more recently, it is actually non-durable goods (mostly food and energy) spending that is currently running ahead of its trend by the largest margin—and note, this is on an inflation-adjusted basis (Figure 4). It's not merely that we're paying more for food and energy, we're also consuming more on a volume basis.

Services spending is the primary driver for our full-year PCE growth of 3.7% in 2022 and 2.6% in 2023, both of which are slightly above the long-term trend.

Still, the major story of a pivot to services remains intact. But services outlays are closing the gap relative to trend, and we suspect that they will fully have caught up by the end of our forecast period in Q4-2023. This above-trend growth in services spending explains our outlook for strong growth in overall personal consumption expenditures (PCE). Because spending on services comprises nearly two-thirds of overall consumer spending, it is the primary driver for our full-year PCE growth of 3.7% in 2022 and 2.6% in 2023, both of which are slightly above the long-term trend.

The Omicron variant, of course, has the potential to upset consumer spending in 2022, as the Delta variant did in 2021. As of this writing, health officials are still gathering details on this latest mutation, although the World Health Organization (WHO) has already labeled it a "variant of concern." Until we know more about the virulence of the Omicron variant, we will refrain from formally incorporating its effects into our outlook for PCE growth. But we suspect that there is little political support for the reinstatement of COVID restrictions that depressed consumer spending earlier in the pandemic, and the vaccination rate is around 10 percentage points higher today than it was during the Delta surge this summer. Therefore, we believe that solid growth in PCE can continue in coming quarters. That said, we readily acknowledge that households could hunker down if the Omicron variant turns out to be especially virulent, and we would characterize the unknowns associated with the new variant as representing a downside risk to our forecasts for PCE growth and overall GDP growth.

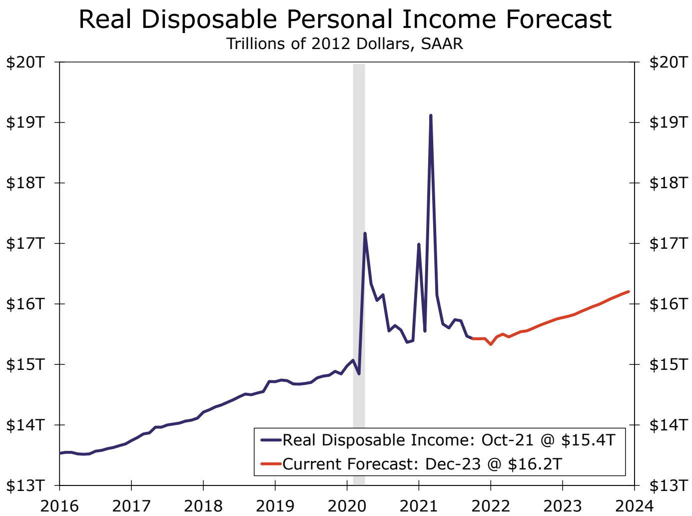
Transfer Payments to Paychecks as the Driver of Real Income Growth

Wages and salaries income will again resume its usual role as the primary driver of income growth.

The composition of consumer spending is shifting, but the sources of household income are transitioning as well. The post-pandemic era has been punctuated by three distinct surges in real disposable income that are evident in Figure 5. The three noticeable spikes in that chart reflect the CARES Act (March 2020), the December COVID relief bill (formally the Consolidated Appropriations Act of 2020) and the American Rescue Plan (March 2021). Each of these fiscal policy packages included, to varying degrees, direct payments to households.

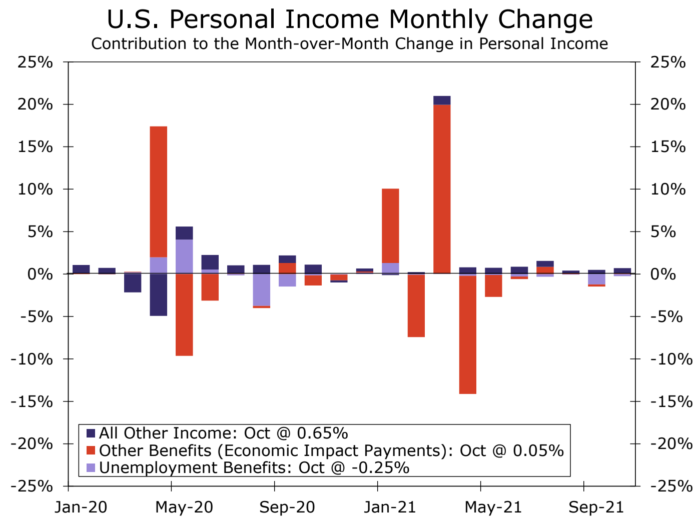
Figure 6 looks at the factors behind the monthly changes in personal income. The on-again, off-again changes to jobless benefits (purple bars) have largely run their course at this point and will remain a modest headwind to income growth in the final months of this year. While the American Rescue Plan also included measures to temporarily expand the Child Tax Credit, for the most part the stimulus payments (red bars) were short-lived measures and, perhaps intuitively, were associated with similarly short-term bursts in consumer spending. Although fiscal policy may yet play a role in shaping income growth, one way that 2022 and 2023 will be different from the post-pandemic era thus far is that wages and salaries income will again resume its usual role as the primary driver of income growth.

Figure 5



Source: U.S. Department of Commerce and Wells Fargo Securities

Figure 6

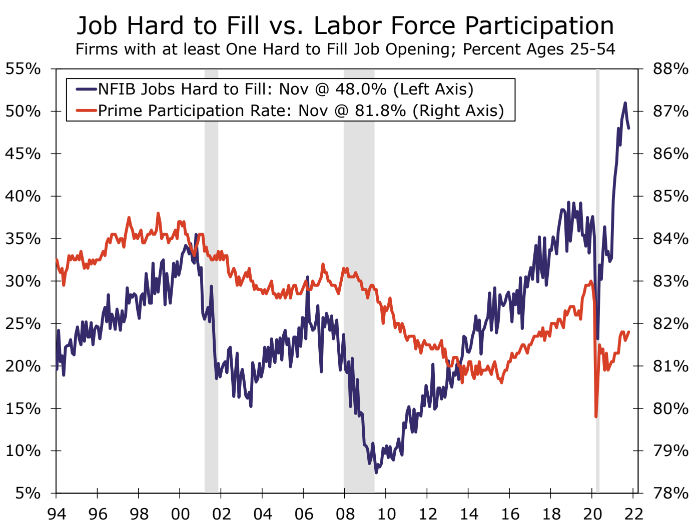


Source: U.S. Department of Commerce and Wells Fargo Securities

Restoring Balance to the Labor Market

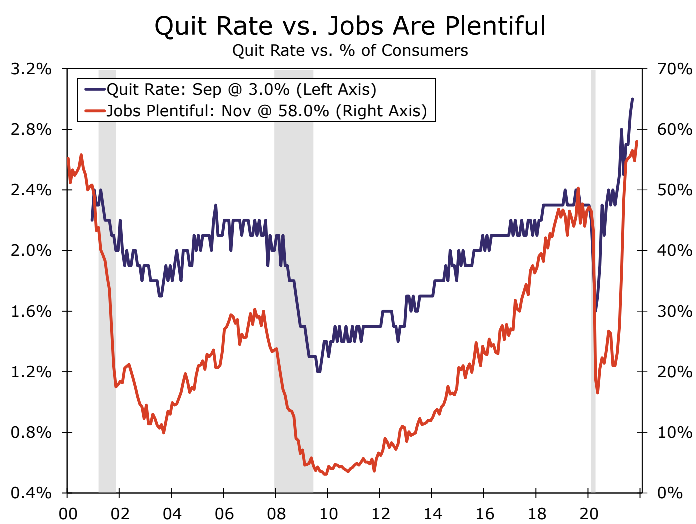
As any hiring manager can tell you, one part of the economy where imbalances are most pronounced is in the labor market. Recently the share of businesses reporting that good help is "hard to find" has hit a record (Figure 7), and so has the share of consumers saying that jobs are plentiful. Whether you ask businesses or consumers, the answer is the same: This is the tightest labor market in at least a generation. Perhaps this should not be much of a surprise, given how the so-called Great Resignation is only picking up steam; the quit rate rose to a fresh high of 3.0% in September (Figure 8). If that rate were to be maintained throughout 2022, a typical employer would experience unprecedented turnover with more than a third of the company's workforce needing to be replaced throughout the year.

Figure 7



Source: U.S. Department of Labor, NFIB and Wells Fargo Securities

Figure 8



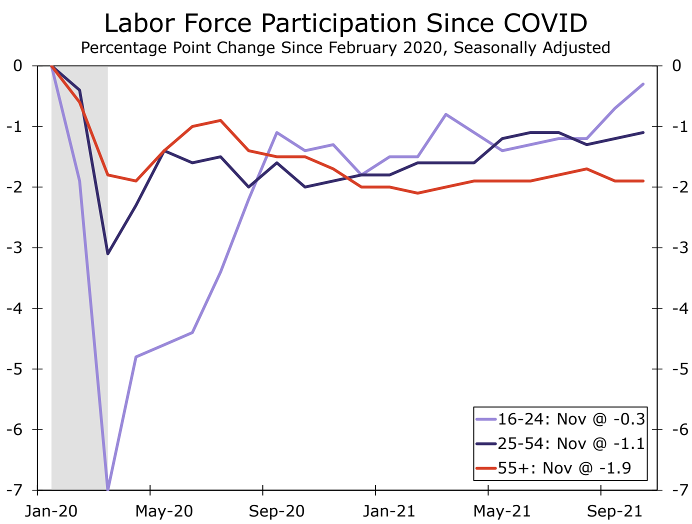
Source: U.S. Department of Labor, the Conference Board and Wells Fargo Securities

While lower-paying industries, such as leisure & hospitality and transportation & warehousing, have seen the largest wage increases over the past year, up 12.3% and 6.8% respectively through November, higher-paying industries have recently begun seeing stronger pay hikes too. More people working along with higher wages for everyone is pushing aggregate income to new highs, with labor income rising at a three-month annualized rate of nearly 12% in November, still comfortably ahead of inflation.

High wage increases and more aggregate hours worked have pushed labor income up to new highs.

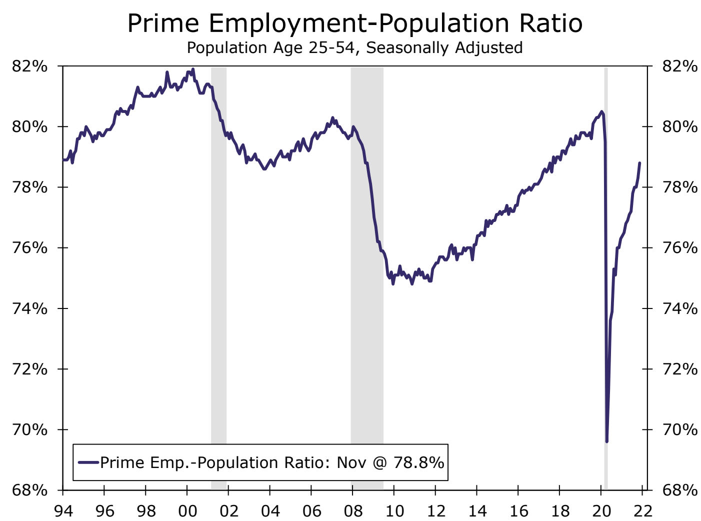
Even with many measures pointing to the labor market being extraordinarily tight and despite aggregate wage growth outrunning inflation, policymakers at the Federal Reserve are not yet fully convinced the labor market has reached their lodestar objective of "maximum employment," though it is clearly making progress. The overall labor force participation rate remains low at only 61.8%, although employment among prime-age workers (ages 25-54) continues to trend higher (Figure 10). Younger workers have poured back into the market in recent months, taking advantage of the sharp pay increases in entry-level jobs in some industries, such as hospitality. But some workers are not returning to the labor market due to difficulty in finding affordable childcare, and the participation rate among older workers (55+ years) remains depressed (Figure 9).

Figure 9



Source: U.S. Department of Labor and Wells Fargo Securities

Figure 10



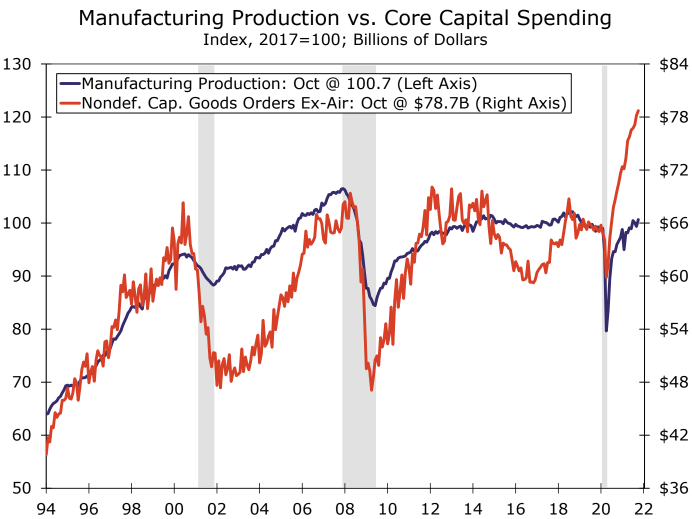
Source: U.S. Department of Labor and Wells Fargo Securities

The biggest headwind for employment is the difficulty businesses are having finding good help. While workers are making their way back into the hiring pool, finding a better balance may take until next spring. Constraints such as health concerns and the aforementioned childcare situation should ease on the other side of winter, and the further households get from the generous fiscal policy support enjoyed over the past year, the greater the financial imperative to return to work should be—not to mention inflation chipping away at spending power. These factors should help hiring continue at a robust pace and reduce the unemployment rate to its pre-COVID level near the end of 2022. But clearly, the Omicron variant has the potential to further delay any recovery in the labor force participation rate. As noted previously, we will treat the variant as a downside risk to our forecast rather than precisely incorporating it into our outlook until we know more about its virulence.

Overlooked Amid the Supply Chain Crisis: A Potential Boom in Cap-ex Spending

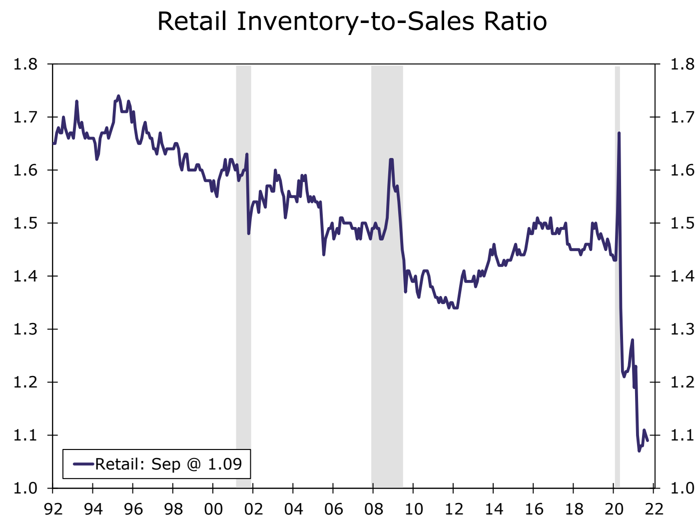
Consumers are not the only ones clamoring for goods. Business fixed investment spending, particularly on equipment, has also seen a demand surge unlike anything in recent memory. One widely followed proxy for future cap-ex spending is core capital goods orders. As Figure 11 shows, in each of the past two cycles, this measure barely rose above its pre-recession peak. Remarkably, because the 2009-2020 cycle was characterized by relatively weak cap-ex spending, the peak in core capital goods orders was actually nine years ago in 2012.

Figure 11



Source: Federal Reserve Board, U.S. Department of Commerce and Wells Fargo Securities

Figure 12



Source: U.S. Department of Commerce and Wells Fargo Securities

An under-appreciated prospect for the U.S. economy is the scope for a new wave of capital investment to lift potential GDP growth.

We detailed how the rebound in retail sales has no modern precedent. To find a similar period of cap-ex spending growth, you would need to go back to the go-go 1990s when corporate America made massive investments in computers, telecom and the infrastructure that would eventually become the architecture upon which the internet revolution could be built. With all the hand-wringing about COVID and supply chain problems, one of the most under-appreciated prospects for the U.S. economy as we head in to 2022 and beyond is the scope for a new wave of capital investment to lift potential GDP growth. Past periods of major capital spending have been associated with surging productivity growth, something that has been AWOL in the U.S. economy for the better part of the past decade.

Before we get too excited about a 1990s style cap-ex boom and ensuing productivity surge, it bears noting that so far many of these orders have yet to be turned into actual shipments. Long wait times at loading docks, plenty of cargo ships at anchor off the nation's major ports and a lack of both trucks and drivers are just a few of the most visible examples of the supply chain crisis as demand far outstrips supply. In that regard, overall manufacturing production is 1.5% below its 2018 peak.

So, when will these supply chain constraints begin to ease? That was the premise for a series of reports we did earlier this year, introducing what has become one of our most-requested tools in recent years, the Pressure Gauge. This table seeks to bring together the very best leading indicators using measures of time, volume, price, inventory and un-met labor market demand. Currently, our supply chain dashboard is still flashing red, though there are some early indications that some factors are no longer worsening. We are not out of the woods by any means, but wait times for supplier deliveries and prices paid both fell by more than three points in November's ISM manufacturing report. Job postings on Indeed.com seeking port workers is up over 100% from pre-pandemic levels, pointing to a key labor imbalance factoring into transportation woes. Shipping price data show still-elevated price pressures as the World Container Index shows costs exceeding $9,000, while the Shanghai to Los Angeles route is around $10,000. In short, the normalization of supply chains does not yet appear in the offing. One bright spot though is that the ISM manufacturing inventories component stayed high at 56.8 in November, the highest level since 1984. This is a measure of breadth not magnitude; it signals the largest share of manufacturers adding to inventories, but says nothing about the size of that build.

In terms of what all this means for international trade, solid domestic demand has caused import growth to outpace exports for the better part of the past year. The trade deficit has widened in eight of the past 13 months as a result, and net exports have been a drag on headline growth for five consecutive quarters. With U.S. consumption slowly rebalancing back toward services spending, imports should eventually slow and provide some relief at our nation's largest ports. But we are likely some ways away from a meaningful reprieve. With retail inventories having collapsed, restocking efforts will likely keep goods flowing into the country at an accelerated rate for some time (Figure 12).

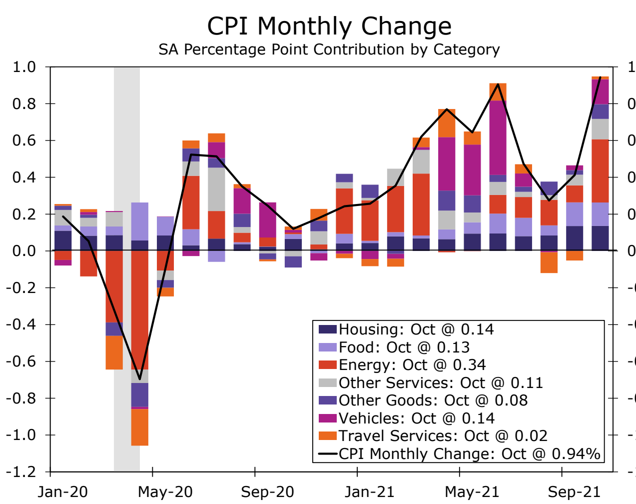
But the continued slowing in domestic spending and gradual gain in the pace of global growth should eventually lead trade to modestly boost growth as the trade deficit gradually narrows.

Q: What Kind of Inflation Is it: Demand-Pull, Cost-Push or Wage-Push? A: Yes

A key theme in our outlook is the scorching hot demand for goods across virtually every part of the economy, and we have noted that this spending surge has bid up goods prices. Goods inflation has been the primary contributor to the historically high inflation experienced this year. With most auto dealers still struggling to get inventory on their lots, vehicle prices have kept significant upward pressure on price growth (Figure 13). But they are far from the only driver. Prices for other goods, such as home furnishings, recreational items, food and energy, have experienced the largest one-year jumps in at least a decade. Since we are skeptical this blazing-hot goods inflation will cool materially in the near term, we have one of the highest inflation forecasts among professionals. We suspect it will take more time for the supply-demand imbalance, and by extension price growth, to normalize.

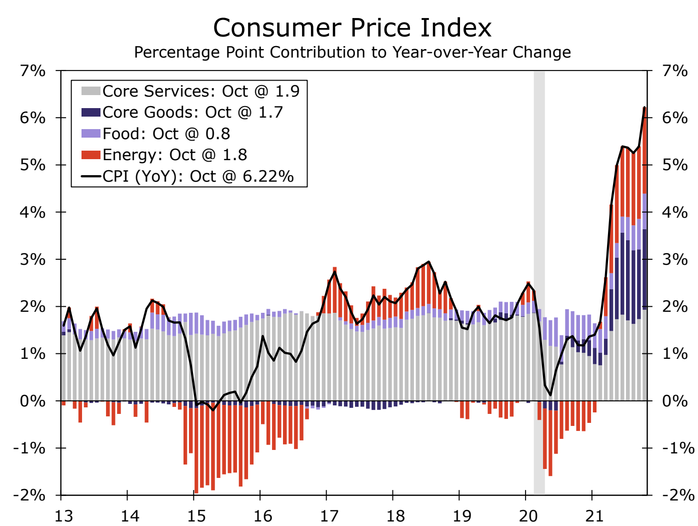
It is not just further strength in goods prices leading us to believe that inflation will remain an issue for households, businesses and policymakers in 2022. Services inflation has been more tame in 2021 but is gaining momentum. (Figure 14). The shelter component, which accounts for nearly one-third of the CPI, has started to surge as the lagged effect from higher home prices and rents works its way into the CPI. With hotels finally seeing occupancy pick up, lodging-away-from-home is starting to see larger price increases. Similar trends could be in the offing for airfare as travel returns to something reminiscent of normal after some Delta-related weakness in these categories over the summer.

Figure 13



Source: U.S. Department of Labor and Wells Fargo Securities

Figure 14



Source: U.S. Department of Labor and Wells Fargo Securities

In short, we expect inflation to get worse before it gets better, particularly over the next few months. In data going back to the early 1970s, when inflation was growing at a double-digit percentage rate, there has never been a time when more businesses planned to raise prices. Yes, manufacturing inventories have started to grow. But as mentioned earlier, significant restocking needs to be done at the retail level, which should keep consumer goods prices high through the better part of next year. Coupled with strengthening services inflation, we suspect that the overall rate of CPI inflation will average 7.0% in Q1-2022.

Coupled with strengthening services inflation, we suspect that the overall rate of CPI inflation will average 7.0% in Q1-2022.

Eventually, base effects from last spring's reopening will make for tougher comparisons come Q2. Remember how lumber prices went through the roof last spring? Since May, the PPI line item for lumber and plywood is down more than 37%. Between the tougher base comparisons and some relief to supply chains as spending shifts back toward services, we expect inflation to subside over the back half of next year. Still, a return to levels consistent with the Fed's long-run goal of 2% is not likely in the cards for 2022. "Transitory" was always deliberately vague, but it is increasingly clear that resilient consumer demand and a tight labor market will keep the heat turned up on wages, which means inflation is not going away anytime soon.

Restoring balance to the domestic economy begins with the continued transition to services, which will alleviate some excess demand for goods that contributed to the imbalances of the past year or so. That transition is already under way. A fix for supply chain problems may take longer, and frankly we expect logjams and bottlenecks to be with us throughout 2022. But we do see scope for improvement as global vaccine distribution helps far-off suppliers ramp up production again. It may be years before we are fully *post* pandemic, but we do expect the next couple of years will be characterized by a gradual restoration of balance. Much of that restoration will depend on policy framework.

U.S. Fiscal & Monetary Policy Outlook

Fed Rate Hikes on the Way

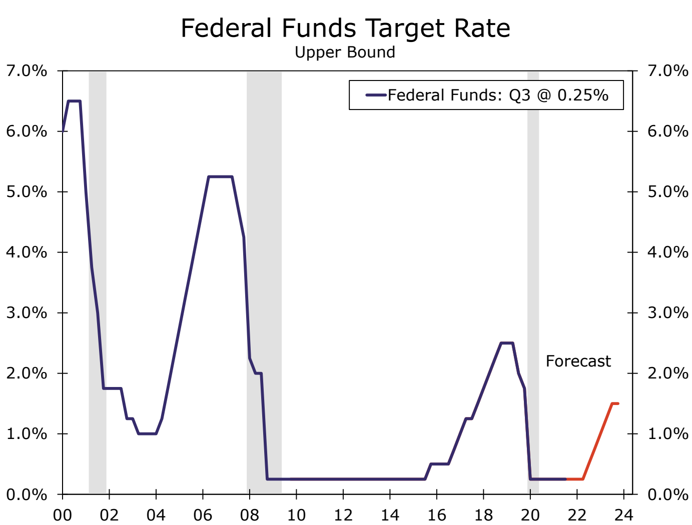
The Federal Reserve has two objectives: "maximum" employment and "inflation at the rate of 2% over the longer run." As noted above, many members of the Federal Open Market Committee (FOMC) do not believe that the first of these two objectives has been achieved yet. The unemployment rate currently stands at 4.2%, 0.7 percentage points above the low that was reached at the end of the previous cycle, and payrolls remain 2.6% below their February 2020 high. But the year-over-year rate of PCE inflation, which is the Fed's preferred measure of consumer price inflation, has exceeded 2% since March. Moreover, we expect the rate of PCE inflation to continue to exceed 2% until mid-2023.

We look for the Federal Reserve to reduce its monthly pace of asset purchases by $22.5 billion each month beginning in January.

The FOMC recently judged that the economy has made "substantial progress" toward meeting the Committee's goals. Therefore, the FOMC decided at its November 3 meeting to dial back its monthly pace of asset purchases from $120 billion (a combination of Treasury securities and mortgage-backed securities) to $105 billion. But because inflation continues to run hotter than most Committee members had previously expected, we look for the FOMC to increase the pace of its monthly taper. Specifically, we look for Federal Reserve to reduce its monthly pace of asset purchases by $22.5 billion each month beginning in January. If the Fed continues this pace of reduction in coming months, then it would stop purchasing assets in April, giving it the option to begin hiking rates at that time.

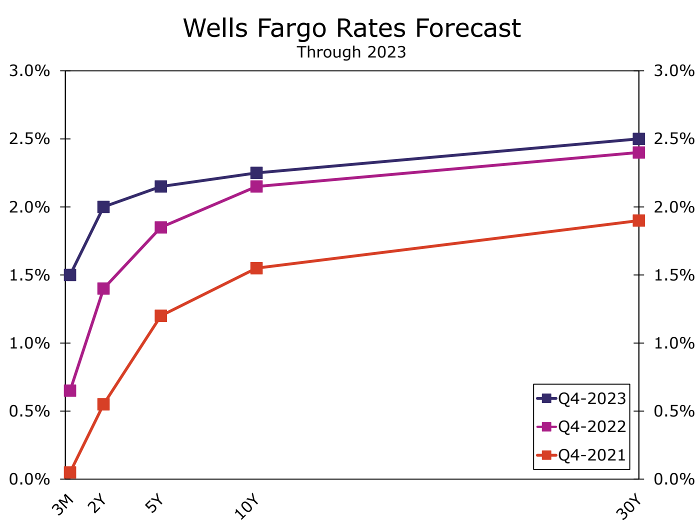
During the previous cycle, the FOMC did not begin hiking rates until a year after it had completely wound down its asset purchases. However, the economy is markedly stronger today than it was in the immediate aftermath of the global financial crisis. Therefore, we think the Committee will announce its first 25-bp rate hike in Q3-2022 followed by another 25-bp hike in Q4. We look for another 75 bps of total tightening in 2023 (Figure 15). As the Fed raises its target range for the fed funds rate, longer-term interest rates should rise as well, albeit by lesser amounts (Figure 16). In other words, we expect the yield curve to flatten over the next two years.

Figure 15



Source: Federal Reserve Board and Wells Fargo Securities

Figure 16



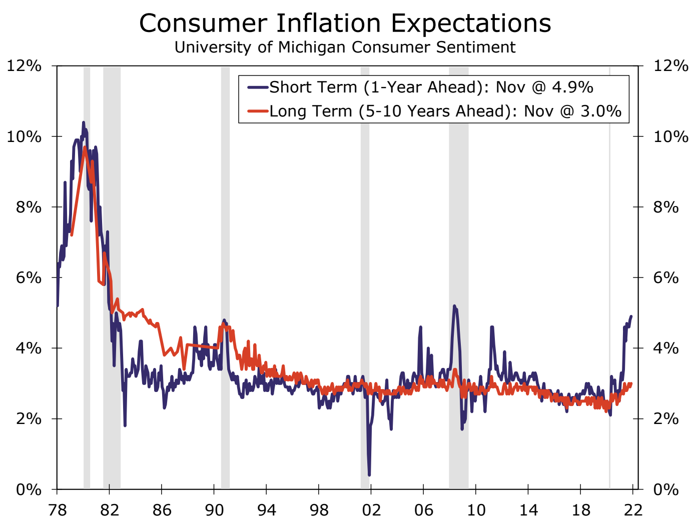
Source: Federal Reserve Board and Wells Fargo Securities

Admittedly, some of the high inflation that the economy is experiencing at present is due to supply constraints. If the Federal Reserve is unable to produce semiconductor chips or unload ships that are tied up in port, then why would the FOMC tighten monetary policy? The answer is "inflation expectations." As shown in Figure 17, the rate of inflation that households expect to prevail over the next year has shot higher in recent months. Longer-term inflation expectations, as measured by the average expected rate five to 10 years from now has also moved higher, albeit to a lesser extent. Expectations of higher inflation can become self-fulfilling. That is, if individuals expect prices to be higher in the future, then they have an incentive to buy today, which leads to upward pressure on prices.

We believe that most committee members will conclude that higher rates are needed to ensure that inflation expectations remain in check.

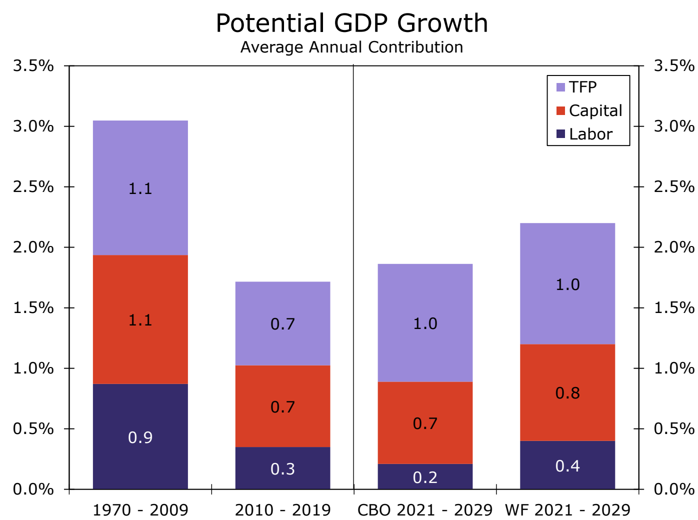
By raising rates, the FOMC can signal that it is not willing to let inflation get out of hand, thereby keeping inflation expectations from becoming unmoored. Furthermore, we look for the unemployment rate to fall below 4% in mid-2022, which should give Fed policymakers more confidence that the economy is on its way back to "maximum" employment. But we do not expect the committee will slam on the brakes either, because it does not want to cause another economic downturn, which would lead to higher unemployment. With our forecasted rate of PCE inflation remaining in excess of 4% through mid-2022, we believe that most committee members will conclude that higher rates are needed to ensure that inflation expectations remain in check. Accordingly, we look for the FOMC to raise rates at the pace that we have discussed previously.

Figure 17



Source: University of Michigan and Wells Fargo Securities

Figure 18



Source: Congressional Budget Office and Wells Fargo Securities

New Fiscal Spending Will Be Spread Out Over Years

The Build Back Better Act is a modest upside risk to our growth and inflation forecasts in 2022.

As we discussed in more detail in a previously published report, President Biden recently signed the Infrastructure Investment and Jobs Act into law. The legislation authorizes about $1 trillion in spending, of which roughly $550 billion is "new" spending above previously authorized levels, over the next 10 years on "hard" infrastructure. We incorporated this bill into our economic forecast back in September, and the anticipated additional spending is reflected in our forecasts for the government output component of GDP. Separately, on November 19, the House of Representatives passed the Build Back Better (BBB) Act, which contains a slew of "soft" infrastructure initiatives (e.g., paid family leave, green energy initiatives, child care subsidies, universal pre-K, housing and health care, etc.). The new spending and tax credits/cuts in the bill total about $2.2 trillion and are mostly paid for by tax increases on upper income individuals and corporations. The BBB legislation now sits in the Senate. We expect the Senate to eventually approve a slimmed-down version of the bill that will total roughly $1.5 trillion to $1.75 trillion, although passage is certainly not guaranteed in the evenly-divided Senate.

Due to the uncertainties over the size and composition of the eventual package, as well as additional uncertainty regarding whether it actually will make it to President Biden's desk, we have not incorporated the BBB bill into our official forecast. Rather, we consider the potential legislation to represent a modest upside risk to both our growth and inflation forecasts in 2022. Although $2 trillion sounds like a lot, much of those funds will be spread out over the course of the next decade. A portion of the bill may be front-loaded, such as the proposed one-year extension of the expanded Child Tax Credit, but the proposal is not nearly as near-term stimulative as the $1.9 trillion American Rescue Plan enacted earlier this year. In addition, the BBB could also have some positive supply side effects. Productivity growth could be boosted by the upgrades to infrastructure, and some elements of the

BBB legislation, such as more child care subsidies and universal pre-K, could potentially raise the labor force participation rate. As we discussed in a recent report, we believe that the potential rate of U.S. economic growth may be a bit stronger in the 2020s than it was during the past decade (Figure 18). Other than the BBB, we do not expect any more major pieces of fiscal policy legislation to be enacted ahead of the 2022 midterm elections.

U.S. Real Estate & Regional Outlook

The Great Reshuffling

The pandemic has fundamentally redefined how and where people work and has set off the most profound shift in migration trends since the late 1970s/early 1980s migration from the Rust Belt to the Sun Belt. The advent of remote work, which facilitates a more flexible work environment, likely will persist well after the pandemic subsides. This dynamic has fueled an affordability migration to the suburbs and lower cost, less congested, secondary metro areas primarily in the Mountain West and South. The migration of businesses has accelerated along similar lines. Texas, Florida, Arizona, Colorado, Utah, Tennessee, Georgia and the Carolinas are some of the greatest beneficiaries of this shift, while the San Francisco Bay Area, New York City and Chicago have been among the most challenged.

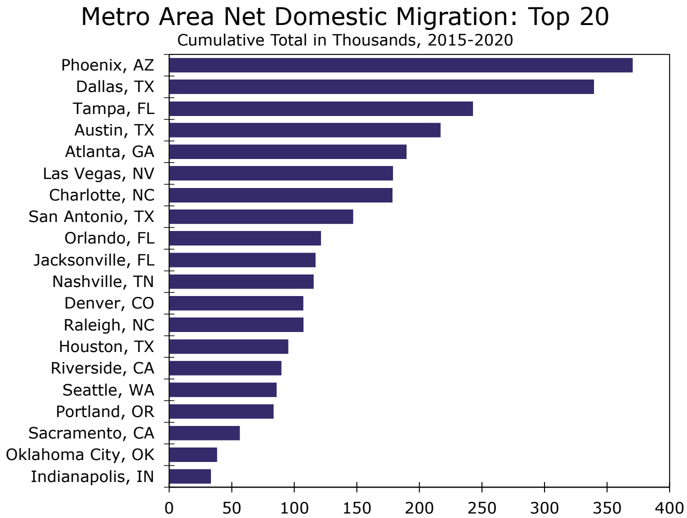
Some of the most timely usable migration data available today comes from the United States Postal Service Change of Address database. The data show an abrupt migration away from the largest cities immediately following the initial lockdowns. New York City, Boston, Washington, D.C., Chicago, San Francisco and Los Angeles all saw significant population outflows once the lockdowns ended. Some of this migration marked a permanent, or at least long-lasting shift, but part also simply reflected students returning to their parents' homes as schools shifted to remote learning and younger renters fleeing the city to move back in with relatives while nearby amenities were mostly closed. There was also an outflow of wealthier residents that chose to ride out the pandemic at their vacation homes. As the pandemic has eased, these temporary moves have reversed, at least partially. Demand for apartments surged in Manhattan and Boston this past spring and summer. Los Angeles has also seen a turnaround. So far, the improvement in San Francisco has been notably less pronounced, and the rebound in all areas lost some momentum as COVID ramped back up late this summer.

Separating lasting changes from temporary shifts will take some time. But migration trends that were evident before the pandemic and accelerated by it will likely prove more enduring. The affordability migration is one such trend. Even before the pandemic, we saw an accelerated migration away from high-cost areas, such as the San Francisco Bay Area and New York City, to lower-cost areas in the Mountain West and South. Denver, Dallas-Fort Worth, Austin, Phoenix, Nashville, Atlanta, Charlotte and Raleigh-Durham were all major recipients of this shift from 2015 to 2020, with the Dallas-Fort Worth area receiving the second-largest number of new residents and plenty of corporate relocations, and Austin consistently ranking as the fastest growing major metropolitan area (Figure 19). The same areas that grew that fastest during the second half of the past decade will most likely be the ones that grow the fastest during the first half of this decade.

Even before the pandemic, we saw an accelerated migration away from high-costs areas to lower-costs areas.

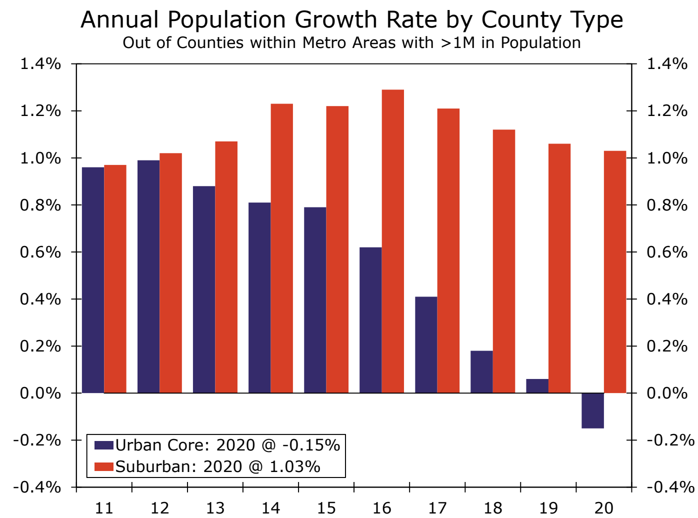
The move to the suburbs also looks to be long-lasting. The revival of many urban areas was one of the greatest success stories of the past decade, but the pandemic put an abrupt end to the urban revival. The move back to the suburbs predated the pandemic, however, driven primarily by the search for more affordable housing for aging Millennials who were marrying and starting families in increasing numbers (Figure 20). The pandemic accelerated this shift and also put many urban revival plans on hold, particularly in parts of the country facing a rise in violent crime. There is still plenty of growth occurring in urban areas, however, particularly in the Sun Belt. Some of the more actively growing urban areas include Miami, Dallas-Fort Worth, Austin, Phoenix, Nashville, Charlotte, Raleigh/Durham and Salt Lake City (Figure 20). Moreover, the return to in-person learning has seen an influx of students back into New York City, Boston and Washington, D.C.

Figure 19



Source: U.S. Census Bureau and Wells Fargo Securities

Figure 20



Source: U.S. Census Bureau and Wells Fargo Securities

Another demographic shift that is likely to endure over the next decade has been the acceleration of early retirements, which began during the pandemic and will likely gain momentum during the coming year, as more firms finally bring workers back to the office. An estimated 2.4 million more workers chose to retire between the start of the pandemic in 2020 to the middle of 2021, according to a recent Federal Reserve Bank of St. Louis research note. Retirements have likely been bolstered by the significant stock market rally in place since the lockdowns ended and a sharp run-up in home prices. The surge in early retirements has fueled growth in traditional retiree markets, many of which are in Florida and Arizona. These areas were already riding a wave of aging Baby Boomers that will continue to steadily boost the inflow of retirees over the decade.

Apartment Development Is Following Job Growth

Domestic migration, stronger job growth and the return of in-person learning are fueling a massive surge in apartment demand. The latest CoStar data show apartment absorption has totaled more than 600,000 units through the first three quarters of this year, which is more than double the number of units completed during this period. The overwhelming majority of apartments being leased are high-end, luxury/lifestyle units, but demand is up strongly for all apartment types. The overall apartment vacancy rate has plunged by 2.2 percentage points since the start of the year to an all-time low of just 4.5% and looks to be headed lower. Rents have skyrocketed, surging 10.9% nationwide since the end of last year and are up more than 20% in Tampa, Phoenix, Las Vegas, Orlando and Austin.

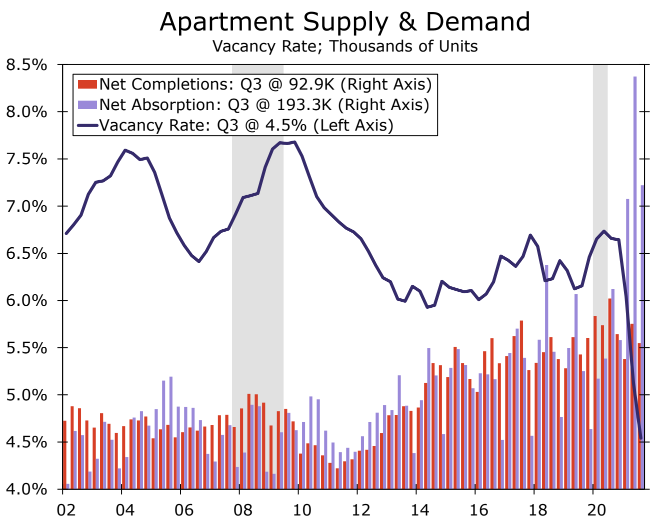
The resurgence of apartment demand has primarily been driven by major employers' announcements about intentions to bring workers back into the workplace and, in markets with large university populations, the return of in-person learning. While schools largely started up as planned this autumn, the return to the office and office-adjacent employment has been slower than expected in most markets. Major markets in Texas and parts of the Southeast have seen a more substantial return to the office than most major gateway markets, but the office workforce remains well below normal in all markets. Even with a slower return to the office, we expect apartment leasing to remain exceptionally strong over the next several quarters. Generation Z is entering the workforce at an incredibly fortuitous time, with job openings at an all-time high, wages growing rapidly and more savings in general, thanks in part to the pandemic.

The strength in apartment sales and strong operating environment are encouraging even more apartment construction.

Investors are also clamoring for more apartments, particularly in the Sun Belt. Apartment sales through the first three quarters of this year are nearly even with the total for all of 2019. Investors are bidding aggressively for high-end luxury units in major Sun Belt markets, pulling prices sharply higher. Prices are rising the fastest in Dallas-Fort Worth, Phoenix and Atlanta, but prices are up sharply in most markets, particularly hot spots like Nashville, Austin, Charlotte and Salt Lake City, where this year's abrupt surge in demand has slashed vacancy rates and pulled rents sharply higher. Cap rates have compressed further relative to Treasury yields but have fallen the most in rapidly growing secondary markets in the South and Mountain West. Several Sun Belt markets now have cap rates roughly even with large, established and much more liquid gateway markets.

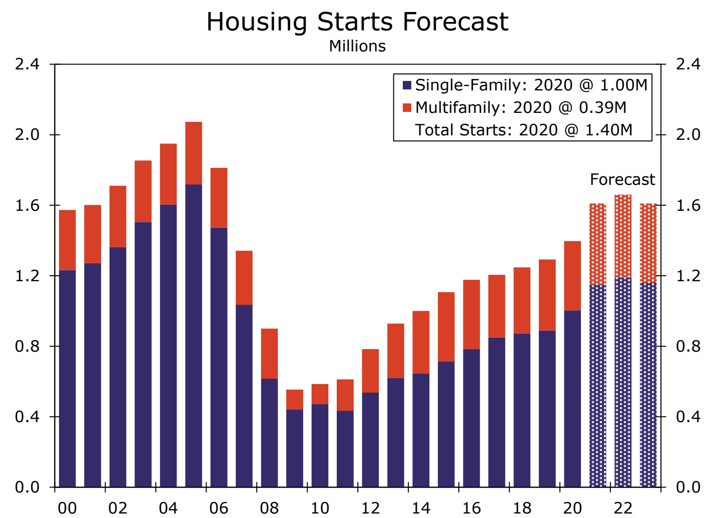
The strength in apartment sales and strong operating environment is encouraging even more apartment construction. Building permits for multifamily projects with five units or more through the month of October were running 27% above their year-ago pace and should easily top half a million units this year. Projects are taking longer to work their way through the development process, particularly given that a disproportionate share of new apartments are in mid-rise and high-rise projects that generally take two to three years to complete. Supply chains bottlenecks and persistent labor shortages mean that many projects are taking even longer to complete. This is a big reason why the number of multifamily units currently under construction is the highest it has been since 1974.

Figure 21



Source: CoStar Inc. and Wells Fargo Securities

Figure 22



Source: U.S. Department of Commerce and Wells Fargo Securities

Despite the abundance of projects currently under construction, we do not expect to see an avalanche of supply across most major markets. A few markets may suffer some indigestion, as the development pipeline represents a large proportion of the existing apartment stock. Nashville and Austin are notable standouts, with the number of apartments currently under construction equivalent to 12.9% and 9.7% of the existing apartment stock in each market, respectively. New York City (58,385), Washington, D.C. (32,081) and Dallas (27,619) had the largest number of apartments under construction at the end of the third quarter, but this represents just 4.1% of the market in New York City, 6.0% of the current Washington, D.C., apartment stock and just 3.5% of the existing apartment stock in Dallas. Given the larger relative expansion of many Sun Belt markets, vacancy rates should edge higher in coming years, while rents and sales prices moderate.

The single-family housing market is dealing with similar dynamics to the apartment market. The demand for new and existing homes is vastly exceeding supply. Sales of new and existing homes surged immediately after the lockdown ended at the start of the pandemic and have remained strong this year. Sales of existing homes have averaged a 6.1 million-unit pace through October and look to remain strong through the end of the year. Pending home sales, which reflect signed purchase contracts and lead home sales by four to six weeks, jumped 7.5% in October. Sales of new homes have been equally brisk. Sales of both new and existing homes are being held back by the lack of supply, with just a 2.4-month supply of existing homes currently on the market and inventories of completed new homes remaining near all-time lows. The strength in sales has pulled prices higher, with the median price of an existing home surging 13.5% this year and the median price of a new home topping $400,000 in each of the past four months. The median price of a new home sold in October was $407,700, up 17.5% from October 2020.

The influx of cash-rich buyers has led to a higher proportion of home sales at the upper end

The sharp increase in home prices not only reflects the persistent imbalance between supply and demand but is also being influenced by the affordability migration away from higher-priced markets in the Northeast and along the West Coast to lower-priced neighboring suburbs and secondary cities. The influx of cash-rich buyers has led to a higher proportion of home sales at the upper end of the price spectrum in many suburban areas and secondary markets, which has pulled the median price higher. Investors have also been increasingly active in many of the markets sought out by migrants from higher-priced areas. Investor buyers, which make up between 15% and 20% of home buyers nationwide and nearly a third of buyers in markets like Phoenix, Atlanta and Charlotte, are attracted by the potential rental yields and are bidding aggressively for the limited supply of homes on the market in these metro areas.

of the price spectrum, which has pulled the median price higher.

Demographic shifts remain front and center in the housing outlook. Freddie Mac released a report earlier this year stating the housing market was under-supplied by 3.8 million units. The number makes intuitive sense, given the current record-low levels of new and existing homes for sale. There was a huge consolidation of builders and building products companies following the housing bust, and builders have had a hard time ramping up construction amid a persistent shortage of lots, building materials and construction workers. What is not known, however, is how large a role the surge in iBuying, institutional investors buying homes to market as rentals and individuals holding onto or buying homes to use as short-term rentals, has played in fueling this shortage and whether these changes will prove enduring.

The shortage of homes comes as Millennials, which are the largest demographic cohort ever in the United States, are reaching a point of their lives when they are forming families and buying homes. While the caricature of Millennials is one of urban dwellers, most actually tend to be suburbanites. Moreover, many have been living with parents or relatives during the pandemic. This has allowed for an accumulation of savings, which has likely contributed to the recent strength in demand for homes and apartments. Gen Z appears to be much better positioned than Millennials were as they enter the workforce. Millennials came into the workforce amid slow economic growth and a dearth of job openings, while Gen Z is entering the workforce at a time of historic labor shortages.

The Move to the Suburbs Throws a Lifeline to Brick-and-Mortar Retail

New home construction has also picked up and the rise of remote work has encouraged builders to push further out into the suburbs and exurbs.

The suburban shift and affordability migration has been a boon for retailers. Retail tends to follow population growth, so it comes as little surprise to find that the parts of the South and West now seeing an influx of residents are also experiencing an upward shift in demand for retail space (Figure 23). New home construction has also picked up and the rise of remote work has encouraged builders to push further out into the suburbs and exurbs, with groceries, building material stores, general merchandisers and other retail development following closely behind.

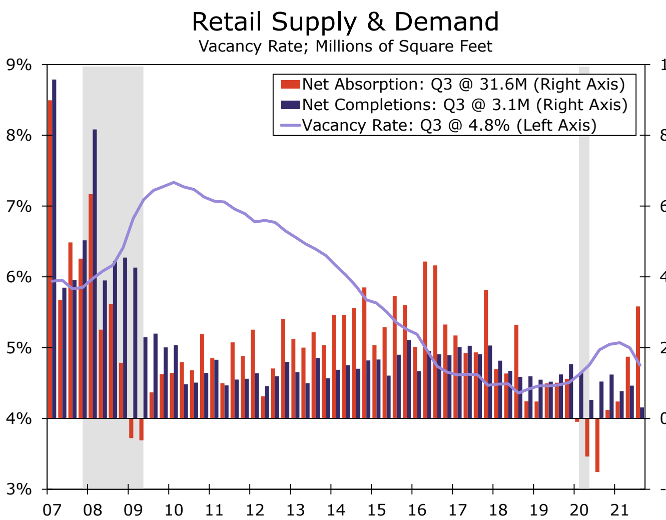
Although growth in consumer spending may moderate in coming years, the pandemic-induced rise in homeownership is unlikely to reverse. The migration patterns established over the past decade are becoming more entrenched, and demand for retail space in high-growth areas should continue to be strong. Furthermore, with COVID vaccination rates rising, retail foot traffic is swiftly coming back. Retail centered in urban locations, which remains upended by the one-two punch of the pandemic and population exodus, will benefit from the eventual return of office workers, business travelers and tourists. Of course, the rise of e-commerce will be a forceful long-term headwind, especially for malls and neighborhood centers. For well over a decade, however, the retail market has had to contend with the rise of e-commerce and remote shopping. The lessons learned over this disruptive period have proved to be a valuable roadmap for how retailers can efficiently implement a "bricks-and-clicks" operating model.

The shift to e-commerce continues to drive a seemingly insatiable appetite for industrial space.

Along similar lines, the shift to e-commerce continues to drive a seemingly insatiable appetite for industrial space. Once the pandemic hit, the shift to e-commerce accelerated as quarantined consumers were forced to shop online. The rapid acceleration forced businesses to further build out e-commerce platforms and bolster distribution channels, which meant purchasing or leasing warehouse space. To some extent, the adoption of e-commerce was already baked into future expectations for the industrial market. Over the past few years, there has been a boom in new warehouse construction brought on by the need for last-mile logistics facilities around major population centers. However, the big surprise was the sheer velocity of e-commerce's deeper penetration into traditional retail, as well as the success of online shopping for items from grocery stores, pharmacies and auto dealers. What followed was a feverish hunt for warehouses, cold-storage buildings, logistic facilities and other types of industrial space.

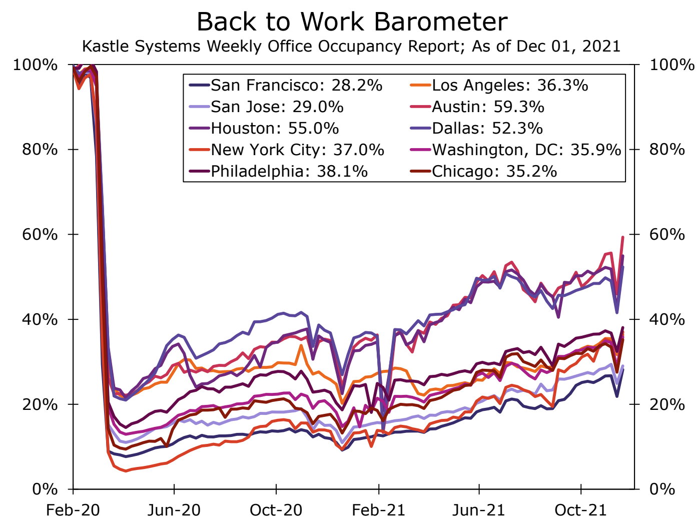
Another unanticipated twist was the degree to which global supply chains would get disrupted by the pandemic. The surge in consumer and business spending has overwhelmed the distribution channels on which domestic and international producers rely to procure inputs and distribute finished goods. The rapid upturn in both consumer and business demand has created a myriad of logistics challenges, which have cascaded through supply chains and slowed the usual movement of freight around the country. The blockages are most acute at many of the nation's largest ports, which have been placed under tremendous strain by the rush of imports alongside the strength in consumer spending. With transportation arteries clogged, businesses have searched for industrial space to rebuild inventories, shorten supply chains and guard against future disruptions. Supply chains normalizing will likely remove some urgency for extra warehouse space and industrial space. However, businesses fortifying their supply chains and keeping precautionary inventory on hand likely will support demand for industrial space over the long term.

Figure 23



Source: CoStar Inc. and Wells Fargo Securities

Figure 24



Source: Bloomberg LP and Wells Fargo Securities

Office vacancy rates have steadily climbed higher alongside an onslaught of new supply, a deep pool of sublet space and still-weak demand.

At the other end of the spectrum, there is still a long road ahead for the office market. Office vacancy rates have steadily climbed higher alongside an onslaught of new supply, a deep pool of sublet space and still-weak demand as the rise of the Delta variant left many wondering whether a full return to the office (RTO) will ever materialize. Both employers and employees seem eager to end their long-distance relationship with one another, however, which is allowing the RTO to gather pace as 2021 winds to a close (Figure 24). The downsides of remote work have become increasingly apparent. Working remotely is less conducive to collaboration, creativity, mentorship, culture-building and innovation, which are all key to developing the products and processes that ultimately drive a firm's success. Still, there are some benefits to virtual work, and it appears more than likely that hybrid working models will become the new paradigm once COVID is fully in the rearview mirror.

While this will serve to reduce overall office demand longer term, it is important to not paint with too broad a brush. Suburban markets will benefit from the establishment of satellite offices that cater to workers who have moved to more distant suburbs during the pandemic. Office markets in the high-growth Sun Belt region are poised to gain, as these markets are better suited to shift toward a more flexible work environment. Much of the new office construction currently under way is taking place in markets, such as Austin, Charlotte, Salt Lake City and Nashville, which are all experiencing robust population and employment growth.

The office supply picture remains more a concern outside these areas in traditional gateway markets. The vast amount of sublet space in markets such as New York City, Chicago and San Francisco will take some time to be absorbed. There is also a wave of new supply that was started before the pandemic that is being added. This new inventory will likely be highly sought after, however. Flexible office spaces in buildings that address environmental concerns, yet are replete with the latest technologies and air filtration systems, will be in high demand post-COVID. That still leaves an overhang of previous generation office space that will need to be updated or converted to other uses. With the supply and demand imbalance likely to persist well into the decade, vacancy rates will likely rise further next year. These forces will weigh on rent growth and property valuations.

Global Economic Outlook & Uncertainties

International Imbalances to Lessen Through 2022

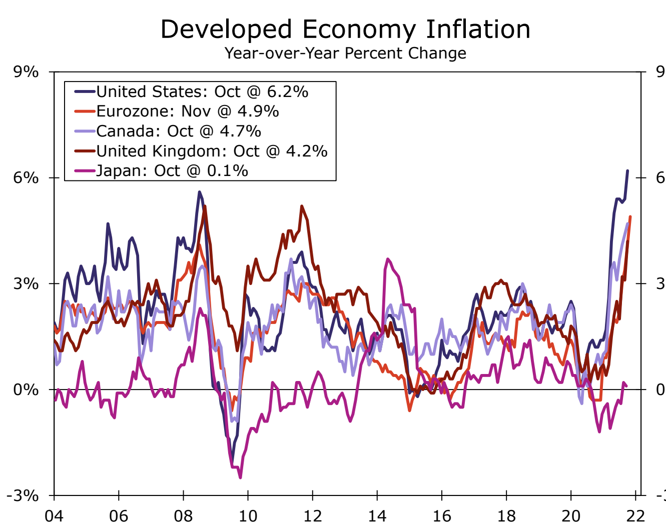
From an international perspective, the global economy heads into 2022 with some readily apparent imbalances, albeit not as acute as those in the United States, that we believe should be substantially diminished by the end of next year. Of course, one basic milestone toward restoring some semblance of balance is fully recovering the decline in GDP during the pandemic. The United States has already reached that milestone, with output returning to pre-pandemic levels in Q2-2021. The Eurozone and Canada are on the cusp of activity returning to pre-pandemic levels, with that benchmark expected to be achieved in Q4-2021, while both the United Kingdom and Japan are expected to reach that milestone by mid-2022.

We expect inflation pressures to remain over the next several months, though significant pressure could begin to be alleviated by mid to late next year.

Of course, even the simple recovery of pandemic-related output losses has not come without some growing pains and, similar to the United States, other major developed economies have also experienced supply disruptions and product shortages, though to a lesser extent than the United States. PMI surveys for regions, such as the Eurozone and United Kingdom, indicate lengthened supplier delivery times, and increases in both input and output prices, are clear indications of supply chain disruptions. That is also reflected in spikes in consumer price inflation in key major developed economies (e.g., the Eurozone, the United Kingdom and Canada), though as Figure 25 highlights, the spike in prices in those countries has not been as marked as in the United States. We also note for the Eurozone, and to a lesser extent Canada, those inflation pressures have not been quite as broad-based, with core inflation measures rising noticeably less than the overall CPI. Against this backdrop, we do expect inflation pressures to remain persistent over the next several months, though we suspect economic imbalances and the significant inflationary pressure could begin to be alleviated by mid to late next year. That said, the Omicron variant adds an extra degree of uncertainty to the foreign economic outlook.

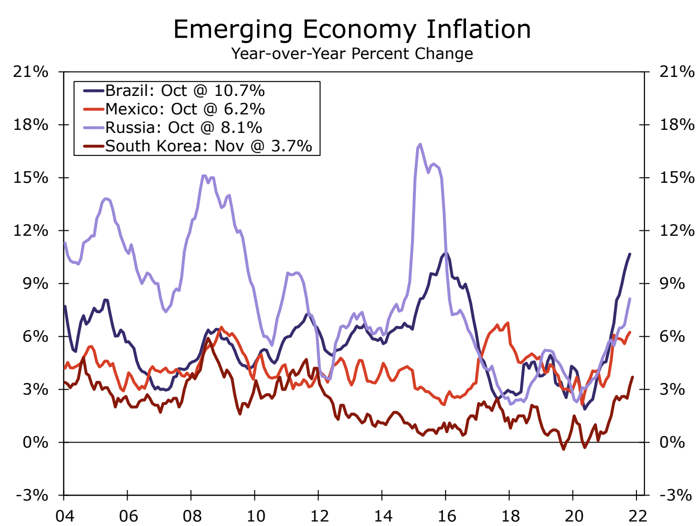
Price pressures are also very noticeable across several emerging economies, most notably in Latin America, but also elsewhere including Russia and Turkey. In Brazil, CPI inflation is currently clipping along at 10.7% year-over-year, while in Mexico, inflation is running at 6.2% year-over-year (Figure 26). Although supply disruptions have to some extent contributed to higher inflation across emerging markets, other factors have arguably been just as important, if not more so. Higher commodity prices have been an important driver of higher inflation, while emerging currency weakness has also pushed up prices. Overall, looking at both developed and emerging economies, although price pressures should eventually ease, we suspect they will remain persistent for several months. As a result, we expect global CPI inflation in 2022 of 4.4% to largely match the 4.2% in 2021, and we do not forecast inflation slowing substantially until 2023, when we forecast global CPI inflation of 3.4%.

Figure 25



Source: Bloomberg LP and Wells Fargo Securities

Figure 26



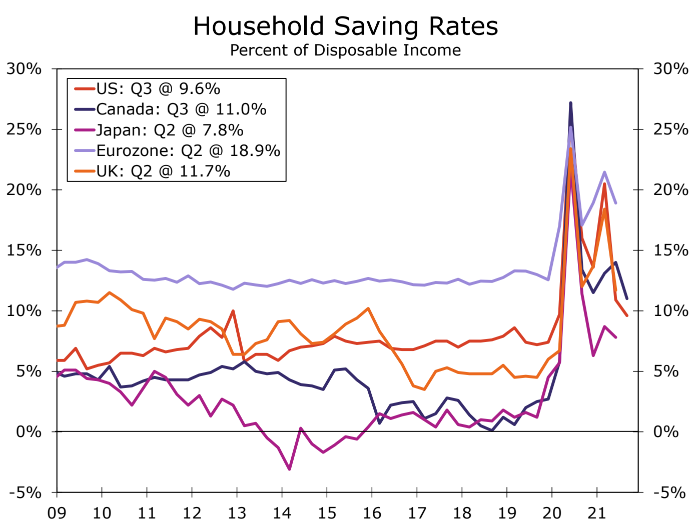
Source: Bloomberg LP and Wells Fargo Securities

After global GDP growth of 5.7% in 2021, we forecast global growth of 4.4% in 2022 and more "trend-like" growth of 3.2% in 2023.

What then are the drivers we believe will help global growth and inflation eventually return to more balanced trends over the next 12 to 24 months? As mentioned above, we expect inflation to recede more meaningfully in 2023. Meanwhile, from a global growth perspective, after global GDP growth of 5.7% in 2021, we forecast global growth of 4.4% in 2022 and more "trend-like" growth of 3.2% in 2023. One relevant driver will be a return to more normal household income and savings trends. Since early 2020, there have been large swings in household incomes and savings across the major developed economies, a reflection of large employment declines, sizable fiscal stimulus and income support and, at times, a forced retrenchment in consumer spending. As we head into 2022, employment growth for many economies appears to be returning toward a more typical path. Meanwhile, household savings rates across the United States, the Eurozone, Canada and the United Kingdom are still elevated but only modestly so, and are down substantially from the peaks seen during the pandemic (Figure 27). Thus, while consumer activity could for now still continue to benefit from elevated savings rates and the stockpile of "excess" household savings accumulated during the pandemic, there is reason to believe consumer spending could return to steadier and more gradual trends in the quarters ahead. In fact, early signs of this are in part apparent in the latest retail and industrial data for the OECD economies, which show relatively balanced growth between those sectors. For the OECD countries in aggregate, August retail sales rose 5.4% year-over-year, while August industrial output rose 5.9% year-over-year.

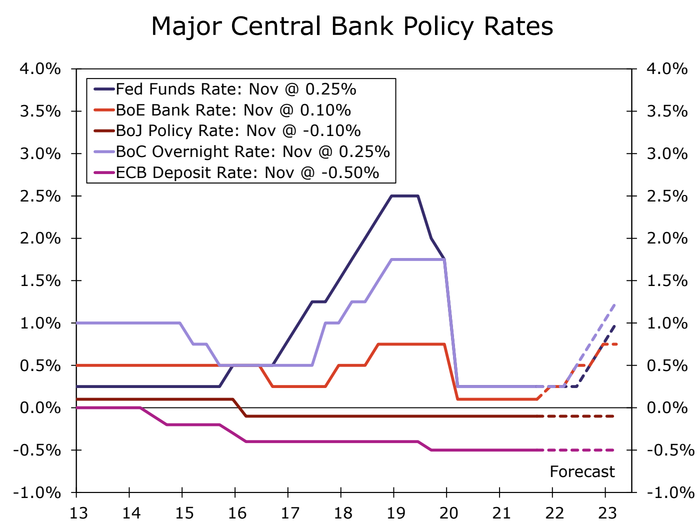
Meanwhile, another factor that should at least help inflation trends become more balanced in the quarters ahead are the actions of several developed economy and emerging economy central banks to tighten monetary policy in an effort to bring inflation back under control. As highlighted earlier, following a start to the tapering of its bond purchases and given persistent inflation, we now forecast the Federal Reserve to begin raising interest rates in the second half of 2022, much earlier than we had previously anticipated. However, the Fed will be far from the only central bank raising interest rates next year. Between now and the end of 2022, we expect the Bank of England to raise its policy interest rates by a cumulative 65 bps, while we expect the Bank of Canada to raise its policy interest rate by a cumulative 75 bps (Figure 28). The cumulative tightening seen from central banks in Norway and New Zealand could be even more pronounced. In emerging markets, central banks from Brazil, Mexico, Chile and Korea are among those that are likely to raise interest rates further in the coming year.

Figure 27



Source: Datastream and Wells Fargo Securities

Figure 28



Source: Bloomberg LP and Wells Fargo Securities

There will, of course, be some exceptions, with the Eurozone being a notable one. While Eurozone CPI inflation is running at 4.9% year-over-year, core CPI inflation is currently running at around half that pace. And while we forecast Eurozone GDP growth of 3.9% for 2022, the near-term outlook is uncertain and there is downside risk to that outlook, given a significant rebound in COVID across Europe recently that could affect mobility. As a result, we expect the European Central Bank (ECB) to taper its overall bond purchases only very gradually during 2022, potentially ending its quantitative easing program only very late next year. In addition, we do not see any change to the ECB's Deposit

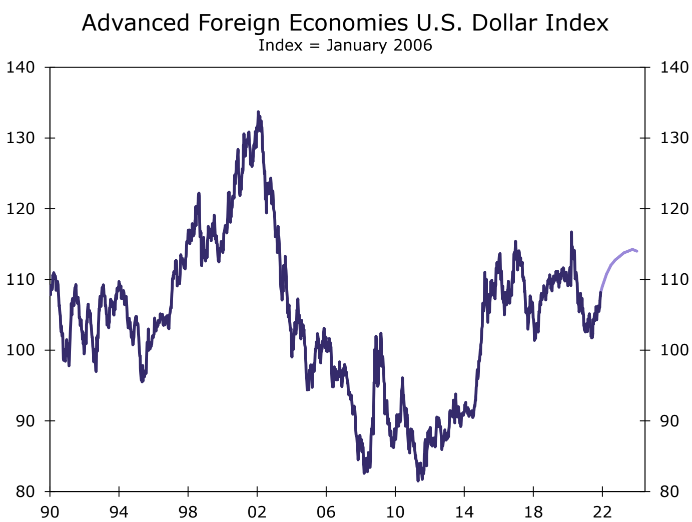
Rate (currently -0.50%) in either 2022 or 2023. Australia is another economy where we expect policy interest rates to remain unchanged through all of 2022, and perhaps all of 2023 as well.

Finally, with respect to emerging markets, Chinese authorities remain committed to their "Zero COVID" policy and have imposed restrictions on many provinces nationwide. We also have concerns regarding a sharp slowdown in the property sector and forecast the Chinese economy to grow 7.8% in 2021, slowing to 5.5% in 2022. We also forecast slower growth in Brazil and Mexico in 2022 compared to 2021.

Expect Sustained U.S. Dollar Strength in 2022 and 2023

With the Fed having started the tapering of its bond purchases and expected to raise interest rates beginning in the second half of next year, given our revised outlook for Federal Reserve monetary policy, our outlook for the U.S. dollar has also evolved. We now expect an extended period of U.S. dollar strength and see broad-based greenback strength through late 2023, compared to our previous forecast that U.S. dollar strength would only last into the early part of 2022 (Figure 29).

Figure 29



Source: Bloomberg LP and Wells Fargo Securities

As the Fed and foreign central banks become more active over the next several quarters, we believe monetary policy differences will become increasingly important for currency performance during that period. In fact, one prime example of how monetary policy divergence could be very consequential for currency performance is the ECB and the euro. Although the ECB has certainly paid attention to quickening inflation trends across the region, it has so far expressed less concern about inflation pressures than most other major central banks. In fact, ECB President Christine Lagarde recently said that the central bank expects Eurozone inflation to eventually recede and that if "we were to have any kind of tightening approach to the current situation, it would actually do more harm than good." That is consistent with our view that the ECB will taper its overall bond purchases only very gradually during 2022, and why we also expect the ECB to keep its Deposit Rate steady at -0.50% through 2022 and 2023 as well. It is this divergence between the outlook for ECB policy and a faster acting Federal Reserve that underpins our revised forecast for the EUR/USD exchange rate to fall toward the lower end of a $1.05-$1.10 range.

Even for some G10 currencies where the relevant central banks are likely to be more active, we still see potential for currency weakness over the next several quarters. Regarding the Bank of England (BoE), given a spike in inflation, we expect a modest 15-bp rate hike at the December meeting, but only a gradual pace of tightening thereafter with the economic recovery still somewhat uneven. As a result, we see only a cumulative 65 bps of BoE rate hikes over the next 12 months, compared to around 100 bps currently priced in by market participants. We also view market pricing for several other developed economy central banks as similarly aggressive, including the Bank of Canada, Reserve Bank of Australia and Reserve Bank of New Zealand, in the sense that we do not expect those central banks to fully deliver on market tightening expectations. This view is in contrast to our outlook for

Even for some G10 currencies where the relevant central banks are likely to be more active, we still see potential for currency weakness over the next several quarters.

the Fed. We now expect a faster pace of tapering from the Federal Reserve, and see a cumulative 125 bps of rate hikes from mid-2022 through 2023. While we believe current market pricing for Fed rate hikes may be mildly aggressive, it does not appear to be excessively so. Given this backdrop and if, as we expect, foreign central banks take a relatively gradual approach to monetary tightening, then we believe currencies, such as the British pound and the Australian, Canadian and New Zealand dollars, could be susceptible to weakness over the coming quarters, as those respective central banks disappoint relative to market expectations.

We view emerging market currencies as generally more sensitive to rising U.S. yields.

This dynamic of aggressive monetary policy pricing is also evident across some emerging economies. In Brazil, Mexico and India, market participants currently expect policy interest rates to rise at a far faster pace than we forecast. In the case of India, we think the central bank will prioritize growth and keep monetary policy rather accommodative, and is unlikely to deliver the rate hikes currently priced by financial markets. We also believe the Brazilian Central Bank will not tighten policy as aggressively as markets expect, largely due to the risk of recessions from higher interest rates, but also because BCB tightening so far has not been effective in taming inflation or stabilizing the currency. Mexico's central bank has taken a more gradual approach to rate hikes this year, an approach we think will continue, which markets will perceive as Banxico under delivering on monetary policy. Much like their G10 compatriots, we believe these emerging market currencies will come under pressure as their respective central banks fail to deliver on market expectations.

We also view emerging market currencies as generally more sensitive to rising U.S. yields, a pattern we believe is likely to repeat itself through 2022 and into 2023. Part of that sensitivity stems from the fact that higher yields in the U.S. dampens the “reach for yield” mindset and could reduce the need for investors to search for higher returns in the emerging markets. In addition, rising U.S. yields often pressures government financing costs. With some emerging market sovereigns already facing precarious public finance positions, elevated financing costs could place additional pressure on debt burdens and fiscal balances across the emerging markets. And finally, local political developments may also play into the narrative of emerging currency weakness during 2022. Presidential elections in Brazil and Chile, as well as the constitutional rewrite in Chile, will very likely weigh on those currencies, while ongoing concern about policy predictability and credibility in Turkey should also keep the lira under extreme pressure for the foreseeable future.

U.S. Forecast Table

Wells Fargo Securities U.S. Economic Forecast																				
	Actual							Forecast									Actual	Forecast		
	2020				2021				2022				2023				2020	2021	2022	2023
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	-5.1	-31.2	33.8	4.5	6.3	6.7	2.1	8.0	3.8	3.4	3.5	3.1	3.1	2.9	2.7	2.4	-3.4	5.7	4.4	3.0
Personal Consumption	-6.9	-33.4	41.4	3.4	11.4	12.0	1.7	5.5	3.2	2.5	2.6	2.7	2.9	2.7	2.4	2.1	-3.8	8.0	3.7	2.6
Business Fixed Investment	-8.1	-30.3	18.7	12.5	12.9	9.2	1.5	6.7	4.6	4.6	5.6	5.0	4.9	4.0	4.4	4.3	-5.3	7.6	5.0	4.7
Equipment	-21.3	-36.2	55.9	26.4	14.1	12.1	-2.4	6.1	4.4	4.4	6.8	5.5	5.3	3.6	4.4	4.3	-8.3	13.3	4.7	5.0
Intellectual Property Products	3.8	-10.6	8.1	10.2	15.6	12.5	9.3	10.7	6.0	5.6	5.1	4.9	5.1	4.8	5.0	5.0	2.8	10.2	7.4	5.0
Structures	-0.9	-46.8	-15.3	-8.2	5.4	-3.0	-5.0	-1.5	1.2	2.4	3.5	3.9	3.3	2.9	2.5	2.4	-12.5	-7.7	0.3	3.1
Residential Investment	20.4	-30.7	59.9	34.4	13.3	-11.7	-8.3	3.0	3.5	4.0	4.0	3.5	3.0	2.5	2.0	1.5	6.8	9.2	1.0	3.0
Government Purchases	3.7	3.9	-2.1	-0.5	4.2	-2.0	0.9	1.1	3.4	2.7	2.5	2.2	1.9	1.9	1.8	1.7	2.5	0.7	2.0	2.1
Net Exports	-841.9	-774.8	-1021.3	-1132.8	-1226.1	-1244.5	-1312.2	-1278.6	-1309.8	-1309.5	-1306.3	-1310.9	-1314.2	-1317.4	-1318.3	-1319.7	-942.7	-1265.4	-1309.1	-1317.4
Pct. Point Contribution to GDP	-0.1	1.5	-3.3	-1.7	-1.6	-0.2	-1.2	0.7	-0.6	0.0	0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.2	-1.8	-0.2	0.0
Inventory Change	-30.4	-252.8	25.3	88.8	-88.3	-168.5	-73.2	18.8	56.3	70.4	77.0	78.8	78.8	80.7	82.6	82.6	-42.3	-77.8	70.6	81.2
Pct. Point Contribution to GDP	-0.5	-4.0	6.8	1.1	-2.6	-1.3	2.1	1.9	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0	-0.6	-0.2	0.8	0.1
Nominal GDP (a)	-3.9	-32.4	38.7	6.6	10.9	13.4	8.1	14.9	7.6	6.3	6.0	5.3	5.2	4.8	4.6	4.3	-2.2	10.0	8.7	5.2
Real Final Sales	-4.6	-27.6	25.9	3.4	9.1	8.1	0.0	8.0	3.0	3.1	3.4	3.1	3.2	2.8	2.7	2.4	-2.9	5.7	3.9	3.0
Retail Sales (b)	1.2	-7.9	3.9	3.8	14.8	32.0	15.1	17.7	8.3	3.2	5.3	4.2	3.9	2.6	2.7	2.8	0.3	19.5	5.2	3.0
Inflation Indicators (b)																				
PCE Deflator	1.7	0.6	1.2	1.2	1.8	3.9	4.3	5.4	5.3	4.4	3.7	2.8	2.4	2.1	2.0	1.9	1.2	3.8	4.1	2.1
"Core" PCE Deflator	1.8	1.0	1.5	1.4	1.7	3.4	3.6	4.4	4.7	3.9	3.5	2.9	2.5	2.3	2.1	2.0	1.4	3.3	3.7	2.2
Consumer Price Index	2.1	0.4	1.3	1.2	1.9	4.8	5.3	6.7	7.0	5.8	4.9	3.5	2.7	2.2	1.9	1.7	1.2	4.7	5.3	2.1
"Core" Consumer Price Index	2.2	1.3	1.7	1.6	1.4	3.7	4.1	5.1	6.1	5.1	4.6	3.9	3.0	2.5	2.0	1.8	1.7	3.6	4.9	2.3
Producer Price Index (Final Demand)	1.1	-1.0	0.0	0.7	2.9	6.9	8.2	9.0	7.9	5.8	3.9	2.6	1.9	1.6	1.5	1.5	0.2	6.8	5.0	1.6
Employment Cost Index	2.8	2.7	2.4	2.5	2.6	2.9	3.7	4.0	4.0	4.1	3.5	3.1	2.9	2.8	2.8	2.9	2.6	3.3	3.7	2.9
Real Disposable Income (b)	1.6	12.5	6.9	4.0	15.1	-4.3	-0.9	-0.1	-10.4	-1.9	-0.3	1.9	2.4	2.7	2.8	2.9	6.2	2.2	-2.9	2.7
Nominal Personal Income (b)	3.3	10.9	7.1	4.8	16.1	1.6	5.2	6.7	-3.7	3.0	3.7	4.7	4.8	4.9	4.8	4.8	6.5	7.2	1.8	4.8
Industrial Production (a)	-6.7	-42.4	44.5	8.2	4.0	6.4	3.9	4.6	4.0	3.8	3.4	3.0	3.0	3.2	3.3	3.0	-7.2	5.6	4.1	3.2
Capacity Utilization	75.3	65.6	71.9	73.4	74.1	75.2	75.9	76.6	77.4	78.1	78.7	79.3	79.7	80.0	80.4	80.9	71.6	75.5	78.4	80.3
Corporate Profits Before Taxes (b)	-5.6	-18.6	2.3	0.9	17.6	45.1	20.7	24.5	19.7	9.1	5.3	3.0	1.6	2.0	2.5	3.1	-5.2	26.3	8.9	2.3
Corporate Profits After Taxes	-3.8	-18.3	2.1	1.1	14.7	43.4	19.1	23.8	19.7	9.0	5.3	3.0	1.6	2.0	2.5	3.1	-4.7	24.6	8.8	2.3
Federal Budget Balance (c)	-386.9	-2000.9	-387.6	-572.9	-1133.4	-531.7	-534.2	-428.7	-512.3	-70.0	-289.0	-296.1	-432.1	33.9	-205.7	-297.5	-3131.9	-2772.2	-1300.0	-900.0
Trade Weighted Dollar Index (d)	112.8	110.4	106.6	103.3	104.2	102.9	105.4	109.0	110.8	112.0	112.8	113.3	113.8	114.0	114.3	114.0	109.1	105.4	112.2	114.0
Nonfarm Payroll Change (e)	-359.7	-4333.3	1341.7	212.7	518.0	615.0	651.0	385.3	458.3	391.7	268.3	255.0	240.0	225.0	215.0	200.0	-784.7	542.3	343.3	220.0
Unemployment Rate	3.8	13.1	8.8	6.8	6.2	5.9	5.1	4.3	4.0	3.9	3.7	3.6	3.5	3.5	3.4	3.4	8.1	5.4	3.8	3.5
Housing Starts (f)	1.49	1.09	1.44	1.58	1.60	1.59	1.56	1.70	1.62	1.68	1.66	1.67	1.59	1.63	1.63	1.59	1.38	1.61	1.66	1.61
Light Vehicle Sales (g)	15.0	11.3	15.4	16.2	16.8	16.9	13.3	13.7	15.9	16.6	16.8	17.2	17.2	17.4	17.5	17.6	14.5	15.2	16.6	17.4
Crude Oil - Brent - Front Contract (h)	51.0	34.7	43.8	45.5	60.9	68.6	72.5	78.0	70.0	71.0	71.0	70.5	70.5	70.0	70.0	69.0	43.7	70.0	70.6	69.9
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.75	1.00	1.25	1.50	1.50	0.50	0.25	0.44	1.31
Secured Overnight Financing Rate	0.01	0.10	0.08	0.07	0.01	0.05	0.05	0.05	0.05	0.05	0.30	0.55	0.85	1.10	1.35	1.35	0.36	0.04	0.24	1.16
3 Month LIBOR	1.45	0.30	0.23	0.24	0.19	0.15	0.13	0.15	0.15	0.25	0.50	0.75	1.00	1.25	1.50	1.60	0.65	0.16	0.41	1.34
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.50	3.75	4.00	4.25	4.50	4.50	3.50	3.25	3.44	4.31
Conventional Mortgage Rate	3.45	3.16	2.89	2.69	3.08	2.98	2.87	3.10	3.35	3.55	3.65	3.70	3.75	3.75	3.80	3.80	3.12	3.01	3.56	3.78
3 Month Bill	0.11	0.16	0.10	0.09	0.03	0.05	0.04	0.05	0.05	0.15	0.40	0.65	0.90	1.15	1.40	1.50	0.36	0.04	0.31	1.24
6 Month Bill	0.15	0.18	0.11	0.09	0.05	0.06	0.05	0.10	0.15	0.35	0.60	0.85	1.10	1.35	1.55	1.65	0.37	0.07	0.49	1.41
1 Year Bill	0.17	0.16	0.12	0.10	0.07	0.07	0.09	0.20	0.35	0.55	0.80	1.05	1.30	1.55	1.75	1.85	0.37	0.11	0.69	1.61
2 Year Note	0.23	0.16	0.13	0.13	0.16	0.25	0.28	0.55	0.75	1.00	1.20	1.40	1.60	1.75	1.90	2.00	0.39	0.31	1.09	1.81
5 Year Note	0.37	0.29	0.28	0.36	0.92	0.87	0.98	1.20	1.40	1.55	1.70	1.85	1.95	2.05	2.10	2.15	0.53	0.99	1.63	2.06
10 Year Note	0.70	0.66	0.69	0.93	1.74	1.45	1.52	1.55	1.80	2.00	2.10	2.15	2.20	2.20	2.25	2.25	0.89	1.57	2.01	2.23
30 Year Bond	1.35	1.41	1.46	1.65	2.41	2.06	2.08	1.90	2.20	2.35	2.40	2.40	2.45	2.45	2.50	2.50	1.56	2.11	2.34	2.48

Forecast as of: December 09, 2021

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter
(b) Year-over-Year Percentage Change
(c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.
(d) Federal Reserve Advanced Foreign Economies Index, 2006=100 - Quarter End
(e) Average Monthly Change
(f) Millions of Units - Annual Data - Not Seasonally Adjusted
(g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold
(h) Quarterly Average of Daily Close
(i) Annual Numbers Represent Averages

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Securities

International Forecast Tables

Wells Fargo International Economic Forecast

	GDP				CPI			
	2020	2021	2022	2023	2020	2021	2022	2023
Global (PPP Weights)	-3.1%	5.7%	4.4%	3.2%	3.2%	4.2%	4.4%	3.4%
Advanced Economies[1]	-4.5%	5.3%	4.2%	2.7%	0.7%	3.4%	3.9%	1.9%
United States	-3.4%	5.7%	4.4%	3.0%	1.2%	4.7%	5.3%	2.1%
Eurozone	-6.3%	5.1%	3.9%	2.2%	0.3%	2.6%	2.7%	1.5%
United Kingdom	-9.8%	6.9%	4.3%	2.2%	0.9%	2.5%	3.3%	2.1%
Japan	-4.6%	1.8%	2.3%	1.7%	0.0%	-0.2%	0.5%	0.7%
Canada	-5.3%	4.7%	4.7%	2.6%	0.7%	3.3%	2.9%	2.1%
Switzerland	-2.5%	3.7%	3.1%	2.0%	-0.7%	0.5%	0.6%	0.7%
Australia	-2.4%	4.1%	3.1%	3.1%	0.9%	2.5%	2.3%	2.2%
New Zealand	-2.1%	4.8%	3.2%	2.7%	1.7%	3.7%	3.9%	2.2%
Sweden	-2.8%	4.8%	3.5%	2.2%	0.7%	2.0%	2.1%	1.5%
Norway	-0.8%	4.0%	4.2%	2.1%	1.3%	3.3%	2.2%	1.9%
Developing Economies[1]	-2.1%	6.0%	4.5%	3.6%	5.1%	4.8%	4.8%	4.6%
China	2.3%	7.8%	5.5%	5.4%	2.4%	1.0%	2.1%	2.2%
India	-7.3%	7.8%	9.2%	5.0%	6.2%	5.0%	4.6%	4.8%
Mexico	-8.3%	5.6%	3.0%	2.1%	3.4%	5.6%	4.8%	3.8%
Brazil	-4.1%	4.8%	1.3%	2.3%	3.2%	8.5%	5.5%	3.5%

Forecast as of: December 09, 2021

[1]Aggregated Using PPP Weights

Source: International Monetary Fund and Wells Fargo Securities

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

Central Bank Key Policy Rate	2021	2022				2023
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.25%	0.25%	0.25%	0.50%	0.75%	0.75%
Eurozone[1]	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
United Kingdom	0.25%	0.25%	0.50%	0.50%	0.75%	0.75%
Japan	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%
Canada	0.25%	0.25%	0.50%	0.75%	1.00%	1.25%

2-Year Note	2021	2022				2023
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.55%	0.75%	1.00%	1.20%	1.40%	1.60%
Eurozone[2]	-0.70%	-0.65%	-0.60%	-0.60%	-0.55%	-0.55%
United Kingdom	0.55%	0.75%	0.90%	1.05%	1.20%	1.30%
Japan	-0.10%	-0.10%	-0.10%	-0.10%	-0.05%	-0.05%
Canada	0.90%	1.05%	1.20%	1.35%	1.50%	1.60%

10-Year Note	2021	2022				2023
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.55%	1.80%	2.00%	2.10%	2.15%	2.20%
Eurozone[2]	-0.30%	-0.20%	-0.10%	0.00%	0.15%	0.30%
United Kingdom	0.95%	1.15%	1.35%	1.45%	1.55%	1.60%
Japan	0.10%	0.10%	0.15%	0.15%	0.20%	0.20%
Canada	1.60%	1.85%	2.05%	2.15%	2.25%	2.30%

Forecast as of: December 09, 2021

[1] ECB Deposit Rate [2] German Government Bond Yield

Source: Bloomberg LP and Wells Fargo Securities

Pressure Gauge

Indicator	Feb-20	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb-21	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Time																						
ISM Manuf. Supplier Deliveries	57.3	65.0	76.0	68.0	56.9	55.8	58.2	59.0	60.5	61.7	67.7	68.2	72.0	76.6	75.0	78.8	75.1	72.5	69.5	73.4	75.6	72.2
ISM Serv. Supplier Deliveries	52.4	62.1	78.3	67.0	57.5	55.2	60.5	54.9	56.2	57.0	62.8	57.8	60.8	61.0	66.1	70.4	68.5	72.0	69.6	68.8	75.7	75.7
Ships at Anchor-LA & LB (a)	0.0	0.0	0.0	0.0	0.0	0.5	2.0	1.5	4.3	10.0	22.2	32.1	32.6	26.5	21.5	18.9	13.8	21.4	34.8	56.3	66.6	70.0
Volume																						
Taiwan Elect. Product Exports (b)	46.2%	18.1%	24.3%	13.2%	23.8%	15.3%	19.1%	26.1%	21.8%	19.0%	22.2%	47.5%	14.4%	24.5%	34.0%	29.6%	29.8%	33.9%	21.9%	26.8%	12.4%	26.6%
Cass Freight Index (b)	-7.5%	-9.2%	-22.7%	-23.6%	-17.8%	-13.1%	-7.6%	-1.8%	2.4%	2.7%	6.7%	8.6%	4.1%	10.0%	27.6%	35.3%	26.8%	15.6%	12.3%	0.6%	0.8%	
Unfilled Orders (c)	7.6%	3.7%	0.9%	-2.2%	-0.3%	2.8%	4.0%	5.1%	6.2%	7.4%	6.7%	8.4%	10.8%	14.7%	15.1%	15.3%	13.2%	13.5%	12.2%	12.2%	9.3%	
Price																						
World Container Index (WCI) (d)	$1.6k	$1.5k	$1.5k	$1.5k	$1.8k	$2.0k	$2.1k	$2.5k	$2.6k	$2.8k	$4.0k	$5.3k	$5.2k	$5.0k	$4.9k	$5.9k	$7.1k	$8.9k	$9.6k	$10.2k	$9.9k	$9.2k
WCI: Shanghai-Los Angeles (d)	$1.5k	$1.4k	$1.6k	$1.7k	$2.3k	$2.9k	$3.3k	$3.9k	$4.1k	$4.0k	$4.1k	$4.2k	$4.3k	$4.2k	$4.3k	$5.5k	$6.8k	$9.8k	$10.7k	$12.0k	$11.0k	$10.0k
PPI Transp. & Ware. of Goods (c)	0.3%	-1.9%	-7.6%	-12.2%	-8.8%	1.0%	9.0%	8.0%	6.5%	7.8%	10.2%	10.7%	13.0%	16.3%	16.5%	16.9%	14.4%	12.6%	9.9%	10.4%	15.7%	
Dry Van Rate Per Mile (e)	-3.3%	-2.3%	4.1%	-3.6%	-4.5%	3.4%	20.2%	33.0%	41.3%	48.7%	48.1%	39.0%	36.5%	49.5%	51.4%	70.0%	69.2%	43.7%	28.6%	21.8%	17.8%	16.5%
Inventory																						
Bus. Inventory-to-Sales Ratio	1.42	1.50	1.73	1.55	1.41	1.36	1.35	1.35	1.35	1.35	1.35	1.30	1.33	1.26	1.25	1.26	1.25	1.25	1.26	1.26		
ISM Manuf. Inventories Index	46.5	46.9	49.7	50.4	50.5	47.0	44.4	47.1	51.6	50.8	51	50.8	49.7	50.8	46.5	50.8	51.1	48.9	54.2	55.6	57.0	56.8
ISM Manuf. Cons. Inventories	41.8	43.4	48.8	46.2	44.6	41.6	38.1	37.9	36.7	36.3	37.9	33.1	32.5	29.9	28.4	28.0	30.8	25.0	30.2	31.7	31.7	25.1
Inventory Too Low (f)	-3.5%	-1.5%	-6.6%	-4.5%	1.2%	1.3%	2.7%	4.8%	4.4%	4.9%	6.5%	5.3%	4.5%	2.5%	7.0%	8.0%	11.0%	12.0%	11.0%	10.0%	9.0%	
Labor																						
Production & Manuf. Posts (g)	0.2%	1.3%	-30.0%	-31.6%	-23.7%	-13.8%	-6.1%	4.2%	12.9%	20.6%	27.4%	26.3%	38.2%	46.8%	63.5%	74.8%	76.7%	84.0%	78.0%	87.3%	92.4%	103.5%
Loading & Stocking Posts (g)	1.4%	-0.4%	-32.5%	-32.7%	-17.6%	-0.8%	4.6%	12.3%	28.2%	38.8%	39.0%	26.3%	38.9%	46.4%	61.7%	72.7%	76.6%	90.2%	72.0%	82.4%	92.4%	106.4%

Notes: (a) Monthly Average, (b) Year-over-Year Percent Change, (c) 3-Month Annualized Rate, (d) USD/40ft Box), (e) Year-over-Year of 4-Week Moving Average, (f) Net % of Firms, (g) versus February 2020

Source: Institute for Supply Management (ISM), Bloomberg LP, Taiwan Ministry of Finance, U.S. Department of Labor, Drewry, U.S. Department of Commerce, National Federation of Independent Business (NFIB), Indeed.com and Wells Fargo Securities

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