

Economic & Financial Markets

Monthly Review

April 2022

Don't press that button!

Is the yield curve inverted?
Which one? Does it matter?

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Lots of cross-currents; lots of volatility

.....

A tightening cycle in reverse

INVERTED YIELD CURVE



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Economic Review

Is the yield curve inverted? Which one? Does it matter?

March was another great month for job and labor force growth, while firms faced new or renewed supply chain threats. Additionally, while an inversion of the yield curve between the 2- and 10-year Treasury notes is often viewed as a leading indicator of recession, are things different this time? And other yield curves, that may be more accurate predictors of a downturn, are not yet flashing red.

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Financial Markets

Lots of cross-currents; lots of volatility

The S&P 500 index posted a gain of nearly four percent in March as the market quickly exited its first correction of this bull market. Fear from the impacts of the Russian invasion of Ukraine, accelerating inflation, and potentially significant Fed tightening lead to a mid-March decline of 13 percent from early January's all-time high. But the correction – a drop of 10-20 percent from the high – in the stock market was short-lived with a rapid gain of nine percent, ending the first quarter down by only four percent. Bonds fared worse, with the yield of the 10-year U.S. Treasury note rising more than 50 basis points in March. Commodities remained volatile as the Russian invasion of Ukraine raised concerns that new supply constraints would further delay the healing process.

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The Outlook

A tightening cycle in reverse

The Federal Open Market Committee (FOMC) lifted its benchmark federal funds target for the first time in more than three years in March and telegraphed a series of additional rate hikes to follow. The median forecast among FOMC members anticipated that fed funds would be pushed higher by a total of 175 basis points in 2022 and about 100 basis points next year, before stabilizing in 2024.

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Business Cycle

As of April 2022



The current economic expansion is now two years old, with the Covid-19 recession ending in April 2020. Since then, the economy has seen rapid economic growth with rising inflation — and the Federal Reserve finally responding by tightening monetary policy. Moreover, the Russian invasion of Ukraine has imparted a negative supply shock.

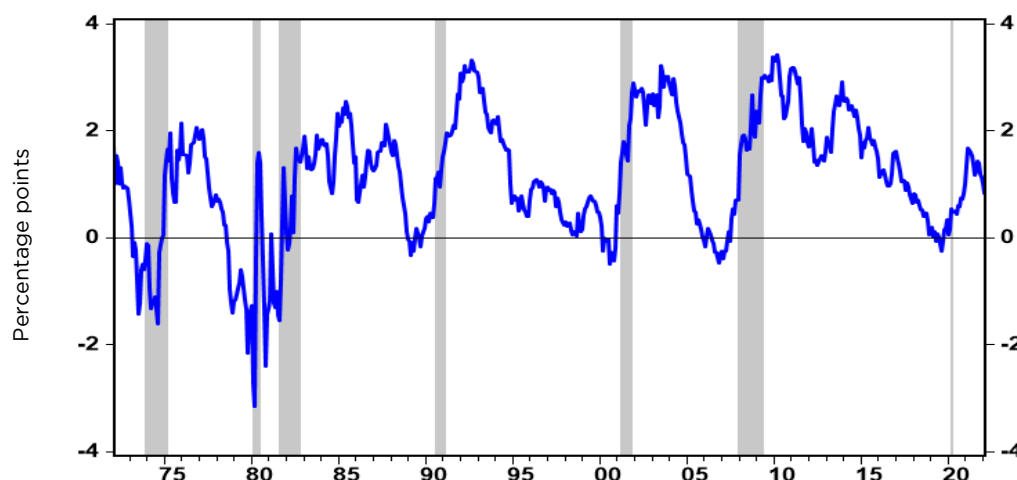
Sharply rising inflation and interest rates, along with Fed tightening, are usually later-cycle phenomena. While we do not expect this expansion to end soon, the odds of a downturn within the next few years have clearly risen.

Yield Curve

Spread between 10-year and 1-year U.S. Treasury yields

One of the best predictors of an economic downturn is a fully inverted yield curve, when short-term interest rates are above long-term rates for a sustained period.

The spread between 10-year and 1-year Treasury note yields fell further over March (and early April) as short-term interest rates rose in anticipation of Fed rate hikes while long-term rates were range-bound. While the spread is not low enough to be considered a recession warning, significant Fed tightening this year could flatten the yield curve still more, raising recession concerns. Moreover, this spread could shrink further if financial markets expect a significant slowing of the economy, with long-term rates falling.



Sources: Bureau of Labor Statistics; Haver Analytics
Shaded areas depict recessionary periods

Is the yield curve inverted? Which one?

Does it matter?

March was another great month for job and labor force growth, while firms faced new or renewed supply chain threats. Additionally, while an inversion of the yield curve between the 2- and 10-year Treasury notes is often viewed as a leading indicator of recession, are things different this time? And other yield curves, that may be more accurate predictors of a downturn, are not yet flashing red.

More strong job growth; unemployment edges lower

Nonfarm payrolls grew by 431,000 for March. After upward revisions to February and January totaling 95,000, payrolls have grown by an average of 561,000 per month this year and by at least 424,000 in each of the last 11 months. Gains for March were broad-based and were led by business services and leisure and hospitality while no industry saw significant declines.

The U-3 unemployment rate fell by 0.2 percentage points to 3.6 percent (just a touch above the pre-pandemic low) despite the labor force participation rate rising for a third straight month and in four of the last five months. It has been this growth in the labor force — and in participation of prime age workers, in particular — which has fueled strong payroll numbers even as the labor market has grown increasingly tighter. Moreover, the broader U-6 unemployment rate fell to nearly an all-time low, at 6.9 percent, yet another sign that the labor market is exceptionally tight. Additionally, average hourly earnings are continuing to respond to the tight labor market conditions, climbing by 0.4 percent for March to an annualized pace of 5.6 percent.

After the significant progress made over the past year, the shortfall in payrolls compared with the pre-pandemic level now sits at 1.5 million, a vast majority of which is from service-providing industries. It's unlikely the current pace of hiring is sustainable for much longer, but still solid job growth should continue to close this gap in coming months.

Firms face intense price pressures and uncertainty

The Institute for Supply Management (ISM) manufacturing survey fell to an 18-month low, although the level still suggests relatively strong growth for the sector. A significant drop in new orders (the

lowest reading since May 2020) was somewhat offset by increasing growth in employment. While most other sub-indices were down to some extent, the biggest mover in March was the price index which surged to its highest level since June.

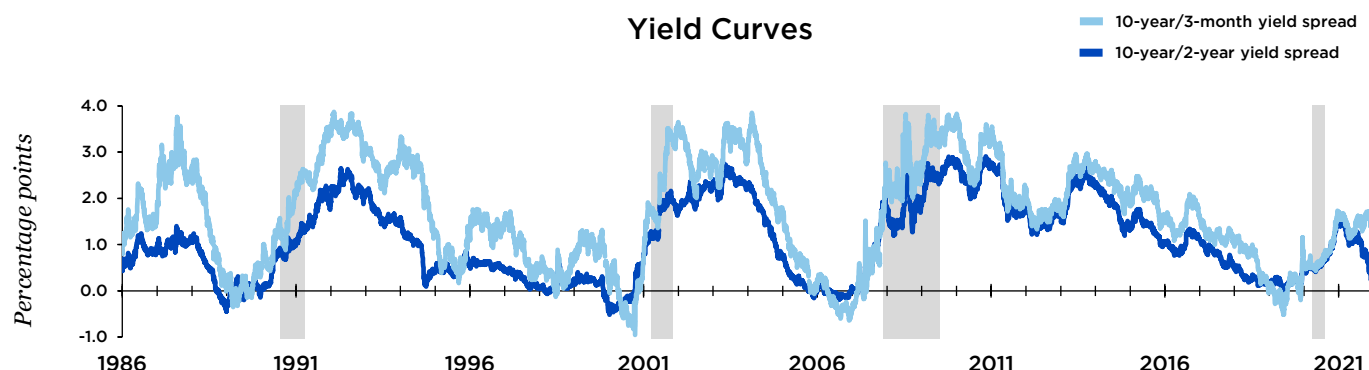
The dissipation of Omicron provided reasons for firms to be optimistic, especially for the service sector, but firms are now facing new headwinds and uncertainty due to Russia's invasion of Ukraine and more Covid lockdowns in China. While these shocks persist, more upward pressures on input prices should be expected. As these higher costs are passed on to consumers and push overall inflation upward, it increases the odds of more aggressive Fed policy to get consumer price gains under control.

But the yield curve...

The spread between yields on 2- and 10-year Treasury notes inverted a tad in early April after flattening dramatically over the last year. Traditionally, a negative 2-year/10-year spread has been a good leading indicator of a recession, but it currently conflicts with other recession signals. This inversion has occurred simultaneously with a steepening of the 3-month/10-year spread, for example (in part because several fed funds rate hikes are expected over the next two years while only a few can occur in the next three months). Most economists, including us, view this as a better yield curve predictor of recession. Additionally, the 12-month growth rate of the Conference Board's index of leading economic indicators (LEI), which also tends to go negative shortly before recessions, is quite strong. February's reading of 7.63 percent is roughly double the median growth for the series (data back to 1960) and clearly not close to being negative.

But even if we assume that the 2/10 spread is the best leading indicator, is it telling us a downturn is imminent? For this inversion to be a true recession signal, the negative spread must be more than a few basis points and to persist for at least several months — neither of which are currently present. And even if the inversion gets bigger and persists, economic downturns don't occur immediately, instead usually coming a year or more later. As a result, the odds of a recession in the short run (i.e., this year) are very low.

Yield Curves



Sources: Federal Reserve Board; Haver Analytics
Shaded areas depict recessionary periods

Lots of cross-currents; lots of volatility

The S&P 500 index posted a gain of nearly four percent in March as the market quickly exited its first correction of this bull market. Fear from the impacts of the Russian invasion of Ukraine, accelerating inflation, and potentially significant Fed tightening lead to a mid-March decline of 13 percent from early January's all-time high. But the correction — a drop of 10-20 percent from the high — in the stock market was short-lived with a rapid gain of nine percent, ending the first quarter down by only four percent. Bonds fared worse, with the yield on the 10-year U.S. Treasury note rising by more than 50 basis points in March. Commodities remained volatile as the Russian invasion of Ukraine raised concerns that new supply constraints would further delay the healing process.

Happy Second Anniversary

March was the second anniversary of the bottom of the first bear market in over 10 years. Since the low point on March 23, 2020, the S&P 500 index is up by roughly 75 percent, with the latest year-over-year increase being nearly 16 percent — a healthy uptick on top of the first anniversary's 54 percent jump. The broadness of the year-over-year gain is noteworthy as all sectors, except communications, are up. For March, the only blemish among the sectors was in the financial component.

In the current bull market, the time from the low of the bear market to the first correction was almost 24 months. At the start of a typical bull market, the first correction occurs within a year, so a large drop was perhaps overdue. Healthy revenue and earnings gains have caused the exceptional equity rally as expectations for 2022 earnings continue to rise.

Smaller-cap and international equities underperformed large-caps. For the mid- and small-cap indices, gains were modest, with energy providing a disproportional amount to the broad uptick. Early cycle industrials and energy-related utilities led indices higher while the growth-related discretionary component fell. Investors exited international equities as the Russian invasion cast a long shadow over their growth prospects.

Yields rise rapidly

Yields rose rapidly in March, adding to the pain felt by fixed-income investors in the first quarter. Last month, the yield on the U.S. Treasury 2-year note increased by 90 basis points while the rate on the 10-year climbed by half that amount. Catalysts included higher oil prices, fear of prolonged elevated inflation, and concerns that the Fed would tighten policy significantly.

The near-term part of the yield curve is unusually steep, with more than a 210-basis point spread between the 2-year note and the

mid-point of the target federal fund rate range, the Fed's primary policy lever. The last time the spread was this wide was in 1994, as the Fed was embarked on a sharp year-long tightening move. At that time, the spread narrowed sharply over the next year as the federal funds rate rose and the 2-year yield declined by similar amounts.

Commodity markets turmoil

The effect of the Russian invasion of Ukraine on the oil and wheat market was the focus of investors' attention in March. Numerous countries limited trade with Russia and made payments for Russian oil exports difficult. The oil market reacted to the perceived decline in supply, with a sharp price increase. The reticence of OPEC+ to add additional production to offset Russia's now-stranded production added to fears of a shortage. As March ended, the release of oil reserves and focus on non-Russian sources caused the price of the benchmark WTI to fall a bit below \$100 per barrel.

The elevated price of natural gas is also a concern for prices. Normally, weak spring demand gives producers an opportunity to build inventories that utilities can draw upon to meet higher summer electricity generation needs. Liquefied natural gas is being exported to relieve price pressures in Europe, but with renewables unable to meet strong demand and U.S. production limited by regulatory policy, energy prices are expected to remain high for a while.

The wheat market reacted dramatically to the expected loss of Ukrainian and Russian wheat from the world market. Together these countries accounted for nearly 30 percent of world exports. With the potential loss of Ukraine's harvest and likely sanctions on Russian wheat exports, the price of wheat nearly doubled from the beginning of this year to mid-March. The perception that additional global supply will offset the loss caused the price to retreat some, but it is still up by 28 percent year-to-date.

The dollar remained strong in March as global supply chains struggled to regain their footing. The uptick in oil prices and geopolitical concerns strengthen the perception that the dollar remains the world's reserve currency. There have been concerns that the removal of Russia from the world's banking system at the behest of the U.S. might cause some countries to diversify out of dollar assets. But there is little evidence that this occurring and for the dollar to lose its reserve status implies that some other currency must replace it — and there is nothing serious on the horizon.

Asset Class Performance

Total returns represented as of March 31, 2022

	1-month	6-months	12-months
S&P Composite 500 Index	3.71%	5.92%	15.65%
S&P Midcap 400 Index	1.38%	2.73%	4.59%
S&P Smallcap 600 Index	0.37%	-0.30%	1.23%
EAFE ¹	0.12%	-4.37%	-1.21%
U.S. Dollar Index ²	0.03%	0.59%	1.30%
CRB Commodity Index ³	4.09%	14.57%	25.21%
Intermediate Treasuries ⁴	-2.53%	-4.76%	-4.17%
Long Treasuries ⁵	-5.34%	-7.83%	-1.42%
Investment-grade Corporate Bonds ⁶	-2.52%	-7.48%	-4.20%

¹ Index measuring equity performance of developed markets outside of the U.S. and Canada

² Federal Reserve trade-weighted broad currency index

³ Commodity Research Bureau; CRB spot index

⁴ Index of 1-year to 10-year Treasury notes

⁵ Index of 10-year and longer Treasury notes and bonds

⁶ Index of U.S. investment-grade corporate bonds

Sources: Bloomberg; Haver Analytics

A tightening cycle in reverse

The Federal Open Market Committee (FOMC) lifted its benchmark federal funds target for the first time in more than three years in March and telegraphed a series of additional rate hikes to follow. The median forecast among FOMC members anticipated that fed funds would be pushed higher by a total of 175 basis points in 2022 and about 100 basis points next year, before stabilizing in 2024.

More aggressive tightening tends to come later

Moreover, several Fed officials have signaled since last month's meeting that they would be open to increasing rates at a more rapid pace in the months ahead — front-loading the expected rise for the year. Rate hikes in excess of 25 basis points have been rarities in recent decades, as just six of the 53 increases in the federal funds target since the stock market crash in 1987 have been by 50 basis points or more. And when the Fed has moved more aggressively, it has come only after a more incremental path has been well advanced. Across the last four tightening cycles, in fact, the only lifts in the funds target of more than 25 basis points were the final four moves of the 1994-95 cycle and the last increase of the 1999-00 cycle. The Fed tends to move slowly into monetary restraint before picking up the pace as necessary as the economy continues to grow, the labor market continues to tighten, and inflation risks accordingly continue to build.

A different Fed response for a different cycle

That the Fed is contemplating picking up the pace of rate increases so early in this cycle reflects the very unusual nature of the underlying economic dynamics today. Inflationary pressures tend to build slowly as expansions mature but have in this case shot dramatically higher less than two years after the conclusion of the 2020 recession. This is another indication of the idiosyncratic nature of the soaring inflation rate, as well, as price

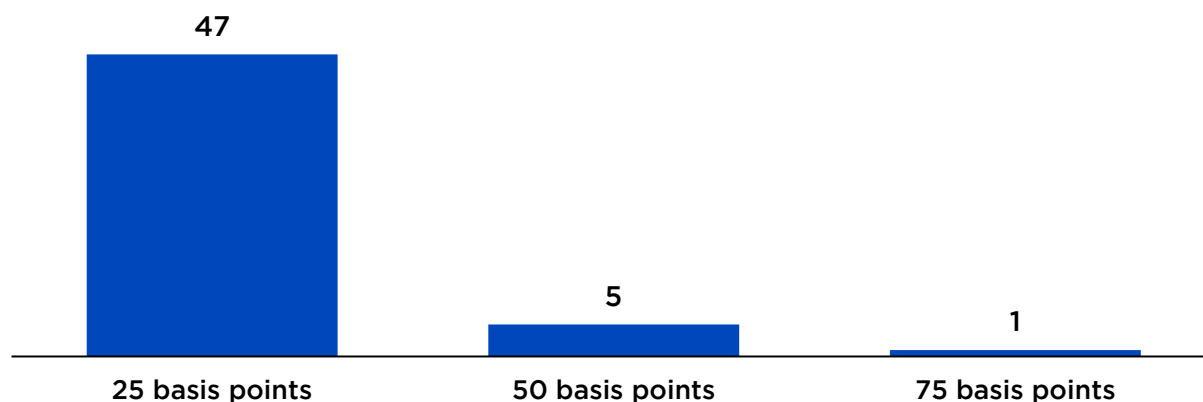
pressures do not normally ratchet up so quickly, especially this early in the cycle.

A tightening cycle in reverse

Spikes in the inflation rate due to special factors have historically given way to sharp declines once the underlying drivers have faded. Note, for example, the reversals in inflation after World War II, the Korean War, and the two oil shocks in the 1970s (the first two coming from demand shocks and the latter two from supply shocks). The ongoing climb in inflation hasn't proven to be "transitory" in the sense of being fleeting, but it is still a good bet to turn sharply once the pandemic has more definitively passed and the situation in Eastern Europe has come to some resolution. This could mean that, in contrast to the historical trend, the Fed might tighten aggressively at the outset of this cycle before adopting a more tempered approach as the expansion proceeds. The FOMC's own outlook, in fact, anticipates a more moderate rise in benchmark interest rates next year and no change at all in 2024 (if history is any guide, the Fed will ease policy less than a year after completing this tightening cycle). This makes sense given the fundamentals and would mark yet another way in which this already remarkable cycle has deviated from the norm. This is shaping up to be the first tightening cycle in quite some time that starts with a bang but ends with a whimper.

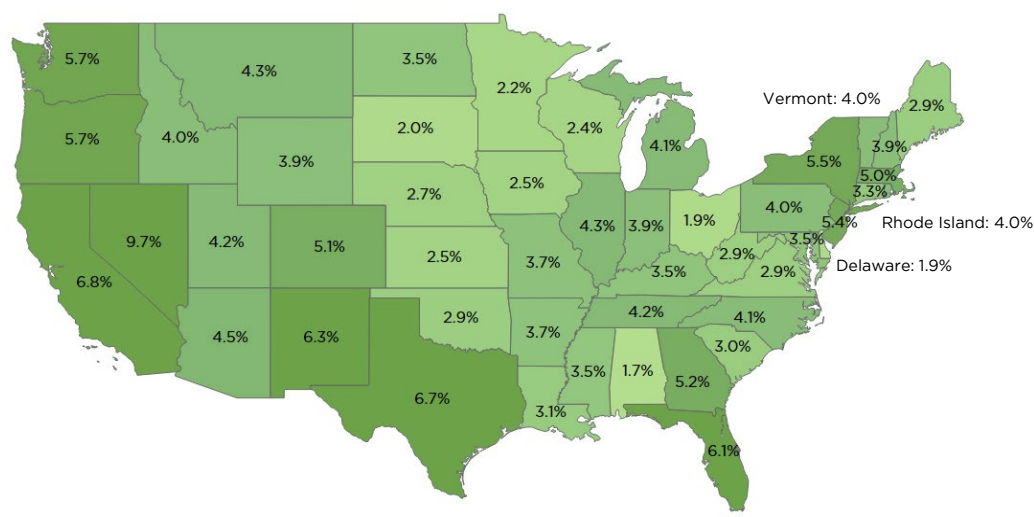
It is also possible that inflation could drop sharply as a result of a significant slowing in the economy (or even a recession) caused by a combination of front-loaded rate hikes and quantitative tightening (QT). The Fed has just announced an aggressive QT plan, with reductions in its balance sheet totaling \$95 billion per month (about two-thirds Treasury notes and one-third MBS). While the Fed has yet to reveal when this runoff would begin, more details are expected at the May FOMC meeting.

Federal Open Market Committee Rate Increases
1987-present



Source: Federal Reserve Board of Governors

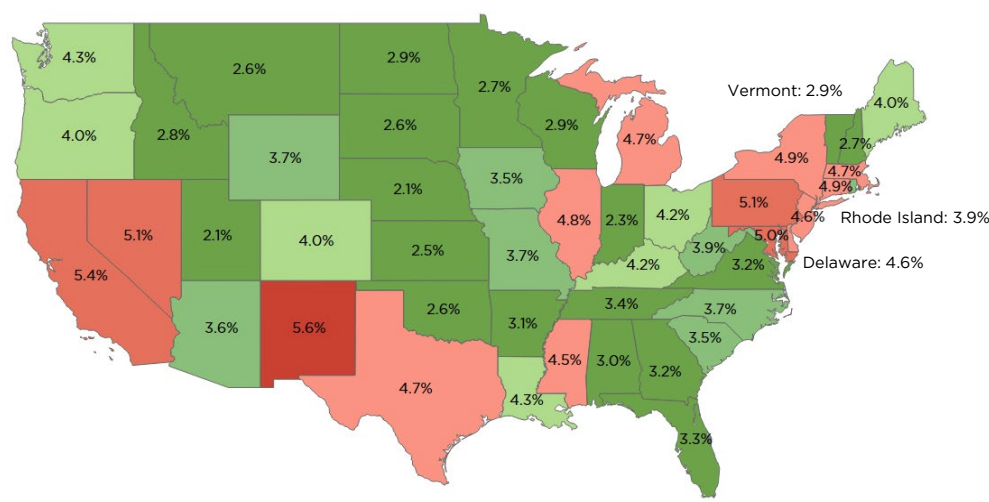
Strong job gains in many states over the past year as solid labor demand persists



- Job gains were strongest in the Pacific Region plus Nevada and parts of the Southwest and Northeast — including several states where the pandemic recovery was delayed due to restrictions or sectoral concentrations.
- Hiring over the past year was slower across much of the middle of the country, although the labor markets in many of these states had more fully rebounded a year ago.

Sources: Bureau of Labor Statistics; Haver Analytics
Twelve-month growth rate in nonfarm payroll employment, February 2022

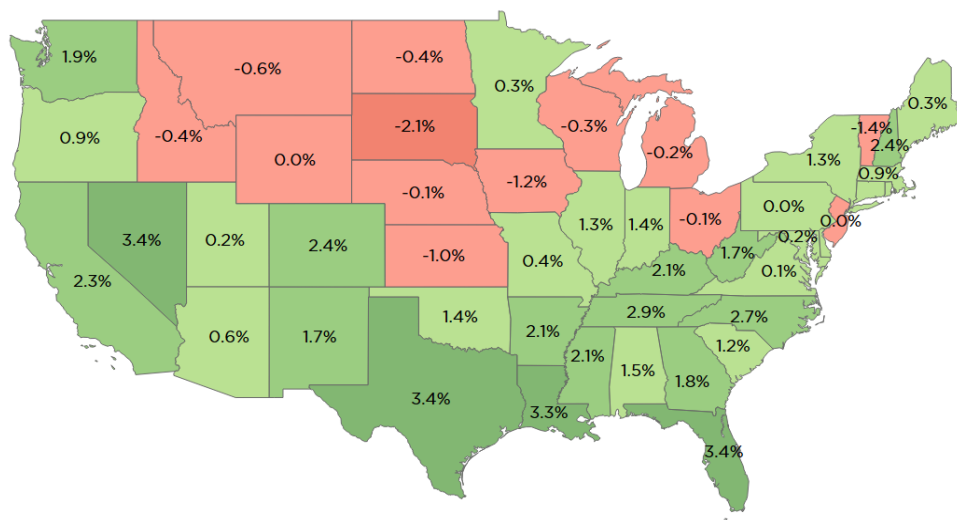
Ultra-low unemployment rates in many parts of the country



- The unemployment rates in 19 states were at-or-below 3.5 percent as of February — a very low level — while several additional states were slightly above that level as labor markets tighten across the country.
- Only a few states still have elevated unemployment conditions with five states above 5.0 percent — led by New Mexico, California, and Alaska (not shown).

Sources: Bureau of Labor Statistics; Haver Analytics
Civilian unemployment rate, February 2022

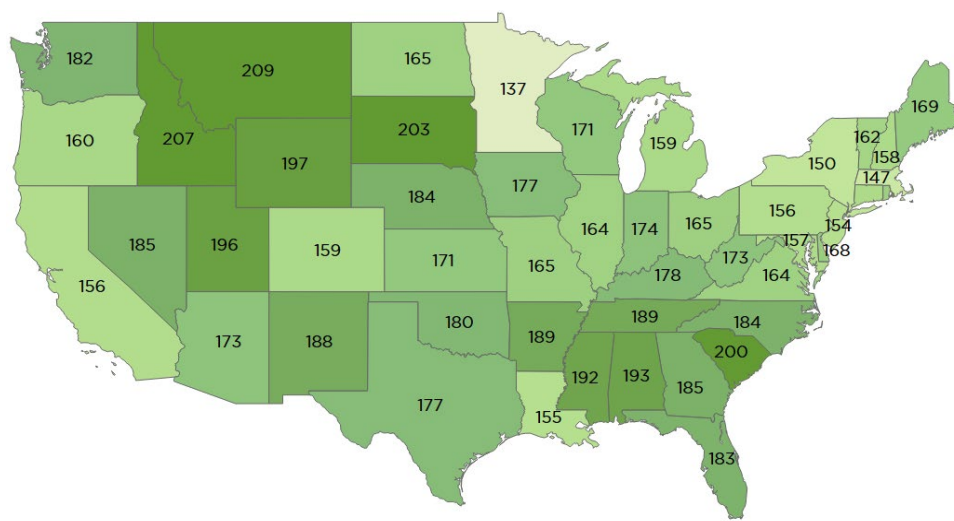
Inflation reduced real income growth over 2021



Sources: Bureau of Economic Analysis; Haver Analytics
Four-quarter growth rate in real per capita personal income, 2021Q4

- While nominal incomes rose by a strong 7.5 percent nationally, real (inflation adjusted) personal income rose by only a modest 1.6 percent as the inflation spike cut into the nominal gains.
- Real per capita income dropped in 13 states during 2021, although only slightly so in most of them. Growth in real incomes was generally strongest in the southern half of the country.

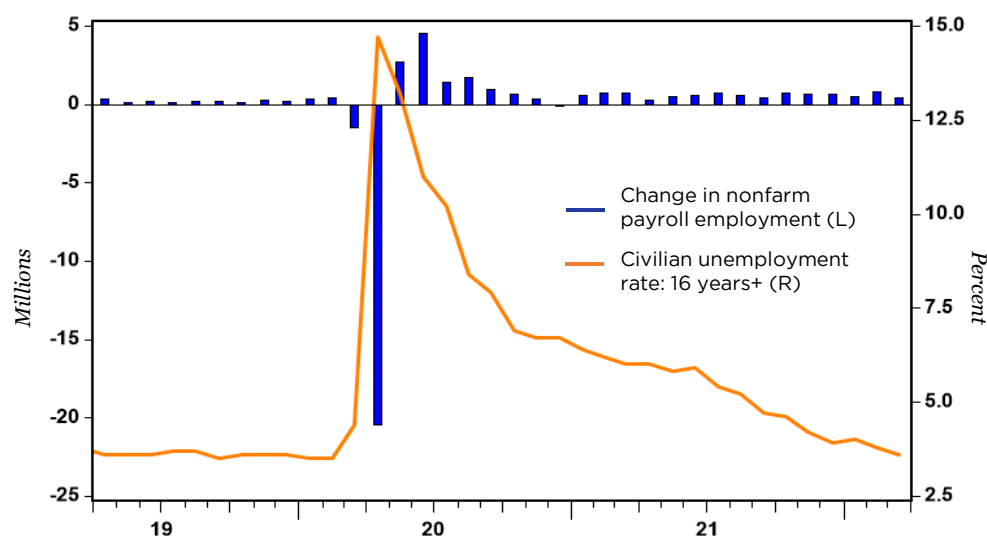
Driving activity returning to normal in many states



Sources: Apple, Inc.
Apple mobility trends, U.S. driving index, Average from March 2022
Figures above 100 show more driving than during the January 13, 2020 baseline figure.

- Apple's mobility data show that driving activity recovered sharply in March as fading Covid cases prompted increased household activity.
- Mobility was strongest relative to the January 2020 baseline in the Mountain West (plus South Dakota) and Southeast regions. Driving was comparatively weaker in the Midwest, Northeast, and West Coast, although still near pandemic highs in most areas.

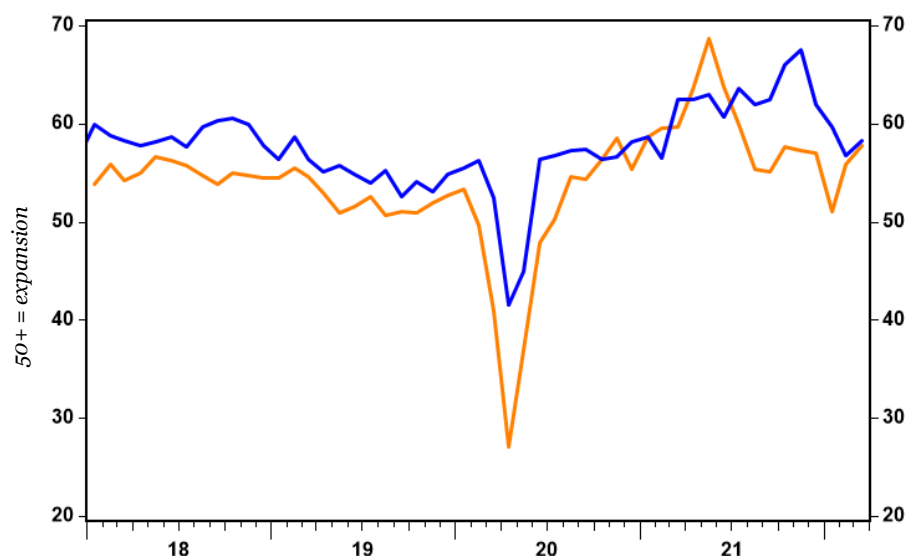
More strong employment data for March



Sources: Bureau of Labor Statistics; Haver Analytics
Monthly change in nonfarm payroll employment; level of the civilian U-3 unemployment rate, March 2022

- Nonfarm payrolls jumped by 431,000 for March as the demand for workers remained hot. While this was a tad below expectations, upward revisions to the prior two months totaling 95,000 means that the level of payrolls in March was higher than expected.
- The U-3 unemployment rate dropped to 3.6 percent for March, the lowest level in more than two years. The labor force also grew, a good sign that workers are coming back into the workforce. The broader U-6 unemployment rate fell to 6.9 percent, nearly at the lowest level ever.

Renewed expansion for both manufacturing and services

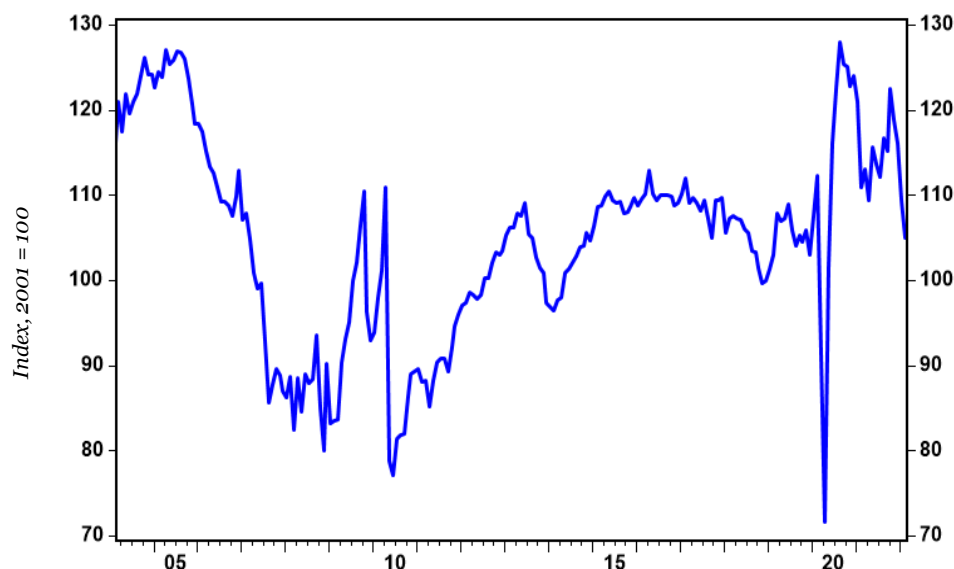


Sources: S&P Global; ISM; Haver Analytics.
Markit US and ISM Composite Purchasing Manager's Indices, March 2022

- The composite output indices from both ISM and Markit rose for March, indicating a solid pace of underlying growth in the U.S.
- Not only were the composite indices higher, but the component indices for both (manufacturing and services) climbed as well, suggesting a broad-based expansion.

■ ISM composite index
■ Markit composite index

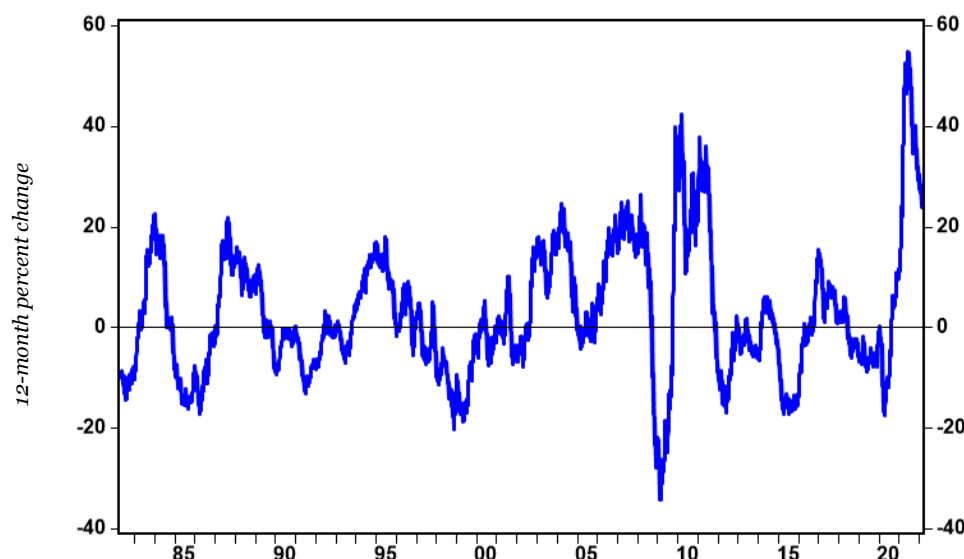
Pending home sales have declined significantly



Sources: National Association of Realtors/Haver Analytics; February 2022

- Pending home sales have fallen to their lowest point since the Covid lockdowns (March-May 2020), although the level is about at the average for 2015-19.
- Sales are being held back by decreasing affordability as rising home prices and mortgage rates are likely keeping some prospective households from buying.
- Sales are also being held back by the lack of homes for sale, which reached an all-time low in February after seasonal adjustment.

Commodity price gains are still very high; many boosted further by Russia's invasion of Ukraine



Sources: Commodity Research Bureau; Haver Analytics; March 30, 2022

- Twelve-month growth in the Commodity Research Bureau (CRB) spot commodity price index was over 25 percent at the beginning of April. While this is well down from the all-time high of nearly 55 percent from last June, it is still an unusually rapid growth rate.
- The strongest growth is coming from metals, foodstuffs, and fats/oils, all three of which have been affected by Russia's invasion of Ukraine.

As of April 2022	Actual		Estimate	Forecast			
	2020	2021	2022	2023	2024	2025	2026
Real GDP ¹	-3.4%	5.7%	3.3%	2.0%	1.8%	1.7%	1.6%
Unemployment Rate ^{2,7}	8.1%	5.4%	3.6%	3.4%	3.4%	3.5%	3.7%
Inflation (CPI) ⁵	1.2%	6.7%	5.1%	2.2%	2.5%	2.6%	2.5%
Total Home Sales ^{3,7}	6.47	6.89	6.71	6.55	6.25	6.00	5.80
S&P/Case-Shiller Home Price Index ⁹	10.3%	18.8%	9.0%	4.4%	3.5%	3.0%	2.5%
Light Vehicle Sales ^{3,7}	14.5	14.9	15.8	17.1	16.9	16.5	16.2
Federal Funds Rate ^{2,4,6}	0.00%	0.00%	1.75%	2.75%	2.75%	2.75%	2.75%
1-Year Treasury Note ^{2,4}	0.10%	0.39%	1.90%	2.80%	2.80%	2.80%	2.80%
5-Year Treasury Note ^{2,4}	0.36%	1.26%	2.50%	2.80%	2.85%	2.85%	2.80%
10-Year Treasury Note ^{2,4}	0.93%	1.52%	2.40%	2.85%	2.90%	2.90%	2.80%
30-Year Fixed-Rate Mortgage ^{2,4}	2.67%	3.11%	4.60%	5.10%	5.15%	5.10%	5.00%
Money Market Funds ^{2,8}	0.47%	0.14%	0.81%	2.28%	2.78%	2.78%	2.78%

Major forecast changes from last month

- The negative impacts of the supply shock coming from the Russian invasion of Ukraine are likely to persist longer than previously expected. As a result, we have lowered our projection for real GDP growth modestly for 2022 and 2023. But the longer the supply shock lasts and the more severe it is, the greater are the risks that growth will be lower than these reduced estimates.
- Although we still expect inflation to moderate over the second half of the year, the negative supply shock – and its persistence – should push price gains up by more than previously expected. We have increased our projection of CPI inflation by about half of a percentage point for 2022. As with real GDP growth, the possibility of a more protracted and severe supply shock suggests that the risks are for even higher inflation for this year.
- We have moved our 2022 year-end projections for longer-term interest rates higher to account for the recent jumps in these rates.

¹ Percent change year-to-year

² Percent

³ Million units

⁴ Year end

⁵ Percent change Q4-to-Q4

⁶ Target rate, lower limit

⁷ Year average

⁸ Annual return

⁹ Percent change Dec-to-Dec

Sources: Haver Analytics (actuals); Nationwide Economics (estimates and forecasts); except Money Market Funds (all data from Nationwide Economics)



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