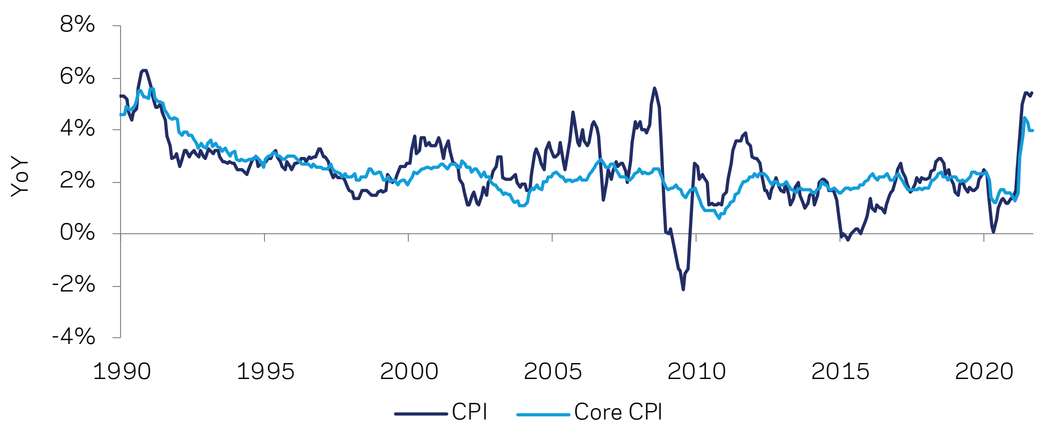
October 2021

Inflation Outlook: the Macro, the Micro, the Transitory

Uncertainty over inflation has been unusually high this year as rapid economic growth has been accompanied by large increases in prices for a number of goods and services. While economists had long expected that reopening would feature some degree of upward pressure on prices, the magnitude of acceleration in U.S. inflation has been a surprise to most forecasters.[1] CPI inflation rose from 1.7% YoY in February to 5.4% in June, the highest reading since 2008, and has remained above 5% in recent months. While inflation at the 2008 peak was almost entirely due to rapidly rising energy prices, this has not been the case in 2021. Core CPI, which excludes food and energy, accelerated from 1.3% YoY in February to 4.5% in June, the highest reading in *three decades*.

U.S. CPI and Core CPI



Source: Bureau of Labor Statistics, Bloomberg as of 10/15/2021.

Prior to the pandemic, inflation had appeared firmly anchored close to the Federal Reserve target of 2%.[2] Somewhat surprisingly, the recent

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1 Since the end of March, the consensus forecast for 2021 CPI inflation among economists polled by Bloomberg has risen from 2.45% to 4.3%.

2 This discussion will focus primarily on CPI data, whereas the Fed targets inflation as measured by a different index, the PCE deflator. The two tend to be highly correlated, with the CPI historically running slightly above the PCE.

departure from this low inflation regime has seen relatively muted reaction in financial markets. To be sure, commodities have delivered strong gains, and inflation-linked Treasuries have outperformed relative to nominal bonds, but this year's inflation outbreak has not been as disruptive to stock and bond markets as one might have expected based on the historical sensitivity of those assets to inflation shocks.[3]

What might explain this sanguine response on the part of markets? In our view, many investors (and policymakers) appear to have arrived at the conclusion that the recent pace of inflation is, to use the buzz-word of the day, *transitory*. A brief bout of high inflation might have limited implications for asset prices if the outlook for future inflation remains benign. However, we would argue that this interpretation may only be partially correct. While there *is* good reason to believe that recent high inflation rates will subside to some extent, there are also a number of factors suggesting a return to low and stable ~2% headline CPI readings is unlikely in the near term.

Some support for the "transitory" view comes from looking at trends in monthly price changes. While YoY inflation readings have remained elevated, momentum in month-to-month CPI changes seems to have slowed. The 3-month annualized inflation rate came close to 10% in June but fell below 5% by September. To further understand why inflation appears unlikely to maintain its recent pace, it is helpful to divide the CPI into a set of custom categories relevant to the current environment:

Reopening Sectors — e.g. restaurants, air travel, and various face-to-face services. These categories saw price declines at the onset of the pandemic last year and have long been expected to see some rebound as health concerns decline.

Autos — demand for vehicles has been strong as consumers have avoided mass transit. At the same time, shortages of semiconductors have severely constrained auto production, leading to insufficient supply and large price increases, particularly for used vehicles.

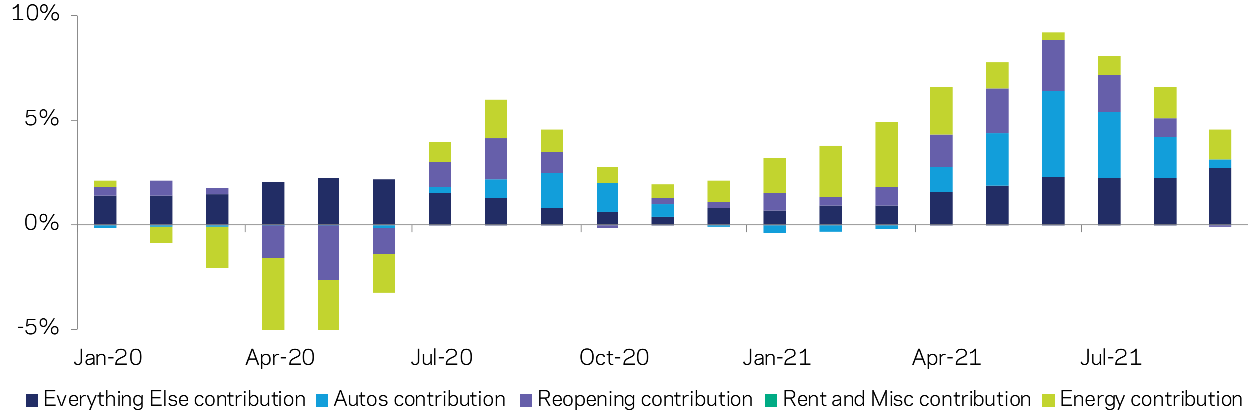
Energy — often a big driver of temporary swings in CPI. Indeed, economists often look to Core CPI specifically to filter out the transitory impact of energy price moves.

Everything Else — the largest components here are primary rents and owners' equivalent rent (an imputed measure of the rent that homeowners "pay themselves") but this bucket also includes a diverse set of goods and services that might provide a sense of broader trends in prices.

Decomposing the 3-month annualized change in CPI into these categories reveals further clarity on why the "transitory" interpretation has gained ground in recent months. If we look at the drivers of inflation when the 3-month annualized rate peaked in June, most of the CPI increase can be attributed to reopening items, autos, and energy. New and used vehicles comprise around 7% of the total CPI, but accounted for over 40% of the increase in aggregate consumer prices in the three months through June. The impact of these components subsequently began to fade in the third quarter, providing support to the view that dramatic price moves in areas like used cars (up 45% in the year through June) and hotel rates (up 15%) would not persist indefinitely.

3 For more on this, please see "How Inflation Impacts Investor Portfolios (And What They Can Do About It)."

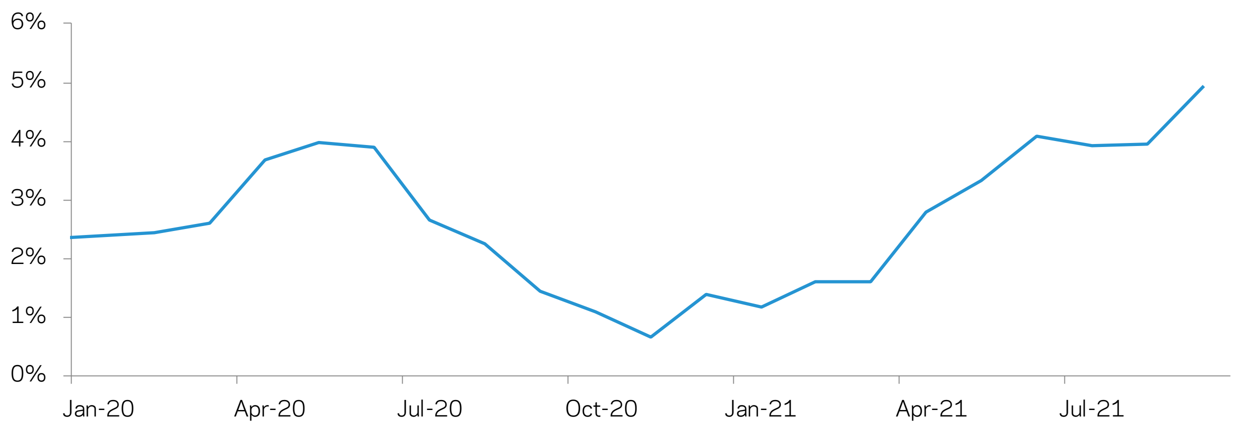
Contributions to 3-month Annualized Change in CPI



Source: Bureau of Labor Statistics, Bloomberg as of 10/15/2021.

However, focusing on these outlier categories might be missing the forest for the trees. Indeed, if we look past the eye-catching moves in autos and reopening items and focus instead on our "Everything Else" residual, we find that prices have actually continued to accelerate, approaching a brisk 5% annualized clip. In other words, while industry-specific factors may be boosting CPI changes temporarily, there is also ample evidence of a broader upturn in inflation.

3-month Annualized Change in "Everything Else" (CPI Ex-Autos, Energy, and Reopening Sectors)



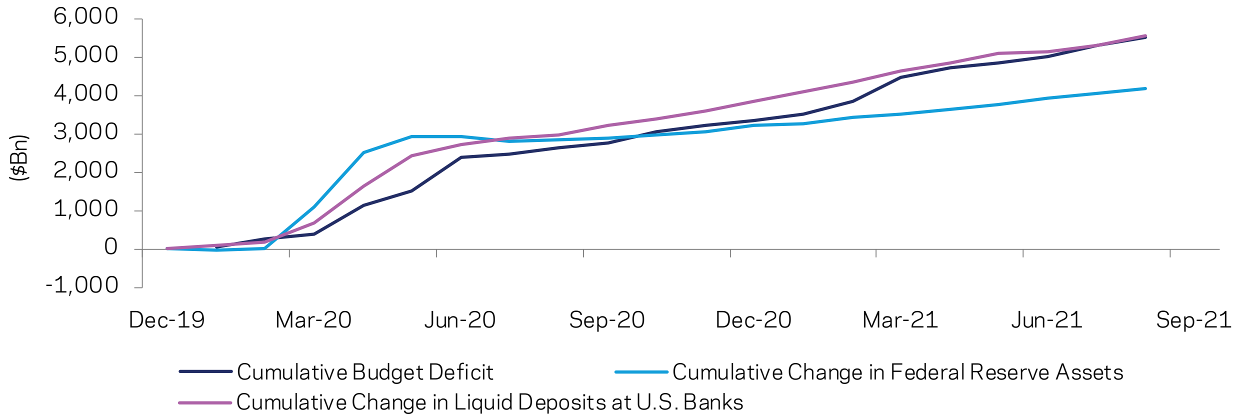
Source: Bureau of Labor Statistics, Bloomberg as of 10/15/2021.

As we will discuss below, at a macro level, the U.S. economy continues to feature extremely strong consumer demand and meaningful supply side impediments: a classic recipe for inflation. Fiscal and monetary stimulus has left U.S. households in exceptionally good financial health, with nominal incomes running well above pre-pandemic levels and improved balance sheets due to appreciation in equity and real estate values.[4] As the next

4 Bureau of Economic Analysis, Federal Reserve.

exhibit illustrates, the cumulative deficit of over $5 trillion since the start of 2020 has been largely financed through Federal Reserve asset purchases and has been closely matched by a comparable increase in liquid deposits at U.S. banks. In other words, a money-financed fiscal stimulus has substantially boosted the cash holdings of the private sector, a clear echo of the "helicopter money" touted by Milton Friedman and Fed Chair Bernanke as a reliable means of pushing inflation higher.[5]

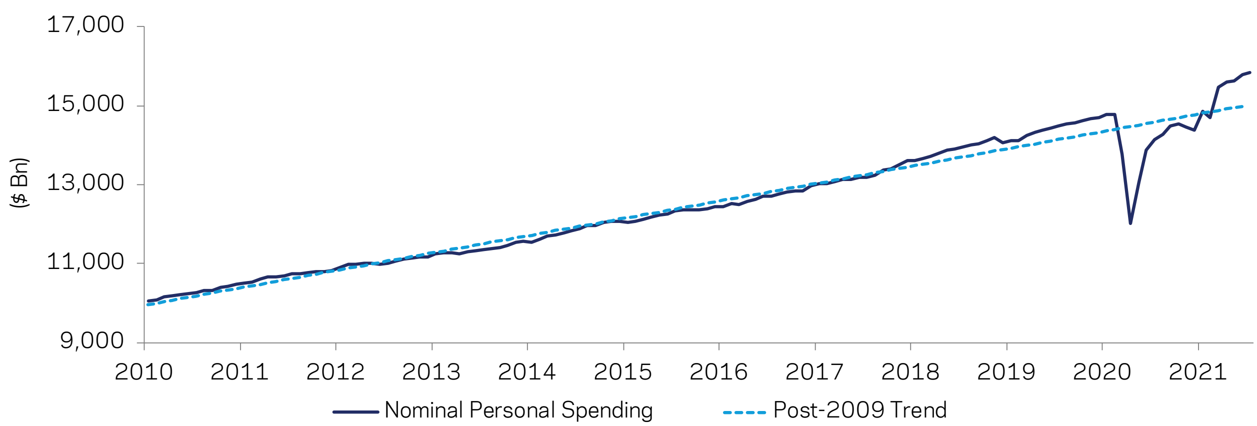
U.S. Fiscal Deficit, Fed Balance Sheet Growth, and Increase in U.S. Bank Deposits



Source: U.S. Treasury Department, Federal Reserve, Bloomberg as of 10/15/2021.

U.S. consumers have the means to spend, and by and large are not holding back. Consumer spending figures are now above their pre-pandemic trend, even as usage of many in-person services is still somewhat subdued. Meanwhile, the productive capacity of the economy has not recovered, with still-depressed labor force participation rates and ongoing supply disruptions in multiple industries.

U.S. Consumer Spending and Long-Term Trend



Source: Bureau of Economic Analysis, Bloomberg as of 10/15/2021.

5 Milton Friedman, "The Optimum Quantity of Money," 1969, as quoted in Ben Bernanke: "What tools does the Fed have left? Part 3: Helicopter money," 4/11/2016

The surprisingly tight state of the labor market could be an important source of upward pressure on inflation moving forward. While reported unemployment remains high, surveys of both households and businesses point to robust demand for workers and limited supply.[6] Trends in wage growth confirm this message, with the Employment Cost Index (ECI) showing the fastest growth in private sector wages since 2007.[7] Surveys point to elevated household inflation expectations, which may motivate workers to demand larger wage increases than we have seen in some time, potentially giving rise to broader and more persistent price increases.

Employment Cost Index: Private Sector Wages and Salaries

Source: Bureau of Labor Statistics, Bloomberg as of 10/15/2021.

In addition to these top-down drivers, sectoral developments in the housing market may also boost the trend in inflation data in the near term. Rental costs, including both actual rents and so-called "Owner's Equivalent Rent" (OER) comprise roughly 30% of the CPI and an even higher share of Core CPI. This segment of the index was quite subdued in 2020 and early 2021, as job losses prompted people to move in with family or roommates, mirroring dynamics seen in past recessions. Just as past cyclical recoveries have typically been accompanied by a recovery in rental inflation, today's improving economy would be expected to boost rents over time.

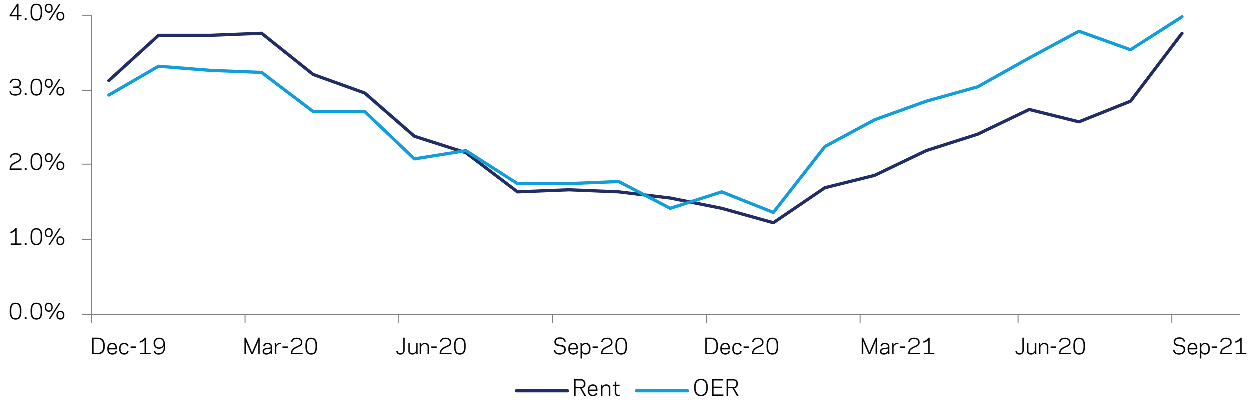
However, there are reasons to think the pickup in rents could be particularly vigorous in the months to come. House prices in the U.S. have been rising at a historically rapid pace over the last year, reflecting not only traditional drivers such as rising household incomes and low mortgage rates, but also unusually limited inventory and increased demand for living space in a world of social distancing and work-from-home.[8] Similar pressures may now be impacting the rental market, as data on asking rents has perked up notably. As leases reset, the average rents captured in CPI should catch up with these higher asking rents. Indeed, recent CPI releases may be showing the start of this process.

6 The NFIB survey of small businesses has been showing a record share of firms experiencing difficulty filling job openings, while the Conference Board survey of households has found strikingly positive views of the labor market. The proportion of households viewing jobs as "plentiful" rather than "hard to get" has been at levels not seen since 2000.

7 Bureau of Labor Statistics.

8 The S&P Case-Shiller index showed national house prices up 18.6% YoY in June, the fastest pace of appreciation in data back to the late 1980s. Data from the National Association of Realtors indicates fewer homes available for sale in the first half of 2021 than in any comparable period in data back to 1999.

Rent and Owner's Equivalent Rent (OER), 3-month annualized %



Source: Bureau of Labor Statistics, Bloomberg as of 10/15/2021.

In short, we see multiple reasons why it may be unwise to dismiss recent inflation as entirely transitory. Extreme policy accomodation, vigorous consumer spending trends, labor supply constraints, and housing market dynamics all point to upward pressure on prices. While CPI readings above 5% may prove to be a near-term peak, a rapid return to pre-pandemic inflation trends seems increasingly unlikely. If correct, this view may have important implications for investors.

First off, it may imply a continued favorable environment for inflation-sensitive assets, including cyclical commodities that stand to benefit from strong global growth and TIPS Breakevens, for which high realized inflation has translated into attractive carry in recent months. Of course, this view may also warrant increased caution towards stocks and bonds, which have historically delivered subpar returns in periods of rising inflation.

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