

# 2022 Q1 Commentary

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- On March 11, 2020, the World Health Organization, officially declared a global pandemic. Two years hence, we are moving from a pandemic to an endemic. Endemic means that the infection has reached a steady state where it doesn't cause large outbreaks but it still circulates, causing individual cases. According to the CDC, Omicron infection generally causes less severe disease than infection with prior variants<sup>1</sup>. Preliminary data suggest that Omicron may cause more mild disease, although some people may still have severe reaction, need hospitalization, and could die from the infection from this latest variant.
- Although COVID-19 is not on a path to eradication, we are learning to live with it, or at least many are not willing to take extreme precautions and extraordinary measures or live in fear. Masking on airplanes and buses is lifted after April. Many states are also lifting mask requirements in schools and the remaining public areas.
- We are still in a race between improving vaccines and creating drugs to treat or prevent Covid and one or more new variants that result in “vaccine breakthrough infections”. If the annual flu season is a guide, we still have a lot more to learn about Covid and its long-term effects on our bodies and our minds/behavior. The final chapter is certainly not written, even though many, either through acceptance, bravery or ignorance, are moving on.
- Inflation remains the biggest concern as we witness prices for food, energy, goods and services continue to increase and remain elevated. We are experiencing inflation not seen for a generation. The market expects CPI to top 10% in the next couple of months before easing (primarily due to the waning Base Effect.)
- The Powell Federal Reserve is late to respond as it misjudged the duration and severity of this bout of inflation while focusing on healing the labor economy. With the “full employment” mandate reached (3.8% Feb 2022 unemployment rate), the Fed is now turning to the “price stability” mandate. This means hiking interest rate and the reduction of the pandemic era expansionary Fed balance sheet. Both are headwinds to the equity and bond markets, and of course the general economy.
- Russia's invasion of Ukraine on February 24 added significant stress on the global energy and agricultural supply chain, not to mention the humanitarian crisis that will have rippling effects throughout neighboring countries. Russia is the world's third-largest oil and gas exporter<sup>2</sup>, and Ukraine is a major transit route for the Russian gas that heats homes and fuels economies across Central and Western Europe. Russia also produces a large proportion of fertilizer and has moved to ban exports of ammonium nitrate. Ukraine, known as the breadbasket of Europe, represents 12.8% of world exports in corn and 10.5% in wheat prior to the war<sup>3</sup>. With ports closed, exports cease.
- The current inflation started with a supply shock and then a demand shock as the economy reopened. With demand recovering (starting with goods and now shifting towards services), manufacturing, transportation, storage and labor have not kept up which leads to persistent price increases. The U.S. economy is still strong for now with a healthy consumer and banking balance sheet. But prolonged inflation and possible rapid increase in rates would dampen economic enthusiasm.
- From a zero rate environment, monetary policies, such as rate increases, initially will not have much impact on consumer behavior, the economy and supply driven inflation. This means that Chair Powell must raise rates bigger and sooner (frontloading) in hopes to slow the demand portion of the economy enough to see the desired impact on inflation without leading into a recession. Engineering a “soft landing” is tricky when trying to deliver full employment and price stability (2% to 2.5% core PCE).

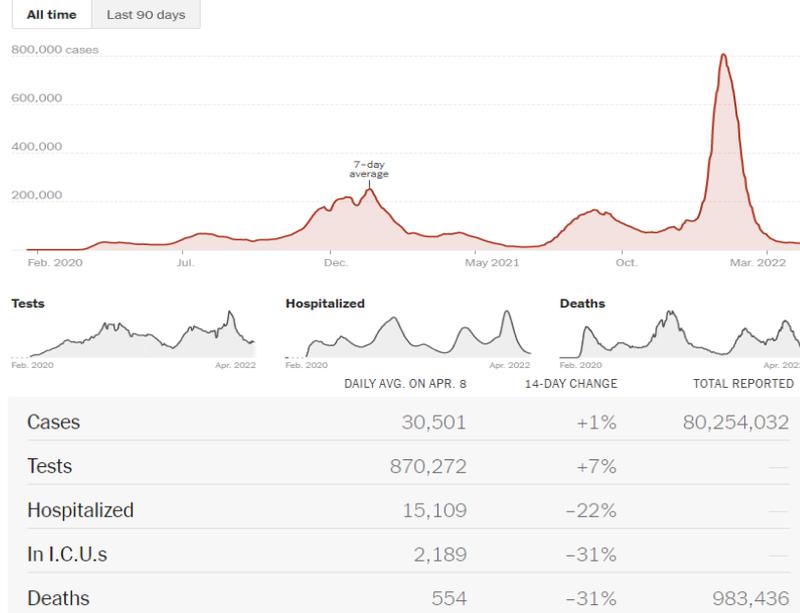
<sup>1</sup> [https://www.gavi.org/vaccineswork/alpha-omicron-everything-you-need-know-about-coronavirus-variants-concern?gclid=Cj0KCQjw\\_4SBhCgARIsAAlegrVY-yAhd5zNM9\\_TKx2lQ6iKrUFmKlApfinkb0llyjBOGju-ux1aL02waAlltEALw\\_wcB](https://www.gavi.org/vaccineswork/alpha-omicron-everything-you-need-know-about-coronavirus-variants-concern?gclid=Cj0KCQjw_4SBhCgARIsAAlegrVY-yAhd5zNM9_TKx2lQ6iKrUFmKlApfinkb0llyjBOGju-ux1aL02waAlltEALw_wcB)

<sup>2</sup> <https://www.bbc.com/news/58888451>

<sup>3</sup> <https://ihsmarkit.com/research-analysis/ukraine-agriculture-exports-what-is-at-stake.html>

# Cases, Hospitalization, Death and the Future

## New reported cases

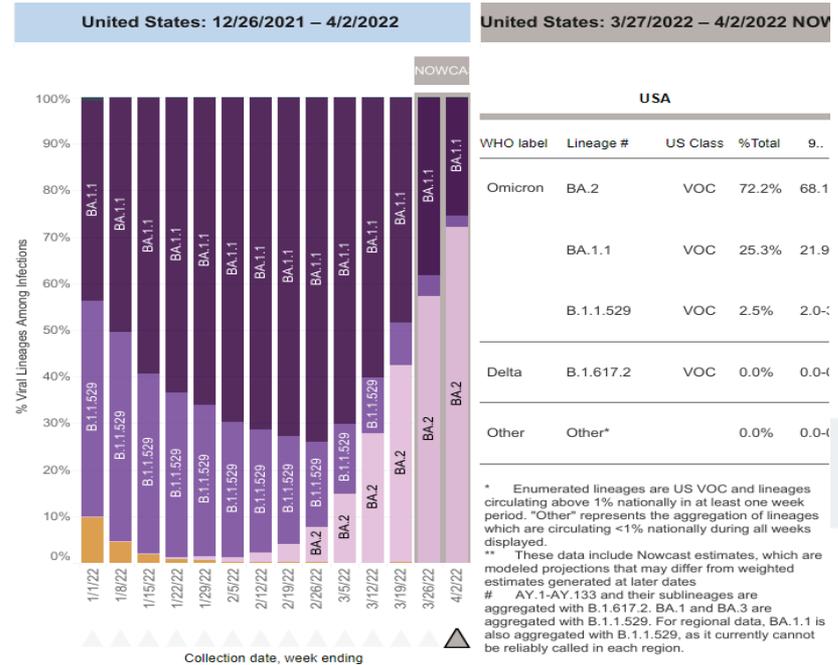


<https://www.nytimes.com/interactive/2021/us/covid-cases.html>

As of 03-27-2022, reports of new coronavirus cases in the United States are still declining, though the pace of improvement has slowed in recent days. Several states in the Northeast and the South have seen cases increase over the past two weeks as the **BA.2 subvariant** has emerged. In New York, Connecticut and Arkansas, cases are up by more than 20%. Still, most states continue to see sustained declines, and cases remain at their lowest levels nationally since last July.

Omicron infection generally causes less severe disease than infection with prior variants. Preliminary data suggest that Omicron may cause more mild disease, although some people may still have severe disease, need hospitalization, and could die from the infection with this variant.

<https://www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html>



<https://covid.cdc.gov/covid-data-tracker/#variant-proportions>

- 11-24-2021: A new variant of COVID-19, B.1.1.529, was reported to the World Health Organization (WHO). This new variant was first detected in specimens collected on 11-11-2021 in Botswana and on 11-14-2021 in South Africa.
- 11-26-2021: WHO named the B.1.1.529 “Omicron” and classified it as a Variant of Concern (VOC).
- 11-30-2021: The U.S. designated Omicron as a Variant of Concern.
- 12-1-2021: The first confirmed U.S. case of Omicron was identified.
- Now, the Omicron BA2 variant is dominant in the U.S. We are moving from a pandemic to an endemic – living with a seasonally milder version of Covid is likely to be our future. The true test will come next Fall when we are all back indoors once again.



# High Frequency Economic Data

## BOX OFFICE RECEIPTS



## RAIL CAR TRAFFIC (CARS)



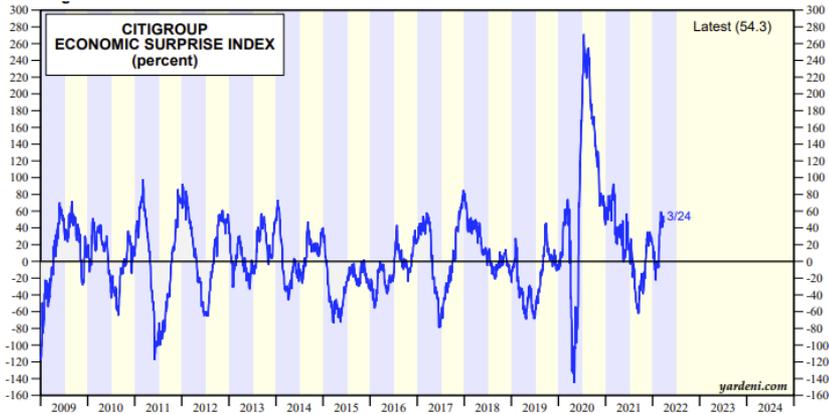
## STEEL PRODUCTION (NET TONS)



## HOTEL OCCUPANCY



<https://www.ftportfolios.com/Blogs/EconBlog/2022/3/18/recovery-tracker-3182022>



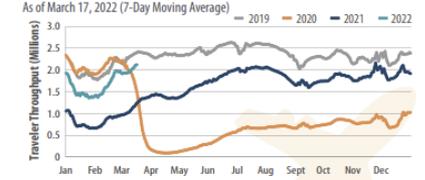
<https://www.yardeni.com/pub/citigroup.pdf>

Citi's Economic Surprise Index, which measures the degree to which economic data is either beating or missing expectations, continues to positively improve in the first quarter. This upside surprise continues to be supportive to the stock market even though we are under significant inflation, interest rate and geopolitical risks.

## OPENABLE STATE OF THE RESTAURANT INDUSTRY



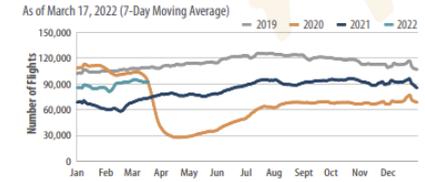
## TSA CHECKPOINT DATA



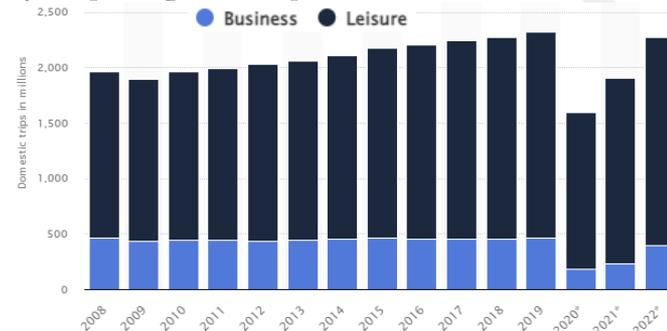
## SUPPLY OF MOTOR GASOLINE IN THE U.S. (MGBL/D)



## GLOBAL COMMERCIAL FLIGHTS



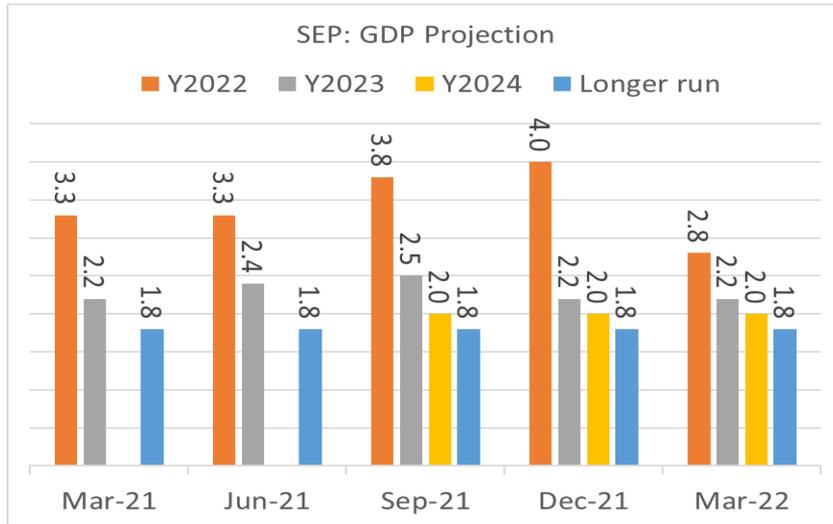
High frequency data shows that economic activities have all started out during the first quarter better than 2021 first quarter. However, certain economic activities remain below 2019 first quarter levels. Some can be explained by the lingering effect of Covid and the uneven pace of the services economy reopening back to pre-Covid levels.



Business and leisure travel remain below 2019 levels.

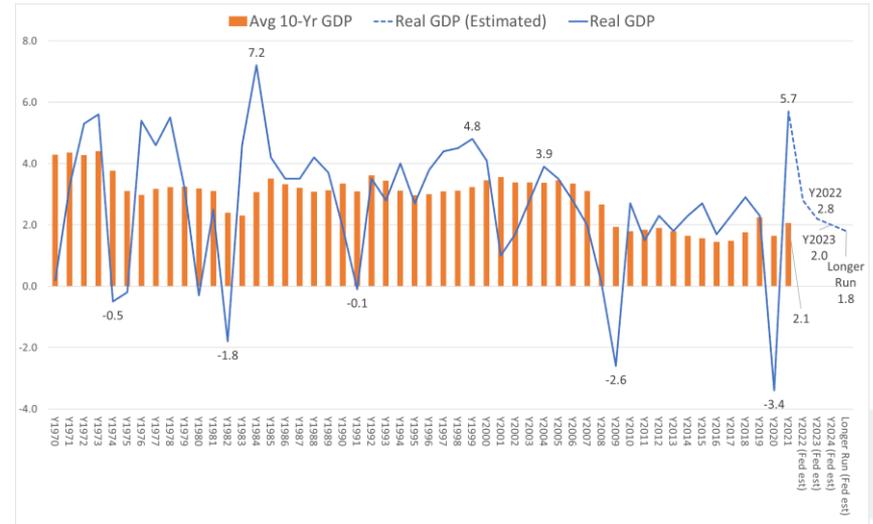
Source: <https://www.statista.com/statistics/207103/forecasted-number-of-domestic-trips-in-the-us/>

# Summary of Economic Projections - GDP



<https://www.federalreserve.gov/monetarypolicy/fomcprojtable20220316.htm>

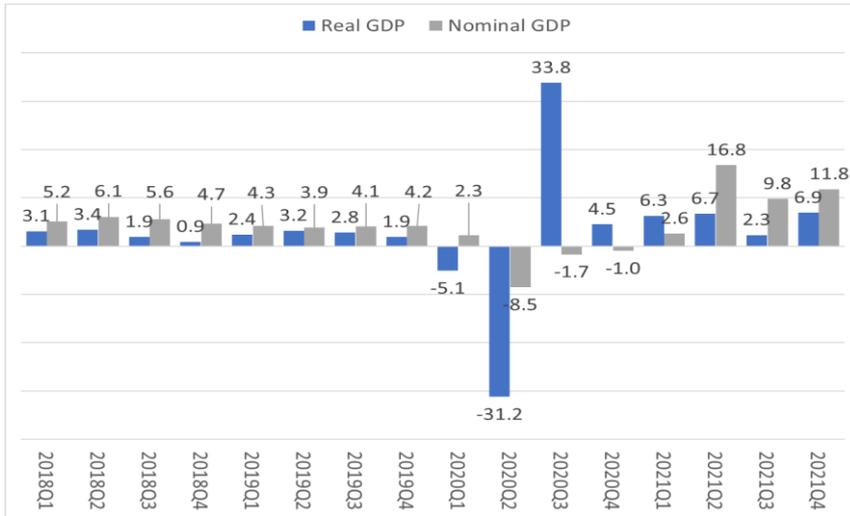
The Federal Open Market Committee's (FOMC) March meeting released its quarterly Summary of Economic Projections (SEP). FOMC participants submit their projections of the most likely outcomes for real gross domestic product (GDP) growth. Participant projections are based on information available at the time of the meeting together with their assessment of appropriate monetary policy and assumptions about other factors likely to affect economic outcomes. The SEP should NOT be relied upon as the official position of the FOMC. Clearly, the FOMC has revised downward its 2022 economic growth projection. This is in recognition of the Omicron surge during the winter months that dampened economic activities and the Russian invasion of Ukraine that added uncertainty.



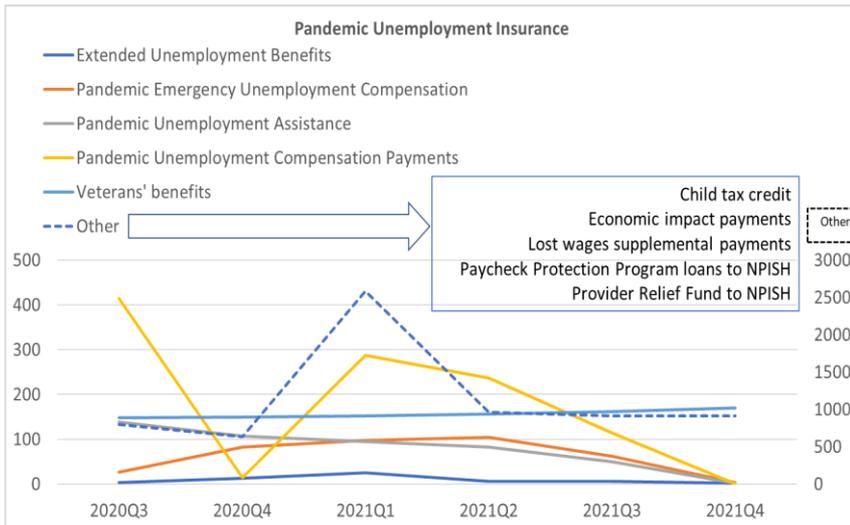
<https://fred.stlouisfed.org/series/GDP>

Based on historical real GDP data, since the 1970's, the U.S. has been in a flat to downward growth rate, ending in the last 10-years through 2021 at an average of 2.1%. The latest SEP projects the longer run real GDP after 2024 is at 1.8%. This suggests that the long-term trajectory for economic growth remains downward with these mega disinflation trends: (1) the U.S.'s aging demographics (both slowing birthrate and growing retirees) and (2) increasing adoption and integration of technology in our daily lives here and globally.

# The U.S. Economy - GDP

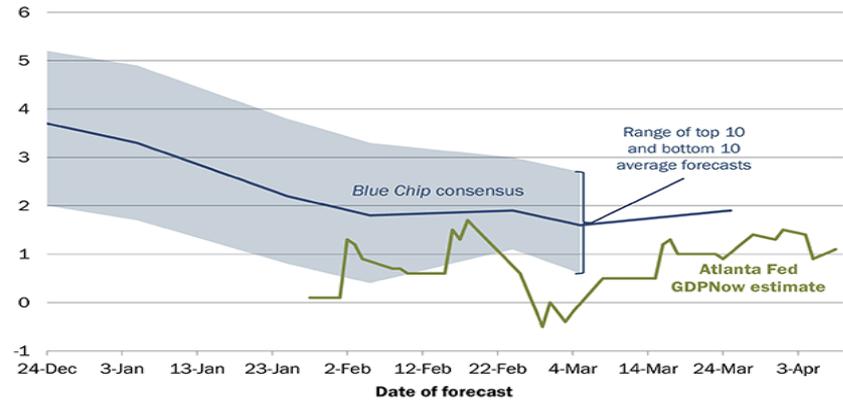


<https://www.bea.gov/news/2022/gross-domestic-product-fourth-quarter-and-year-2021-advance-estimate>



<https://www.bea.gov/sites/default/files/2022-03/effects-of-selected-federal-pandemic-response-programs-on-personal-income-2021q4-3rd.xlsx>

**Evolution of Atlanta Fed GDPNow real GDP estimate for 2022: Q1**  
Quarterly percent change (SAAR)

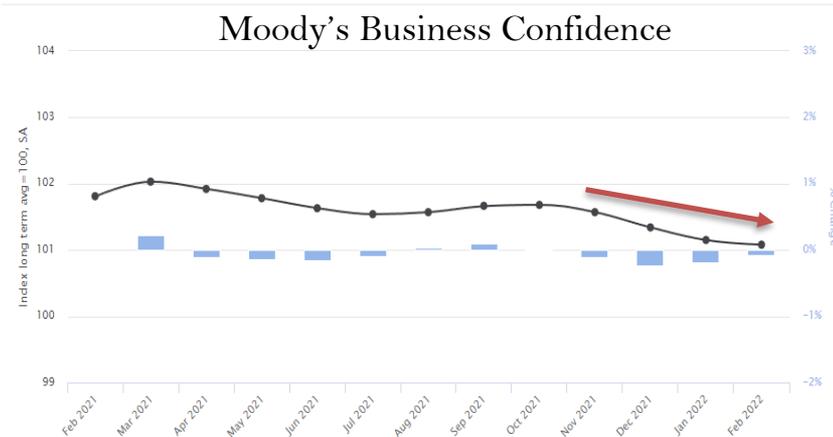
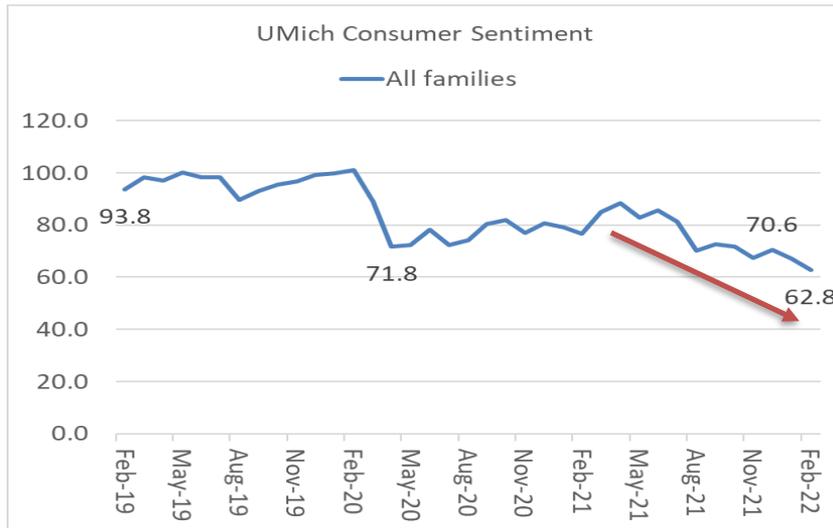


Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts  
Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.

<https://www.atlantafed.org/cqer/research/gdpnow>

Real gross domestic product (GDP) increased at an annual rate of 6.9% in Q4, following an increase of 2.3% in Q3. The acceleration in Q4 was led by an increase in inventory investment, upturns in exports and residential fixed investment, and a rise in consumer spending. Government assistance payments, in the form of forgivable loans to businesses, grants to state and local governments, and social benefits to households, all decreased as provisions of several federal programs expired or tapered off. The Atlanta Fed's GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the first quarter of 2022 is 1.1 percent on April 8, up from 0.9 percent on April 5. We expect the Q1 GDP to be low due to the Omicron surge in the winter that slowed economic activities. Also, most of the pandemic era fiscal transfers came to an end in 2021Q4.

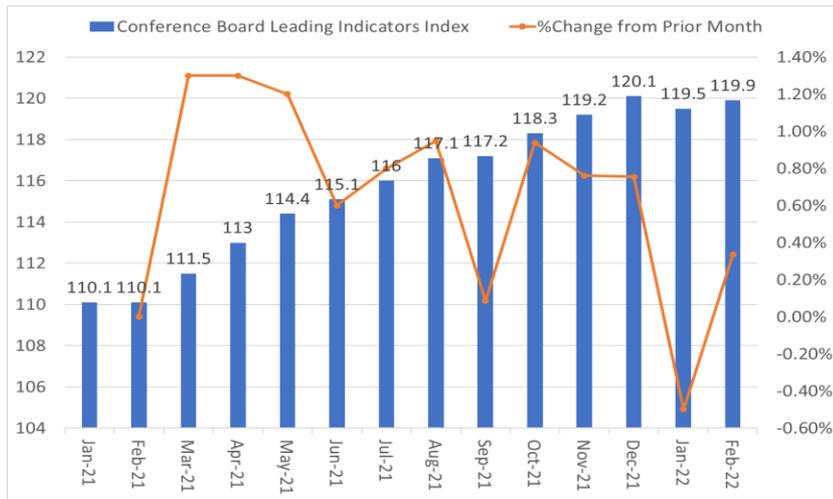
# Consumer & Business Confidence



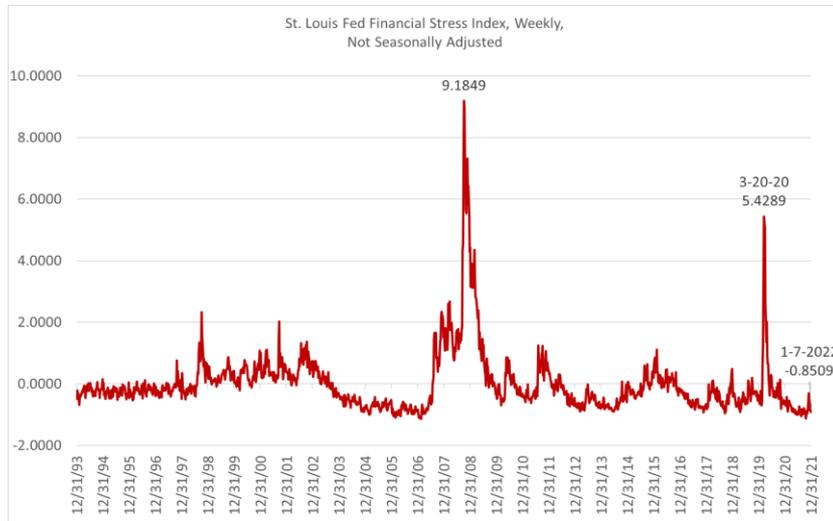
<https://www.economy.com/united-states/business-confidence>

The heightened inflation rate is putting pressure on confidence about the economy. However, this does not immediately affect consumer behavior. The fiscal stimulus/transfers during the last two years have strengthened consumer balance sheets with higher average savings and lower debt. When inflation first happens, consumers tend to dig into their savings and then credit to support their lifestyle. As such, there is a lag from consumer change in sentiment/confidence to changing behavior that would impact the economy.

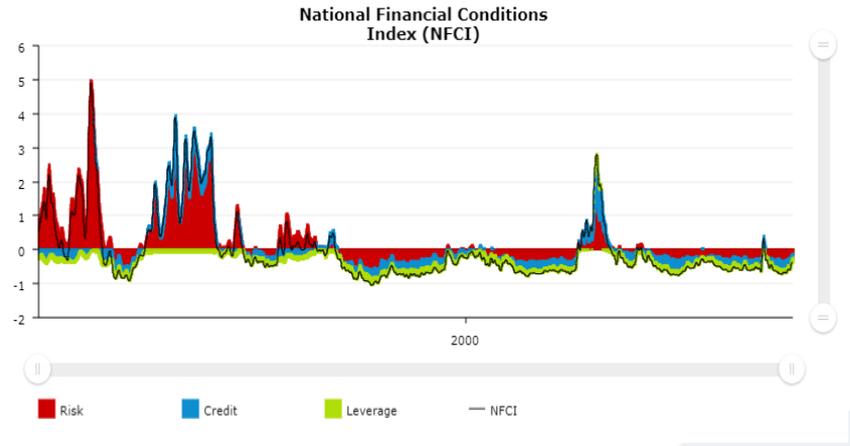
# Financial Conditions – Green Light So Far



Source: Conference Board, Moody's



Source: St Louis Fed <https://fred.stlouisfed.org/series/STLFSI2>



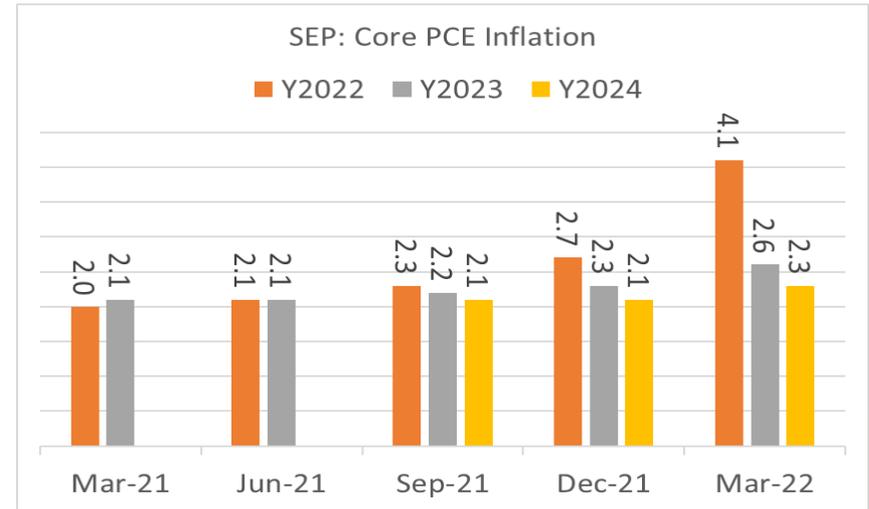
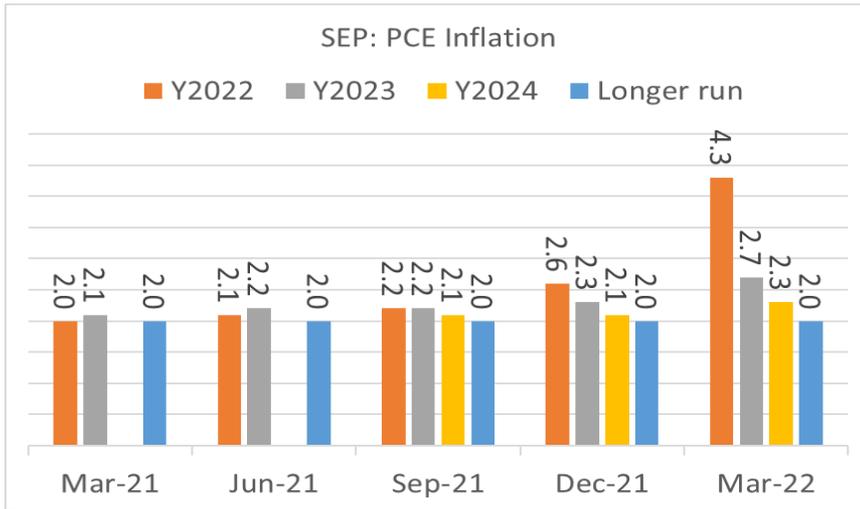
<https://www.chicagofed.org/publications/nfci/index>

The Conference Board Leading Indicators Index intends to forecast future economic activities. The index shows a 0.3% rise in February. The economy seems to have rebounded quickly following the temporary economic impacts of the Omicron variant of COVID-19. However, the index does not reflect the full impact of the Russia-Ukraine military conflict.

The St. Louis Federal Reserve Bank's Financial Stress Index continues to remain supportive. (Negative is accommodative.) This index measures the degree of financial stress in the markets and is constructed from 18 weekly data series.

The Chicago Fed's National Financial Conditions Index (NFCI) provides a comprehensive weekly update on U.S. financial conditions in money markets, debt and equity markets, and the traditional and "shadow" banking systems. The NFCI ticked down to  $-0.38$  in the week ending April 1. Risk indicators contributed  $-0.12$ ; credit indicators contributed  $-0.13$ ; and leverage indicators contributed  $-0.13$  to the index in the latest week. All these signals indicate the financial conditions remain supportive to the economy. This may change quickly under an aggressive monetary policy framework with prolonged geopolitical uncertainties.

# Summary of Economic Projections – Inflation (Core PCE)



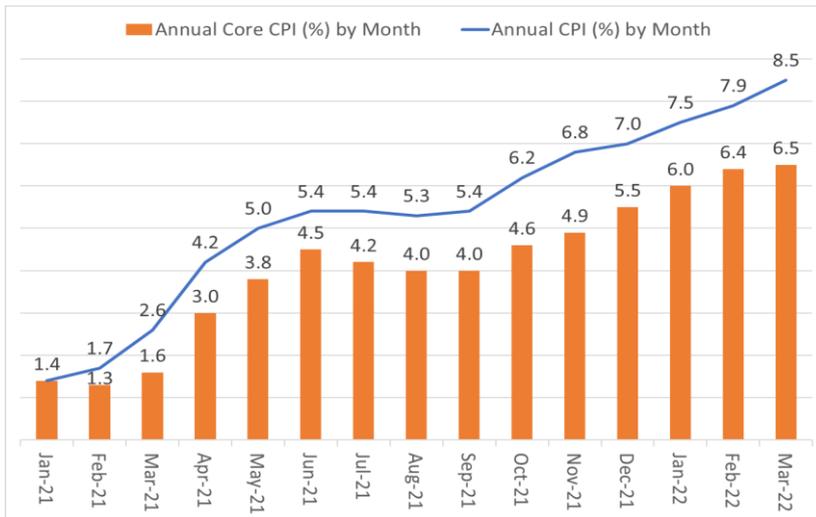
<https://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20211215.pdf>

Since last year, the Federal Reserve has been broadcasting that they will not react to the first sign of inflation. The Fed intends to see a higher inflation regime for a while to (1) have a higher certainty that deflation or disinflation is not a threat to the economy and (2) ensure the average inflation rate is above 2% when the past years of below 2% are taken into consideration. This means that the Federal Reserve will not take monetary action in response to higher inflation, thereby allowing the economy to run hotter for longer.

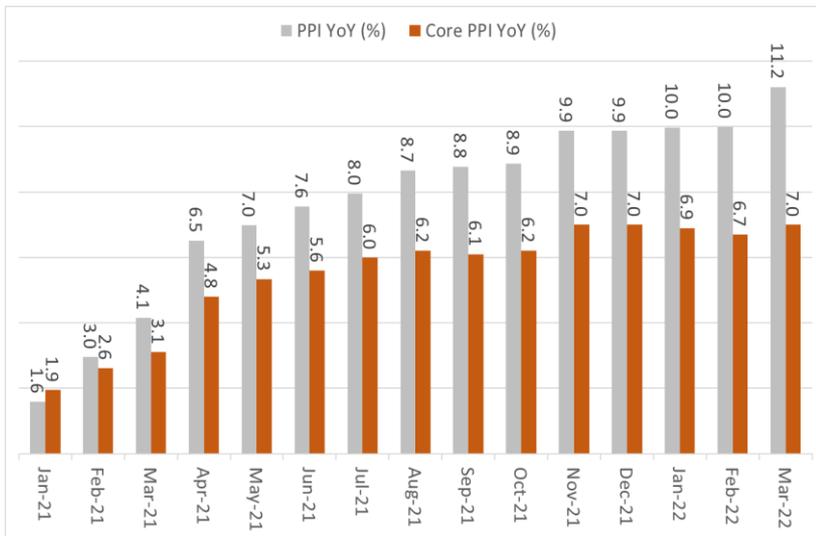
In the latest SEP, it is clear that FOMC members see inflation peaking in 2022 and retreating to 2% or slightly over 2% by 2025 and beyond.

In the meantime, the projections for PCE and Core PCE have both substantially been revised upward for 2021 and 2022. Of course, inflation dynamics are fluid, and the exact inflation path may be uncertain. However, directionality is clear. Of late, Chair Powell no longer refers to post-Covid inflation as transitory. However, the period of rising inflation rate may be longer than most observers anticipate and is Covid-path dependent. We believe that the supply chain of finished and raw materials, although healing, will remain in some form of bottleneck for extended periods. However, the countervailing forces are the end of fiscal transfer and the ultra-accommodative monetary posture. This may somewhat restrict consumer spending and reduce demand for goods and services on the margin.

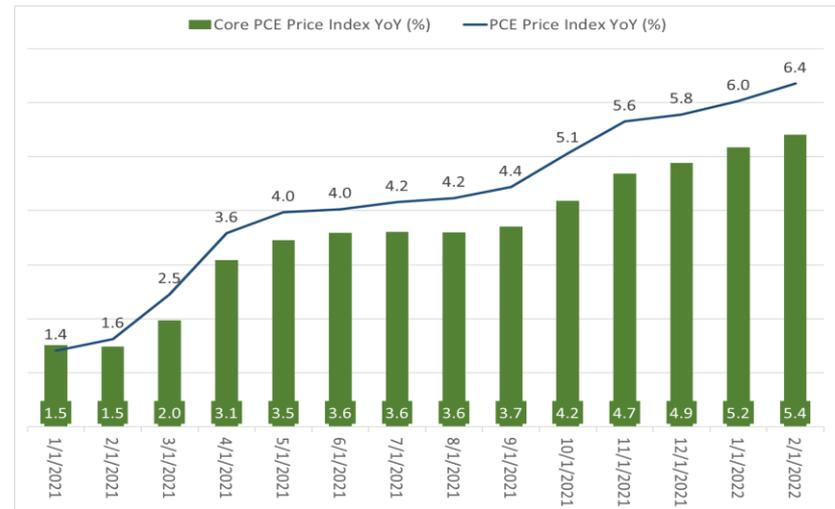
# Inflation – CPI, PCE and PPI



<https://www.bls.gov/cpi/>



<https://www.bls.gov/ppi/>



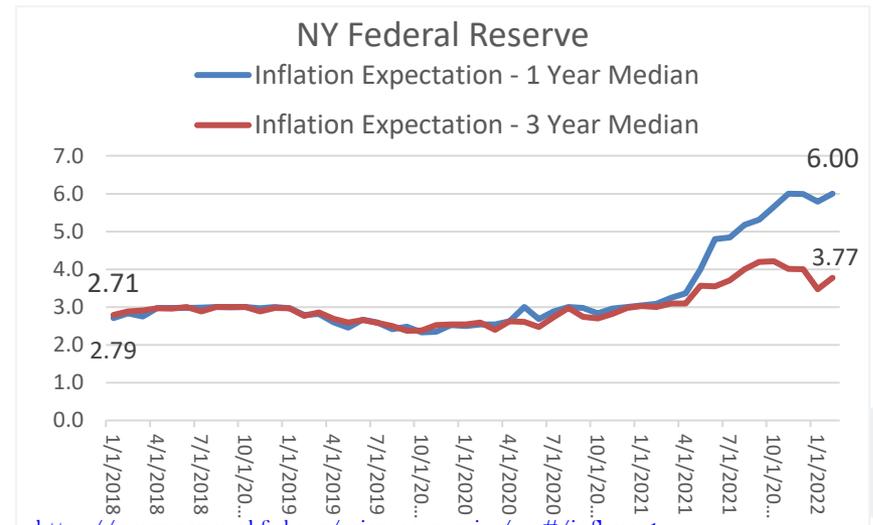
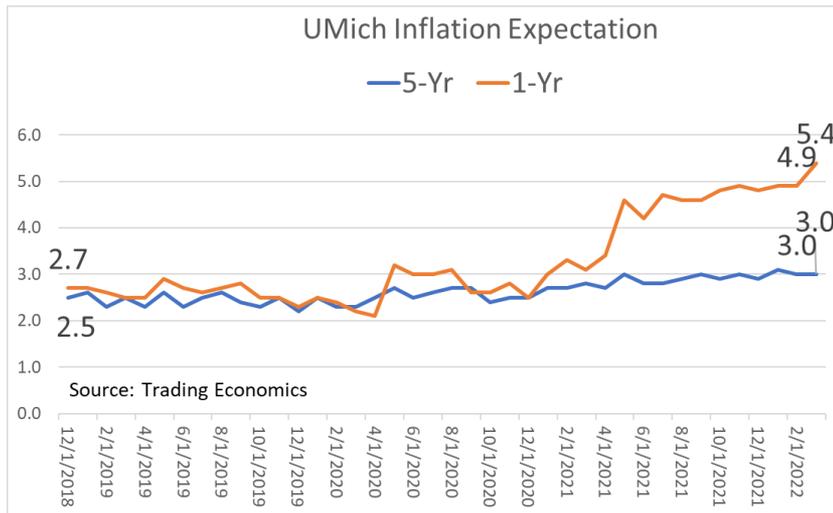
<https://www.bea.gov/data/personal-consumption-expenditures-price-index>

The March CPI index rose 8.5% for the trailing 12-months, the largest 12-month increase since the period ending June 1982. The index for all items less food and energy (core CPI) rose 6.5% over the last 12 months, while the energy index rose 32%, and the food index increased 8.8%. Although CPI continues to move upward, core CPI may have stalled. This may signal that we are at inflation peak.

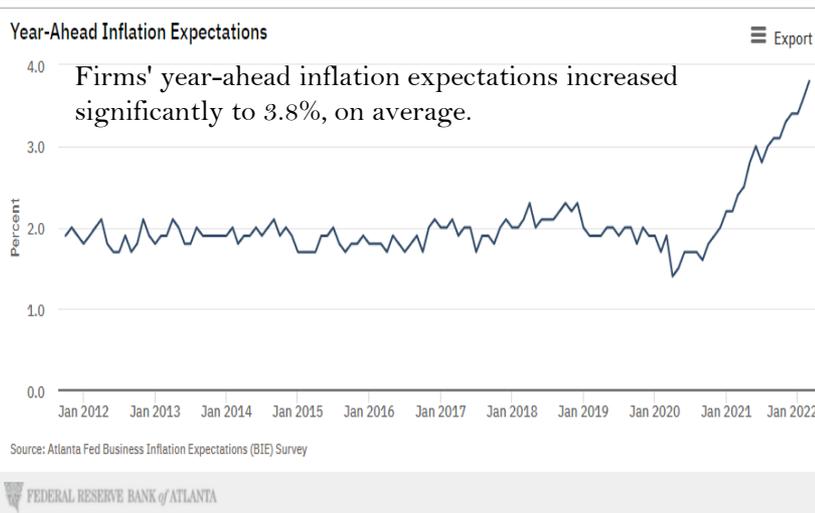
Producer prices for final demand increased 11.2% during the 12 months ended in March 2022, the largest increase since 12-month data were first calculated in November 2010. the index for final demand less foods, energy, and trade services increased 7.0 percent.

Thus, although the Fed focuses on core inflation, PPI clearly shows the soaring impact of energy and food as input prices, and if this persists, it is only a matter of time before price elevation will bleed into core inflation.

# Inflation Expectation – Survey-Based

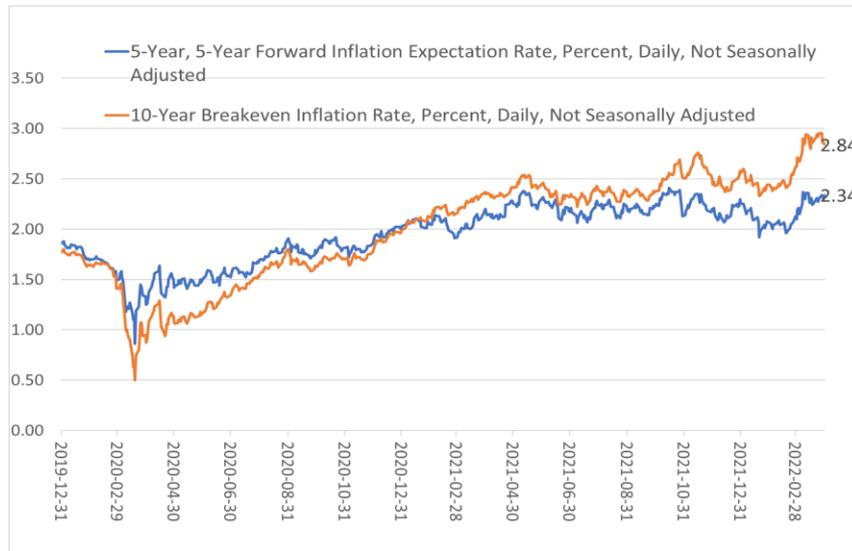


Inflation expectation is an important indicator for future inflation. Thus far, survey-based data suggest that the near term or 1-year inflation expectations have jumped as the CPI hits higher highs each month. However, the longer 3- and 5-year expectations remain fairly well anchored. This suggests that consumers believe the current burst of inflation is not likely to be long term, but this may change if the shorter-term price increases do not come under control. The question is can central bank tightening policies alone be sufficient to bend the curve of inflation without us ending in a global recession.



<https://www.atlantafed.org/research/inflationproject/bi>

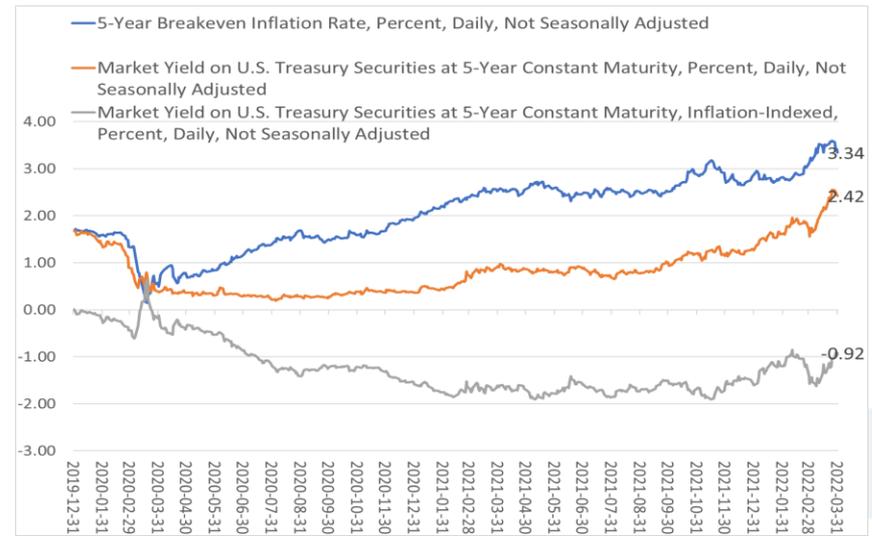
# Inflation Expectation – Market-Based



**5-Year, 5-Year Forward Inflation Expectation Rate** is a measure of expected inflation (on average) over the five-year period that begins five years from today.

**10-Year Breakeven Inflation Rate** is a measure of expected inflation derived from 10-Year Treasury Constant Maturity Securities and 10-Year Treasury Inflation-Indexed Constant Maturity Securities. The latest value implies what market participants expect inflation to be in the next 10 years, on average.

**5-Year Breakeven Inflation Rate** is the measure of expected inflation derived from 5-Year Treasury Constant Maturity Securities and 5-Year Treasury Inflation-Indexed Constant Maturity Securities. The latest value implies what market participants expect inflation to be in the next 5 years, on average.

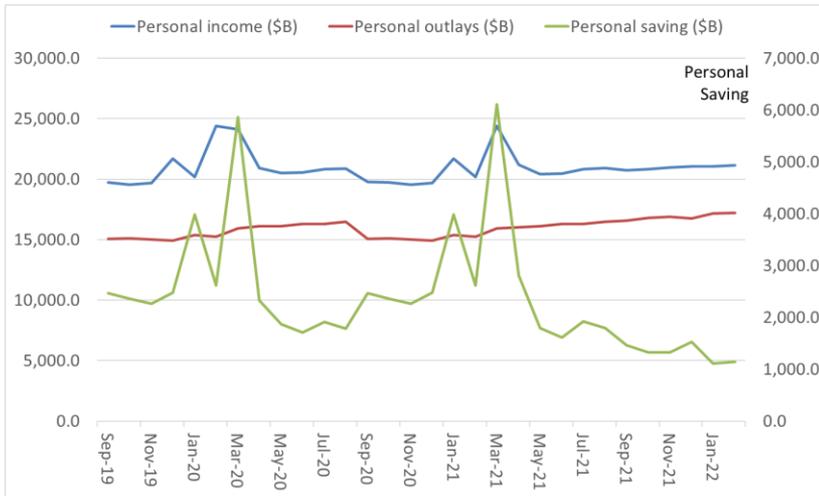


**5-Year Constant Maturity Rate** is the nominal rate of the 5-Year U.S. Treasury. The latest value is the current yield on the 5-Year Treasury.

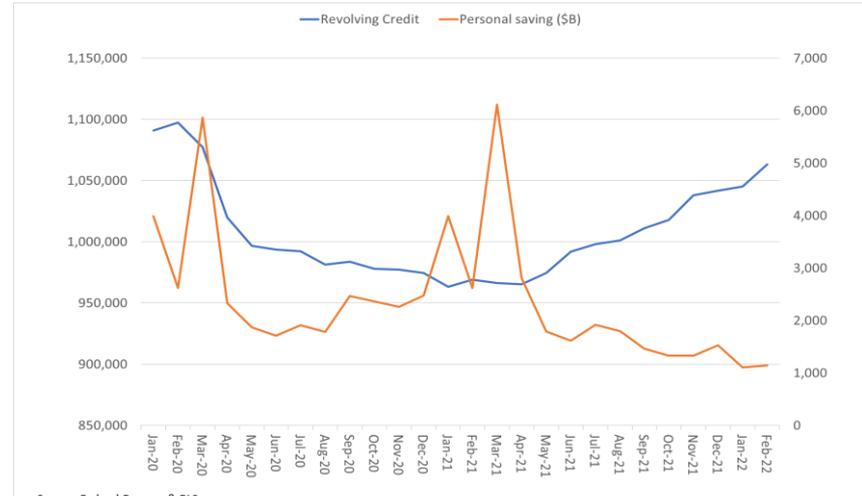
**5-Year Constant Maturity, Inflation-Indexed Rate** is the current yield on the 5-Year TIPS.

Based on market participants, the inflation rate is expected to be at 3.34% in 5 years and at 2.84% 5-years from 2027. The 10-year expectation is at 2.34%. These expectations have all increased since January but are still fairly anchored. The market does not expect a sustained high level of inflation in the longer run, at least for now.

# Savings, Credit, Fed Balance Sheet and M2

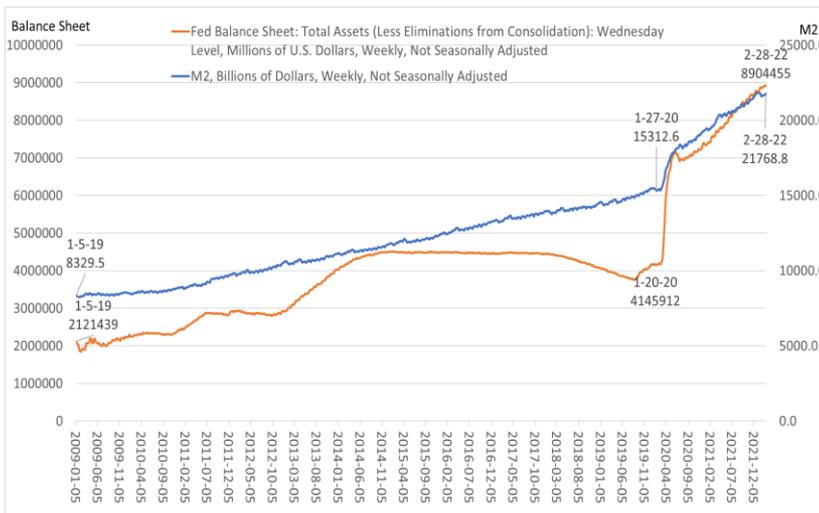


<https://www.bea.gov/sites/default/files/2022-03/pi0222.pdf>



Source: Federal Reserve & BLS

[https://www.federalreserve.gov/releases/g19/HIST/cc\\_hist\\_sa\\_levels.html](https://www.federalreserve.gov/releases/g19/HIST/cc_hist_sa_levels.html)



Both personal income and outlay are slowly rising since 09-2019. Since mid-2021, revolving credit has risen while personal savings has fallen. This could mean that, after spending down their savings, consumers are using credit to defend their lifestyle. The Fed's balance sheet has ballooned from \$4 trillion to \$8.9 trillion since 1-20-2020 and M2 (a broad measure of money supply in the system) jumped from pre-Covid of \$41T to \$89T. This amount of money pumped into the system was inflationary while the balance sheet expansion promoted risk taking (stocks) and real estate lending. These factors all contributed to demand driven inflation.

# The Consumer Is Still Spending for Now

## Mastercard SpendingPulse™ U.S. Snapshot – February 2022

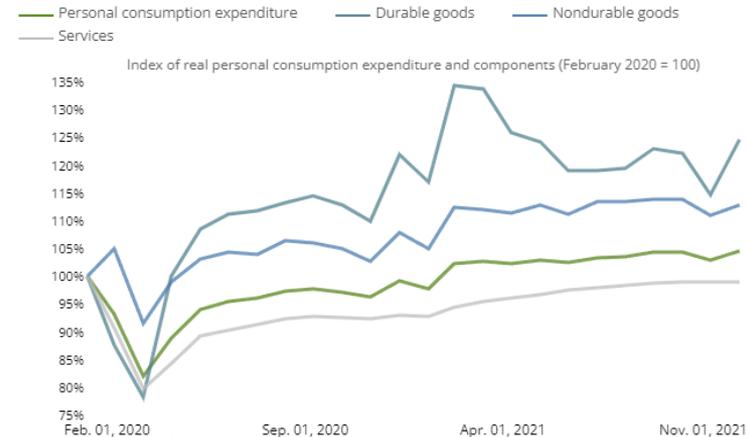
	Sales Growth Year-Over-Year Feb. 2022 vs. Feb. 2021	Sales Growth vs. Pre-Pandemic Feb. 2022 vs. Feb. 2019
<b>Total Retail (ex. Auto)</b>	<b>+8.7%</b>	<b>+17.3%</b>
<b>E-commerce</b>	<b>+4.4%</b>	<b>+85.9%</b>
<b>In-Store</b>	<b>+10.0%</b>	<b>+8.0%</b>
By Sector	Sales Growth Feb. 2022 vs. Feb. 2021	Sales Growth Feb. 2022 vs. Feb. 2019
Apparel	+37.6%	+34.3%
Department Stores	+26.3%	+3.4%
Electronics & Appliances	+12.2%	+8.1%
Furniture & Furnishings	+10.8%	+17.9%
Grocery	+6.8%	+24.1%
Jewelry	+22.4%	+24.2%
Luxury (ex: jewelry)	+55.4%	+30.8%
Restaurants	+39.4%	+24.2%



Source: Mastercard SpendingPulse, which measures in-store and online retail sales across all forms of payment.

<https://www.businesswire.com/news/home/20220309005286/en/>

## Consumer spending on durable goods grew 8.5% in January, the sharpest rise since March 2021



<https://www2.deloitte.com/us/en/insights/economy/consumer-pulse/state-of-the-us-consumer.html>

## Safety perceptions in February reached their highest level since the start of the pandemic

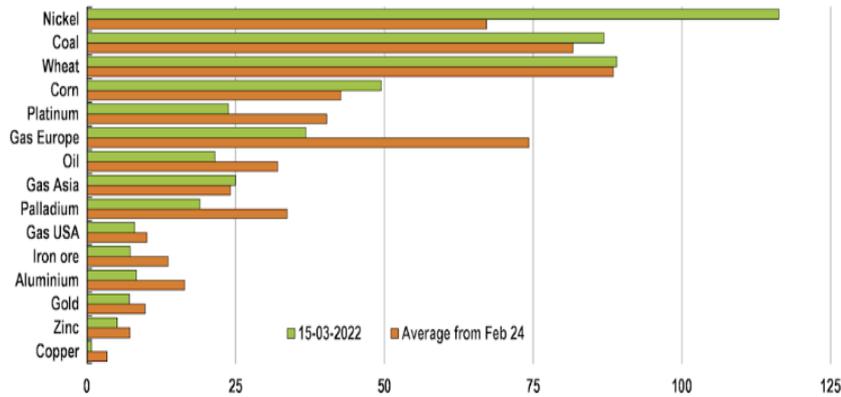


<https://www2.deloitte.com/us/en/insights/economy/consumer-pulse/state-of-the-us-consumer.html>

# And then came the invasion...

## Commodity prices have shot up.

% change from Jan 2022 average

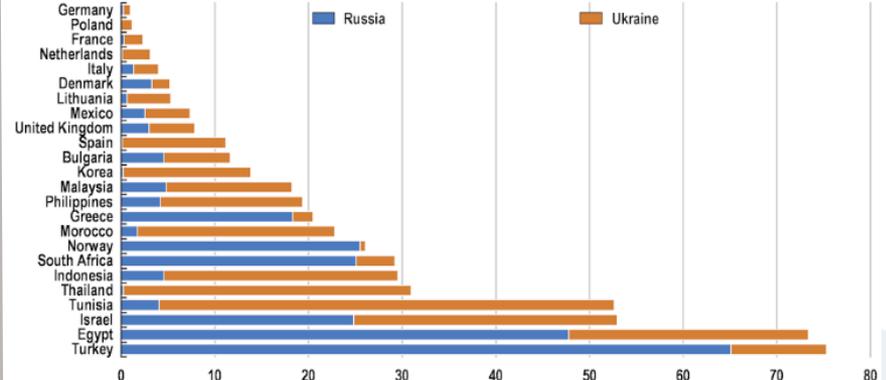


Source: Refinitiv.

<https://www.oecd-ilibrary.org/sites/4181d61b-en/index.html?itemId=/content/publication/4181d61b-en>

## Food prices are set to rise too.

Share of wheat imports from Russia and Ukraine in total wheat imports in 2019, in per cent

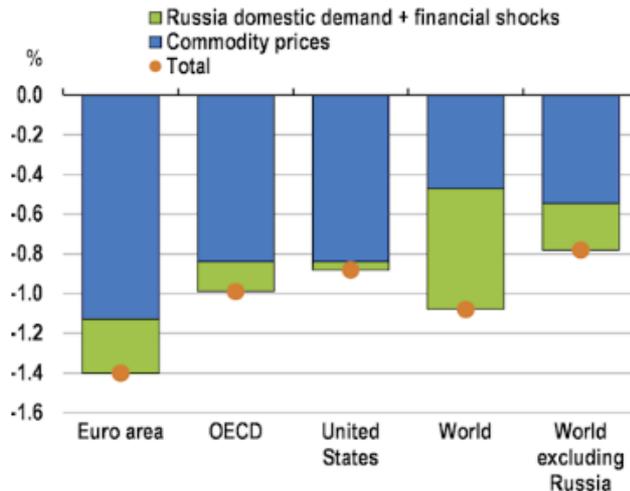


Source: Comtrade; and OECD calculations.

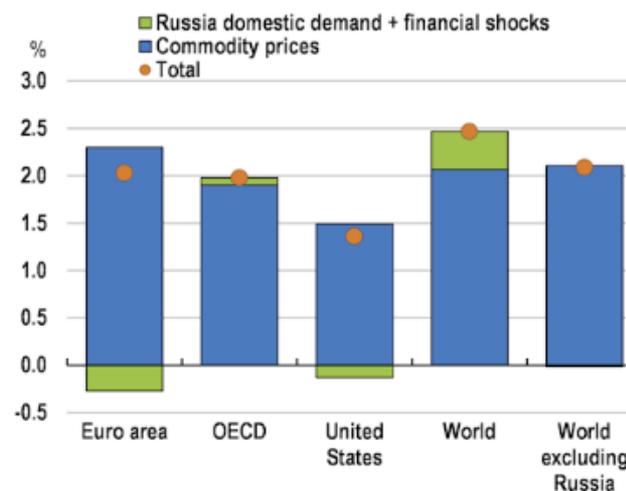
OECD: The conflict implies a substantial hit to global growth and stronger inflation.

Difference from baseline

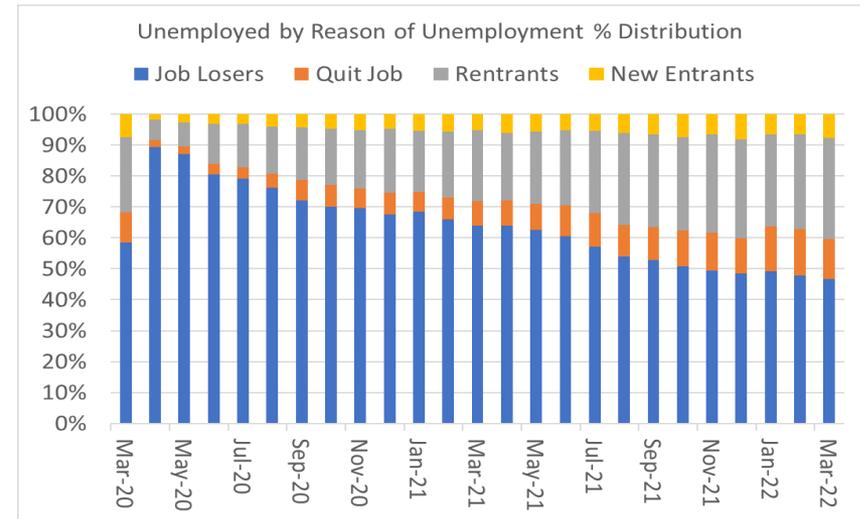
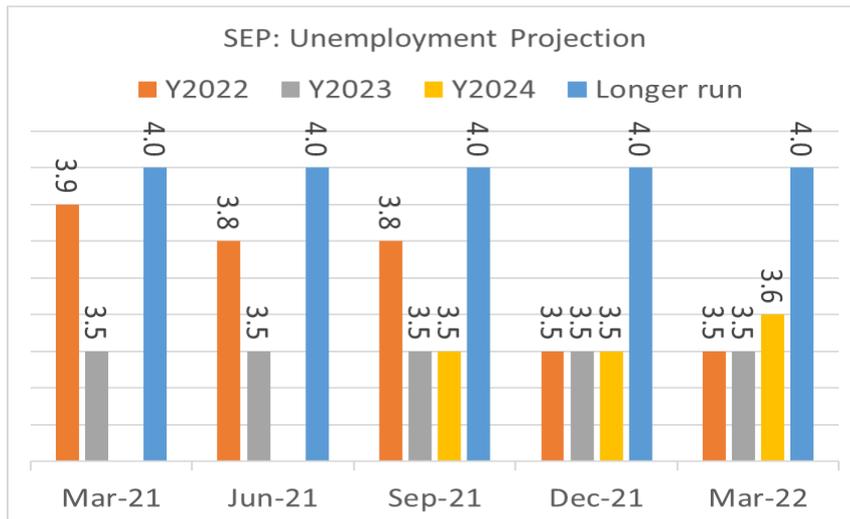
A. Impact on GDP in first full year



B. Impact on inflation in first full year

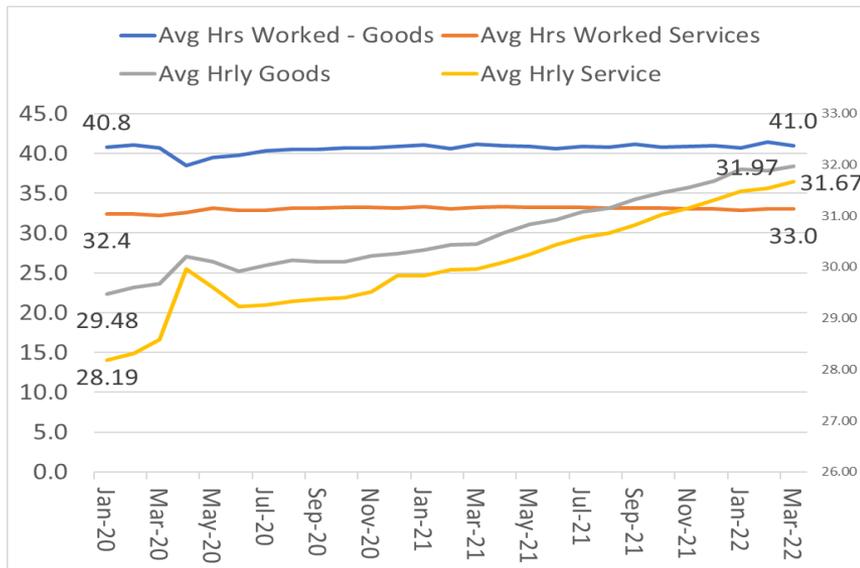


# Summary of Economic Projections – Unemployment (U3)



<https://www.federalreserve.gov/monetarypolicy/files/fomcproitabl20220316.pdf>

<https://www.bls.gov/webapps/legacy/cpsatab11.htm>



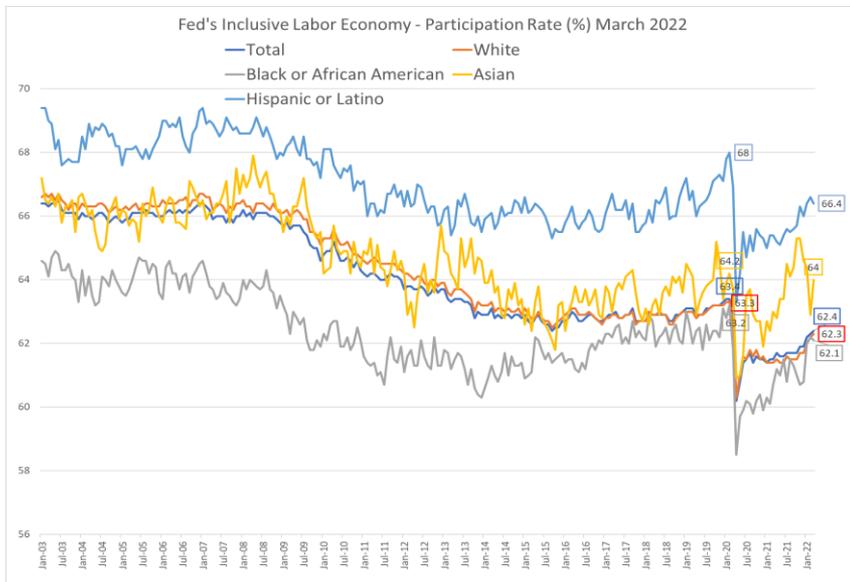
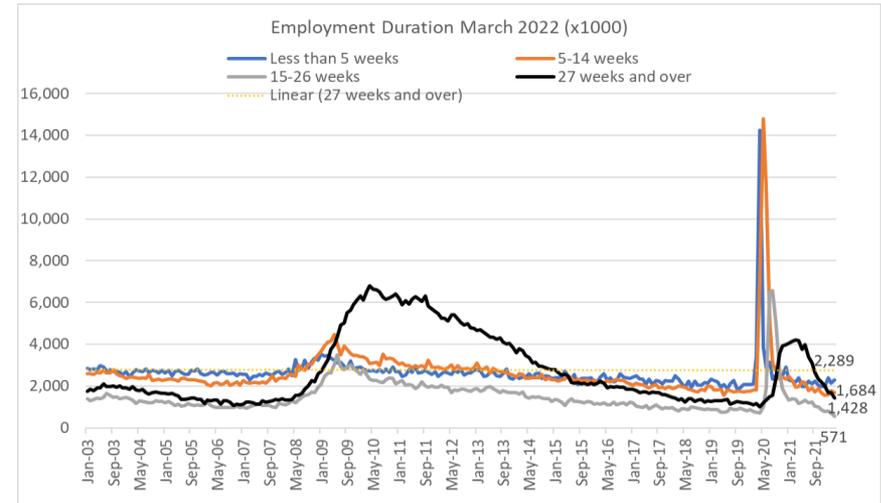
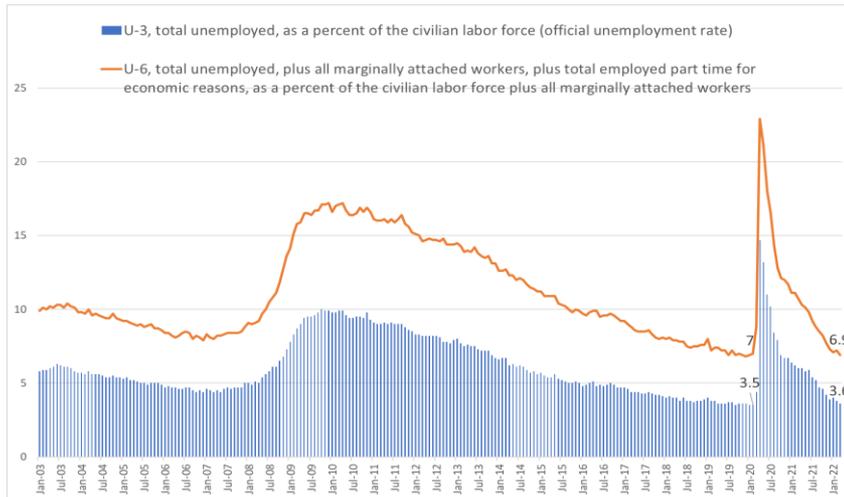
<https://www.bls.gov/ces/data/employment-situation-table-download.htm>

The Federal Reserve expects the U.S. to return to its pre-Covid low of 3.5% unemployment by 2022, a speedier rate than March's SEP projection. The March U3 unemployment is at 3.6%, a continuing improvement, and is quickly reaching the 3.5% pre-Covid rate. This is the lowest since the pandemic. Naturally, "Job Losers" continue to come down. The number of hours worked for both Services and Goods Producing workers have returned to pre-Covid levels. The hourly wage for the services and the goods producing sectors have also both exceeded the pre-Covid levels.

Job Losers continue to shrink while Job Quitters continue to increase - signs of a better job market and more workers reentering the job market. These are all good indicators of a strong and growing labor market.

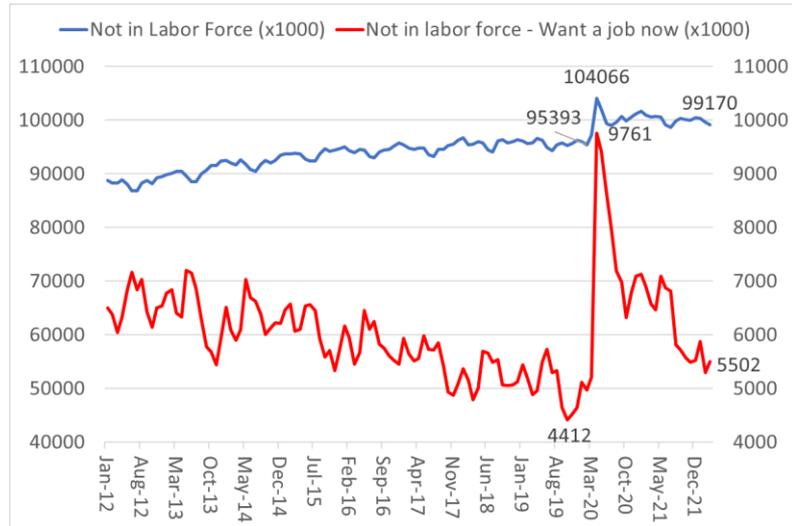
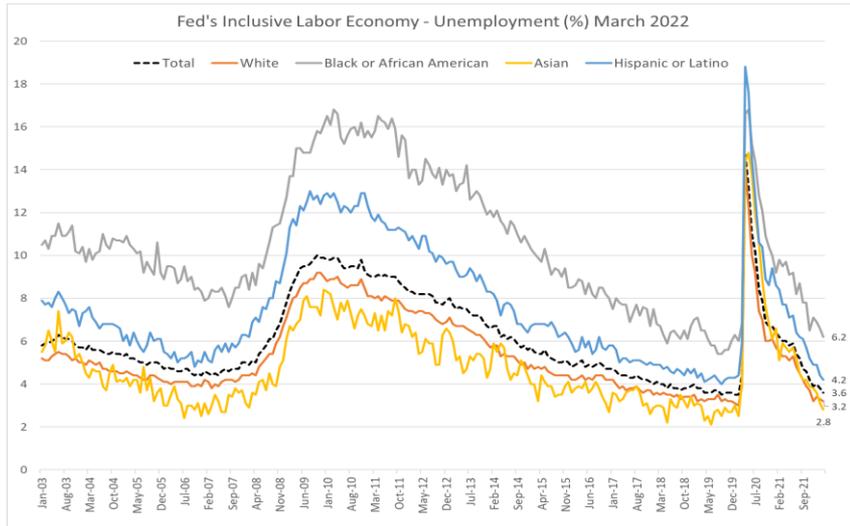


# The Labor Economic



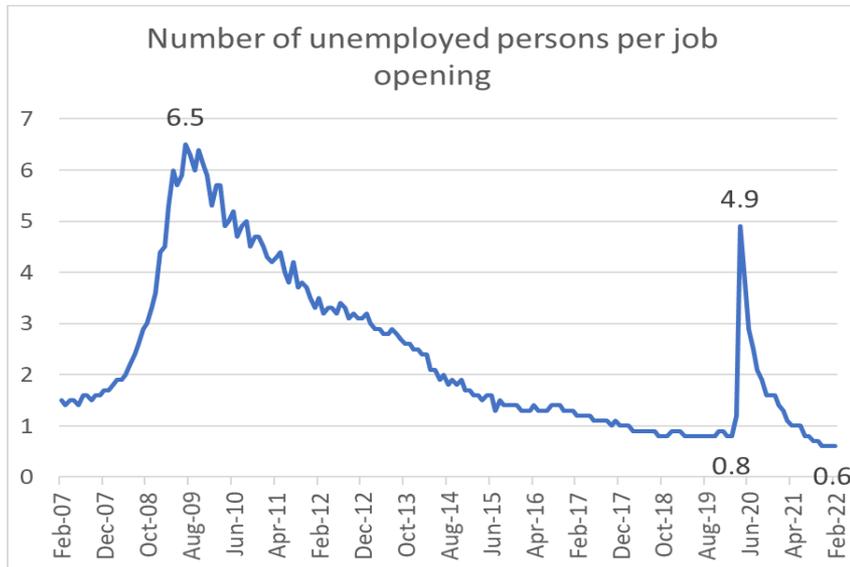
One of the two mandates for the Fed is full employment. Although neutral unemployment ( $u^*$ ) is not set or known, by most standards, the labor economy has substantially returned to pre-Covid time (Feb 2020). Both the March U3 and U6 rates have reached the pre-pandemic level. From an unemployment duration standpoint, there is substantial improvement for those unemployed for 27-weeks or longer. The scarring that many economists anticipated has not materialized in the labor economy. More improvement is expected this year. On many levels, the Fed's mandate of full employment in the U.S. has been met, and the Fed is feeling more confident that reduction in monetary accommodation to fight inflation will not be at the expense of the labor market, for now.

# Labor Market – Inclusive Recovery

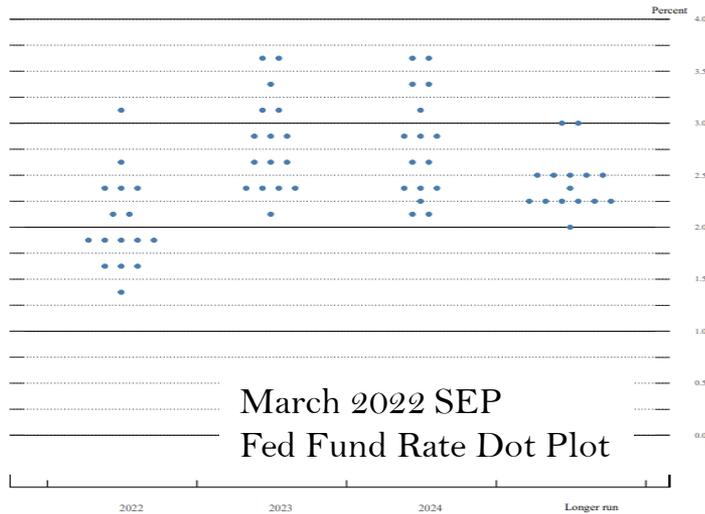


<https://www.bls.gov/webapps/legacy/cpsatab16.htm>

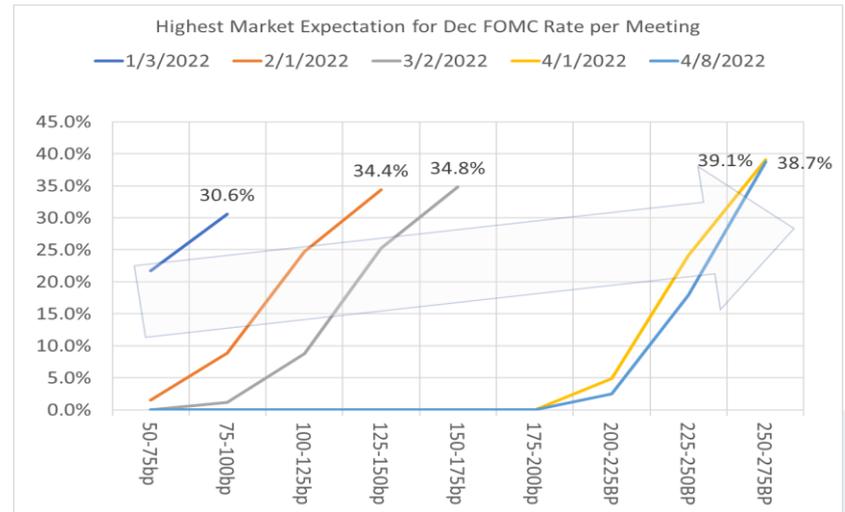
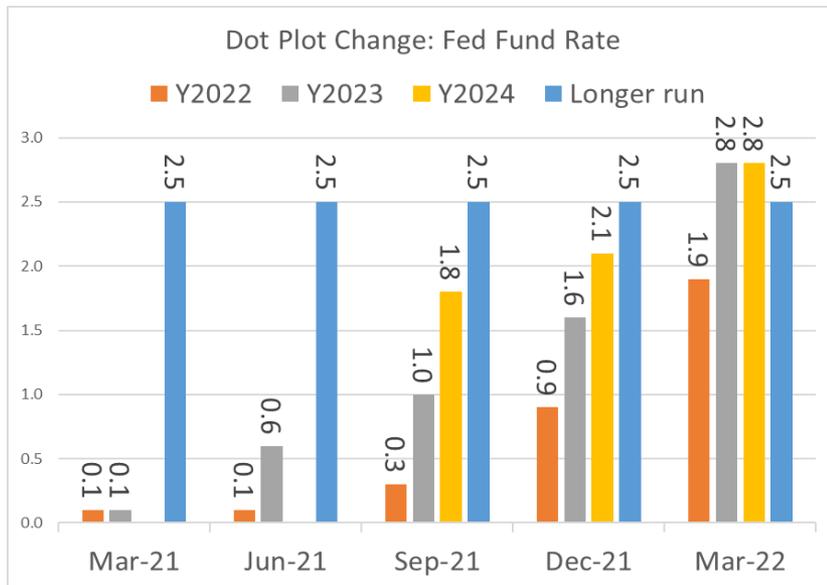
If we peel away the first layer, we see an unevenness to the recovery where African and Hispanic American U3 rates are lower than the average U3. The Fed has been focusing on an inclusive labor market recovery since the Yellen Fed and as such this broad objective remain unmet. The number of workers not in the labor market but who want a job is still not back to the pre-Covid level. The number of people who are “not in the labor force” is close to 4 million higher than pre-Covid, and workers wanting a job is over 1 million currently, even though the ratio between job opening and unemployed is at 0.6% (i.e., more than 1 opening per unemployed). Regardless of unmatched skills or other reasons, there is slack in the labor market, and we believe, if the economy continues to recover, the U3 rate will be harder to drop as more workers will come out to fill jobs, especially in the service sector.



# Summary of Economic Projections – Fed Fund Rate



<https://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20220316.pdf>



<https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>

The FOMC members have been broadcasting an immediate and aggressive monetary policy action – both raising interest rates and quantitative tightening. After a 25bp increase in rates in March’s meeting, the Fed is signaling, and the market is expecting, a 50bp hike in its May meeting. The dot plot in its March Summary of Economic Projections release clearly shows a much wider disparity among members of where the rate should be for this and the next two years. Just over the past 12-months, the expectations for all three years have shot up significantly. For 2022, the expectation now is a 250-275bp rate by the end of this year. This suggests another 200bp increase between May and December (6 meetings) or two 50bp increases and a string of 25bp increases thereafter. The Chicago Mercantile Exchange traders<sup>1</sup> place a 39% chance for a 250-270bp rate range for the December FOMC meeting as compared to a 30.6% probability of just a 75-100bp range on January 3, 2022, just 3 months ago.

<sup>1</sup> Probabilities of possible Fed Funds target rates are based on Fed Fund futures contract prices assuming that the rate hike is 0.25% (25 basis points) and that the Fed Funds Effective Rate (FFER) will react by a like amount.

# Market Expectation of FOMC's Rate Hiking Cycle

January 26, 2022, CME Fed Watch Tool

MEETING PROBABILITIES											
MEETING DATE	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
3/16/2022	87.6%	12.4%	0.0%	0.0%	0.0%						
5/4/2022	31.4%	60.7%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
6/15/2022	1.8%	33.0%	57.7%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7/27/2022	1.0%	18.9%	46.5%	30.2%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
9/21/2022	0.4%	8.1%	29.9%	40.0%	19.5%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11/2/2022	0.3%	5.4%	22.3%	36.5%	26.7%	8.2%	0.7%	0.0%	0.0%	0.0%	0.0%
12/14/2022	0.1%	2.2%	11.8%	27.7%	32.8%	19.7%	5.3%	0.4%	0.0%	0.0%	0.0%
2/1/2023	0.1%	1.6%	9.1%	23.2%	31.3%	23.3%	9.4%	1.8%	0.1%	0.0%	0.0%
3/15/2023	0.0%	0.7%	4.5%	14.5%	26.3%	28.3%	18.0%	6.5%	1.2%	0.1%	0.0%
5/3/2023	0.0%	0.5%	3.5%	12.0%	23.4%	27.8%	20.5%	9.3%	2.5%	0.3%	0.0%
6/14/2023	0.0%	0.3%	2.2%	8.3%	18.4%	25.9%	23.7%	14.2%	5.5%	1.3%	0.2%
7/26/2023	0.0%	0.2%	1.8%	6.9%	16.2%	24.2%	24.2%	16.4%	7.4%	2.2%	0.4%

<https://www.cmegroup.com/education/demos-and-tutorials/fed-funds-futures-probability-tree-calculator.html>

February 18, 2022, CME Fed Watch Tool

MEETING PROBABILITIES													
MEETING DATE	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300	300-325	325-350
3/16/2022	64.4%	35.6%	0.0%	0.0%	0.0%								
5/4/2022	0.0%	56.1%	39.3%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
6/15/2022	0.0%	0.0%	44.8%	42.7%	11.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7/27/2022	0.0%	0.0%	10.6%	44.3%	35.3%	9.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
9/21/2022	0.0%	0.0%	3.0%	20.1%	41.8%	28.0%	6.7%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
11/2/2022	0.0%	0.0%	1.6%	12.3%	31.9%	34.3%	16.4%	3.3%	0.2%	0.0%	0.0%	0.0%	0.0%
12/14/2022	0.0%	0.0%	0.5%	4.7%	17.9%	32.6%	29.2%	12.7%	2.4%	0.2%	0.0%	0.0%	0.0%
2/1/2023	0.0%	0.0%	0.3%	3.2%	13.4%	27.6%	30.3%	18.3%	5.9%	0.9%	0.1%	0.0%	0.0%
3/15/2023	0.0%	0.0%	0.0%	0.6%	4.4%	15.0%	27.9%	28.9%	16.9%	5.3%	0.8%	0.0%	0.0%
5/3/2023	0.0%	0.0%	0.0%	0.5%	3.4%	12.3%	24.6%	28.7%	20.0%	8.3%	2.0%	0.3%	0.0%
6/14/2023	0.0%	0.0%	0.0%	0.3%	2.2%	8.6%	19.5%	27.0%	23.6%	13.1%	4.6%	1.0%	0.1%
7/26/2023	0.0%	0.0%	0.0%	0.2%	1.9%	7.5%	17.6%	25.7%	24.2%	15.0%	6.1%	1.6%	0.3%

April 8, 2022, CME Fed Watch Tool

MEETING PROBABILITIES															
MEETING DATE	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300	300-325	325-350	350-375	375-400	400-425
5/4/2022	19.5%	80.5%	0.0%	0.0%	0.0%										
6/15/2022	0.0%	0.0%	12.6%	58.7%	28.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7/27/2022	0.0%	0.0%	0.0%	5.1%	31.1%	46.6%	17.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
9/21/2022	0.0%	0.0%	0.0%	0.0%	3.7%	24.3%	42.6%	24.8%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11/2/2022	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	23.2%	41.6%	25.8%	5.6%	0.2%	0.0%	0.0%	0.0%	0.0%
12/14/2022	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	22.2%	40.7%	26.6%	6.6%	0.5%	0.0%	0.0%	0.0%
2/1/2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	8.6%	27.4%	36.7%	21.0%	4.9%	0.4%	0.0%	0.0%
3/15/2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	2.2%	11.6%	28.9%	34.3%	18.4%	4.2%	0.3%	0.0%
5/3/2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	1.2%	7.0%	20.4%	31.6%	26.2%	11.2%	2.2%	0.2%
6/14/2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	2.5%	10.1%	23.0%	30.4%	22.7%	9.1%	1.7%	0.1%
7/26/2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	1.0%	4.8%	14.0%	25.2%	28.0%	18.6%	6.9%	1.2%

January annualized CPI was 7.5%, and February was 7.9%. The market expects an even higher CPI for March. On February 19<sup>th</sup>, President Biden warned of an imminent Russian attack on Ukraine and since then, the market placed an even higher expectation of rate hikes. The Chicago Mercantile Exchange Fed Watch Tool tracks the probabilities of all target rate levels above the current target rate. The blue shaded areas track the market expectation of rates for each future meeting. Clearly, the progression has been a speedier and more aggressive rate hiking cycle with the Fed Funds at 250 to 275bp by year- end. This is a 225bp increase over the next 8 months, an expected bold schedule starting with a 50bp increase in May and another 50bp in June. The market is expecting a “front-loading” Fed policy with the economy and labor market remaining resilient and withstanding the hikes.



# Quantitative Tightening

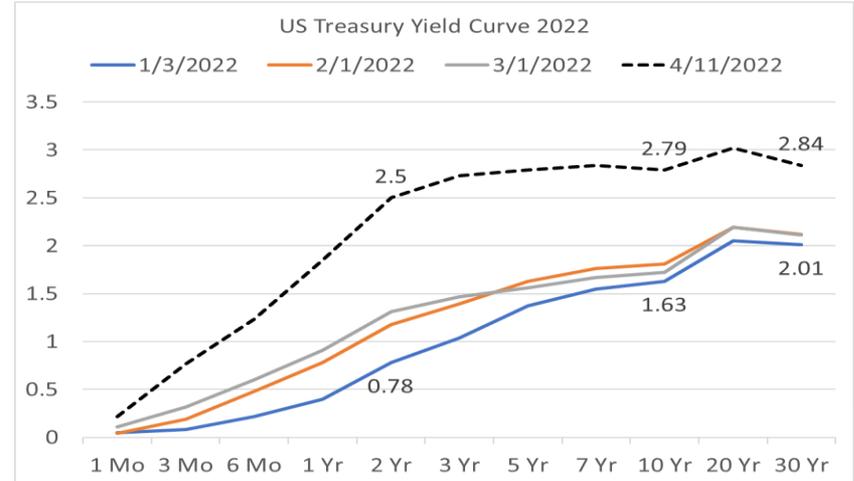
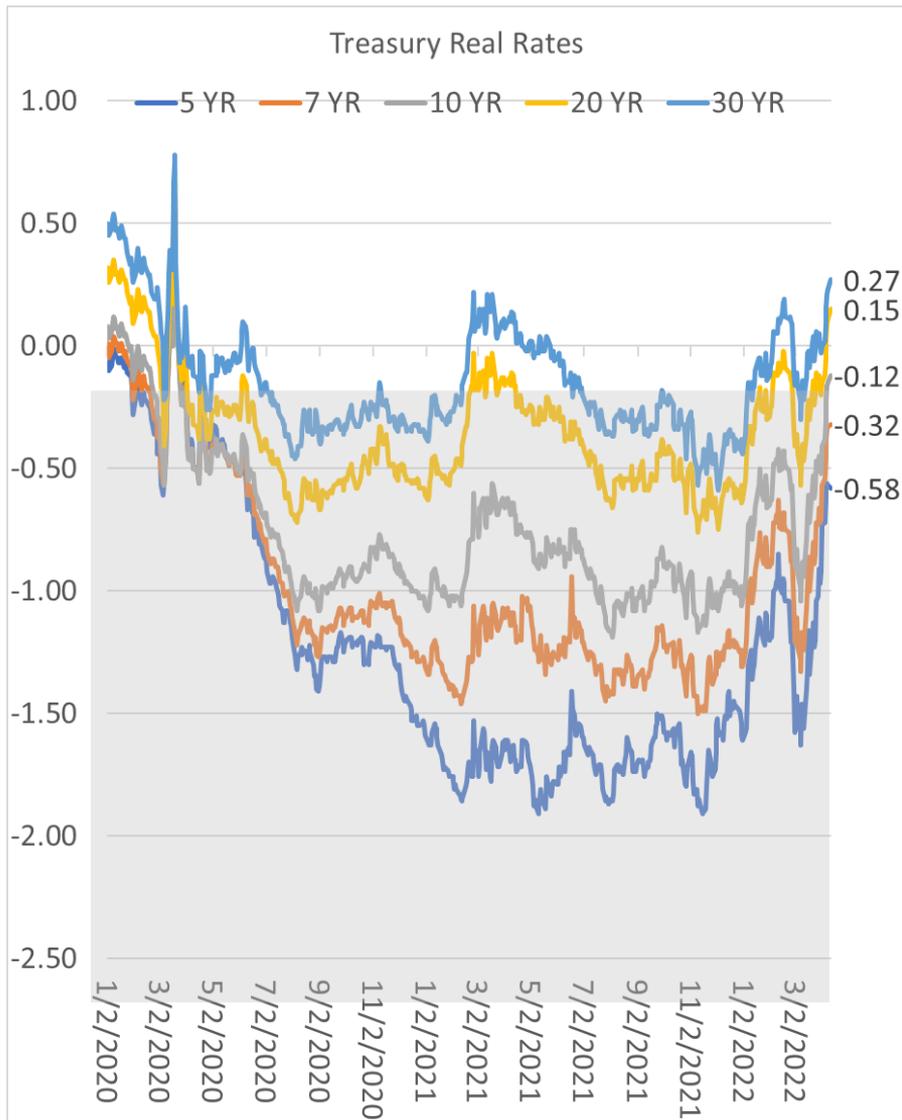
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- In the January meeting, the FOMC concluded that it is appropriate to offer a framework<sup>1</sup> regarding its planned approach for significantly reducing the size of its balance sheet. The Committee:
  - expects that reduction will commence after the process of increasing the target range for the federal funds rate has begun (which started in January);
  - intends to reduce the Federal Reserve's securities holdings over time in a predictable manner, primarily by adjusting the amounts reinvested of principal payments received from securities held in the System Open Market Account (SOMA);
  - over time, intends to maintain securities holdings in amounts needed to implement monetary policy efficiently and effectively; and
  - in the longer run, intends to hold primarily Treasury securities and is prepared to adjust any of the details of its approach in light of economic and financial developments.
- In the March meeting, according to the meeting minutes<sup>2</sup>, the Committee:
  - agreed to monthly caps of \$60 billion for Treasury securities and about \$35 billion for agency (totaling \$95 billion/month);
  - agreed that the caps could be phased in over a period of three months or modestly longer if market conditions warrant;
  - agreed that, after balance sheet runoff was well under way, it will be appropriate to consider sales of agency MBS to enable suitable progress toward a longer-run SOMA portfolio composed primarily of Treasury securities; and
  - agreed that it would be appropriate to first slow and then stop the decline in the size of the balance sheet when reserve balances were above the level the Committee judged to be consistent with ample reserves (not clear what this level is or would be).
- It is not clear what the overall financial, market and interest rate reactions or impacts to “normalizing” the balance sheet would be. In February, the Fed expanded its balance sheet for the final time as a part of its Covid-era response.

<sup>1</sup> <https://www.federalreserve.gov/newsevents/pressreleases/monetary20220126c.htm>

<sup>2</sup> <https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20220316.pdf>

# A Hawkish Fed – Good for savers, not for bonds or stocks



Since March 2020, monetary policies have driven the US treasury yield curve down into negative REAL rate (inflation-adjusted) territory. As inflation spiked this year, 5- and 7-year rates are back to positive territory, and 10-year is not far behind. The nominal treasury yield curve moved up significantly (both speed and amount) over the past 4-months. The increase is most dramatic in the front end of the yield curve. The 2-year, where most believe the neutral rate ( $r^*$ ) to be, is now at 2.5%, which is consistent with the CME market projection for December this year. Assets must reprice to this new reality.

# U.S. Factors & Sectors Quarterly Total Return

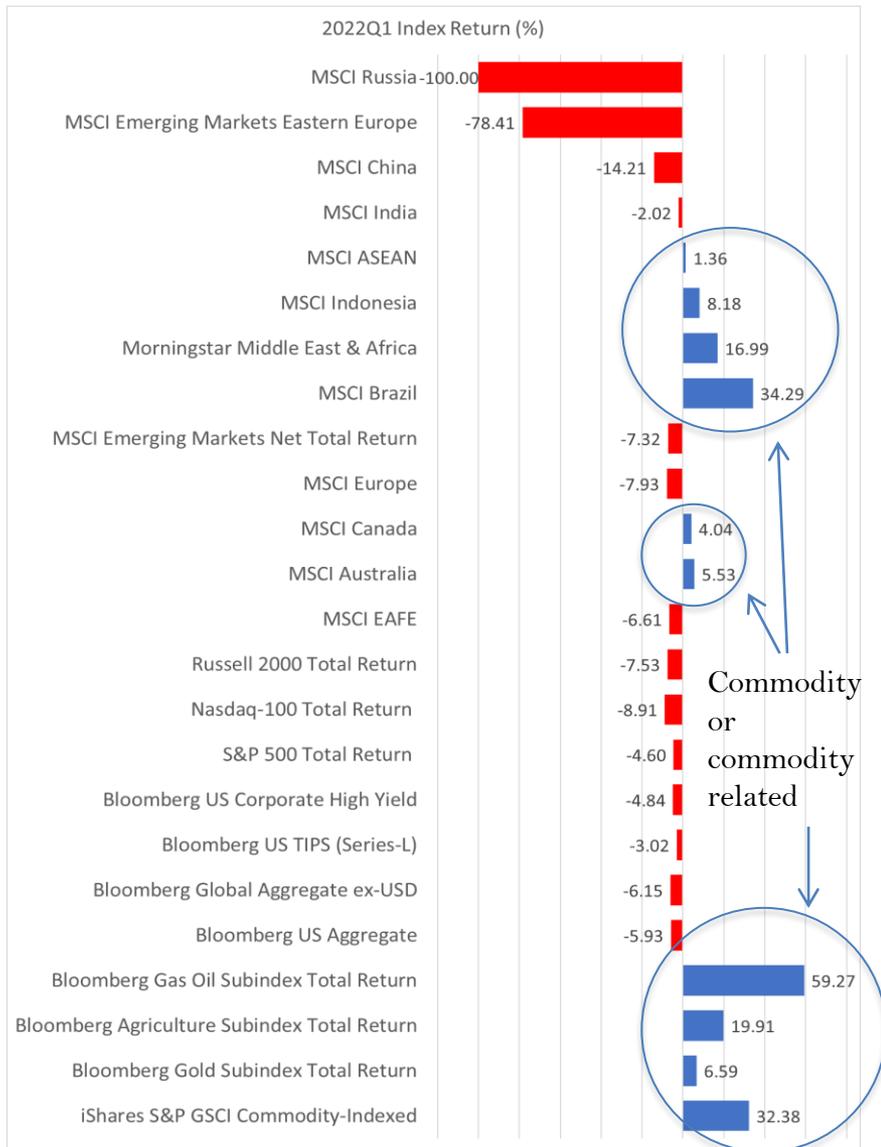
Factor Index
S&P 500 Momentum Index
S&P 500 Low Volatility Index
S&P 500 Quality
S&P 500 Growth
S&P 500 Value
S&P 500 Dividend Aristocrats
S&P 500 Index

	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1
S&P 500 Momentum Index	26.23	14.73	14.49	10.77	12.07	1.93	13.37	-0.05
S&P 500 Low Volatility Index	21.77	11.75	12.15	8.50	11.93	1.87	13.32	-0.16
S&P 500 Quality	20.54	9.68	11.57	6.17	10.11	0.58	11.73	-1.72
S&P 500 Growth	18.99	8.93	10.66	5.55	8.55	0.38	11.03	-3.01
S&P 500 Value	17.74	8.61	9.33	3.75	5.80	0.26	9.98	-5.27
S&P 500 Dividend Aristocrats	13.15	7.84	6.51	2.12	5.43	-0.85	8.31	-5.88
S&P 500 Index	6.71	4.79	5.31	0.19	4.99	-1.77	7.29	-8.59

Sector Index
S&P 1500 Energy
S&P 1500 Financials
S&P 1500 Industrials
S&P 1500 Materials
S&P 1500 Utilities
S&P 1500 Communication Services
S&P 1500 Consumer Discretionary
S&P 1500 Consumer Staples
S&P 1500 Real Estate
S&P 1500 Health Care
S&P 1500 Information Technology
S&P 1500

	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1
S&P 1500 Energy	34.66	14.97	28.46	31.42	11.97	2.61	16.37	39.10
S&P 1500 Financials	31.88	12.04	24.31	16.32	11.97	1.54	16.35	4.45
S&P 1500 Industrials	30.32	11.95	16.85	11.94	11.13	1.28	14.56	-0.89
S&P 1500 Materials	25.98	11.58	16.50	10.60	10.56	1.16	13.05	-1.21
S&P 1500 Utilities	20.77	10.27	13.99	8.92	8.17	1.15	12.88	-1.60
S&P 1500 Communication Services	19.94	8.76	13.24	8.13	8.14	0.88	11.99	-2.96
S&P 1500 Consumer Discretionary	17.87	8.56	12.89	6.91	7.60	0.35	10.71	-3.24
S&P 1500 Consumer Staples	14.10	5.83	9.68	5.31	6.61	-0.40	10.38	-4.64
S&P 1500 Real Estate	13.16	5.11	8.91	3.38	4.71	-0.69	9.05	-5.46
S&P 1500 Health Care	12.23	3.58	8.27	3.37	4.19	-1.46	7.00	-8.37
S&P 1500 Information Technology	8.55	1.05	7.16	2.28	3.61	-3.90	4.77	-9.58
S&P 1500	2.35	-19.22	6.69	1.85	-0.21	-3.93	-0.06	-11.82

# The tough Q1 market may be just the beginning...



VALUE	BLEND	GROWTH
S&P 500 Pure Value <b>5.73%</b>	S&P 500 <b>-4.6%</b>	S&P 500 Pure Growth <b>-13.01%</b>
Russell Midcap Value <b>-2.27%</b>	Russell Midcap <b>-5.68%</b>	Russell Midcap Growth <b>-12.73%</b>
Russell 2000 Value <b>-2.4%</b>	Russell 2000 <b>-7.53%</b>	Russell 2000 Growth <b>-12.63%</b>

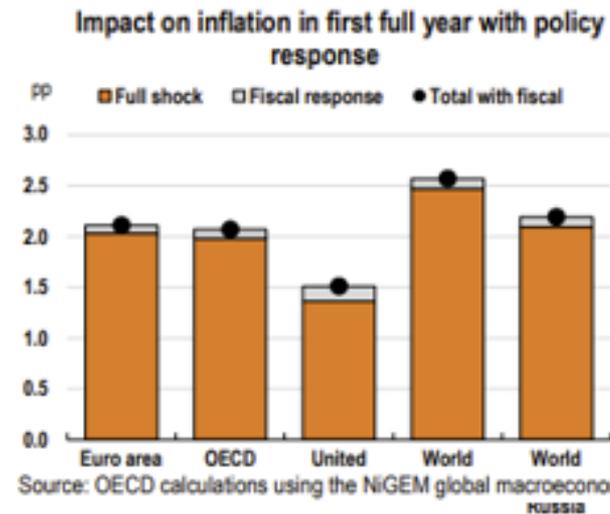
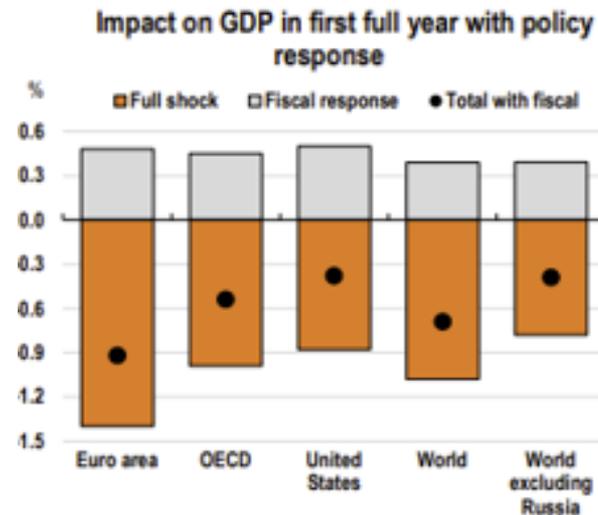
U.S. and global equities sold off during the first quarter. The first shock was the inflation surge that is persistent, then came the anticipation and constant drumbeat of global central bank monetary tightening to contain inflation. These uncertainties were multiplied by the global shock of Russian military aggression against Ukraine with the sudden disruption of energy and food commodity flow. Then came the unified economic and financial sanctions<sup>1</sup> against Russia, including immobilizing Russian central bank assets held in the U.S. and imposing sanctions on the Russian Direct Investment Fund, a sovereign wealth fund. The longer the war goes on, the greater the impact and fallout, let alone the expected aggressive monetary tightening to come which will further impact asset returns.

<sup>1</sup> <https://home.treasury.gov/news/press-releases/jy0608>

# According to the OECD...Higher Inflation with Slower Growth

According to the March OECD Economic Outlook, Interim Report, although Russia and Ukraine are relatively small in output terms, they are large producers and exporters of key food items, minerals and energy. The war has already resulted in sizeable economic and financial shocks, particularly in commodity markets, with the prices of oil, gas and wheat soaring. The moves in commodity prices and financial markets seen since the outbreak of the war could, if sustained, reduce global GDP growth by over 1% in the first year, with a deep recession in Russia, and push up global consumer price inflation by approximately 2½%. Russia and Ukraine together account for about 30% of global exports of wheat, 20% for corn, mineral fertilizers and natural gas, and 11% for oil. In addition, supply chains around the world are dependent on exports of metals from Russia and Ukraine. Russia is a key supplier of palladium, used in catalytic converters for cars, and nickel, used in steel production and the manufacture of batteries. Russia and Ukraine are also sources of inert gases such as argon and neon, used in the production of semiconductors, and large producers of titanium sponge, used in aircraft. Both countries also have globally important reserves of uranium

<https://www.oecd-ilibrary.org/deliver/4181d61b-en.pdf?itemId=%2Fcontent%2Fpublication%2F4181d61b-en&mimeType=pdf>



Source: OECD calculations using the NiGEM global macroeconomic model.

# According to the WTO ... Slower World Trade and World Growth

The World Trade Organization (WTO) now expects:

- World merchandise trade volume is expected to grow 3.0% in 2022 (down from 4.7% previously) and 3.4% in 2023, but these figures may be subject to revision due to uncertainty about the course of the conflict in Ukraine.
- World GDP at market exchange rates is expected to increase by 2.8% in 2022 after rising 5.7% in 2021. Output growth should pick up to 3.2% in 2023, assuming persistent geopolitical and economic uncertainty.
- The CIS region should see a 12.0% decline in imports and a 7.9% drop in GDP in 2022, but exports should grow by 4.9% as other countries continue to rely on Russian energy. Regional disparities may narrow due to weak import demand in Europe and Asia.
- The volume of merchandise trade rose 9.8% in 2021. The US\$ value of this trade grew 26% to US\$ 22.4 trillion. The value of commercial services trade was also up 15% in 2021 to US\$ 5.7 trillion.
- Services trade will also be affected by the conflict in Ukraine, including in the transport sector, which covers container shipping and passenger air transport.

Despite the small economic size of Russia, the war and related sanctions are already causing disruptions of a global nature through financial and business linkages. Financial sanctions placed on Russia have targeted selected individuals and banks, reduced access to foreign capital and frozen access to the foreign exchange reserves held by the Central Bank of Russia (CBR) in the Western economies. As a result, the ruble has depreciated sharply, the CBR's policy interest rate has risen by 10.5 percentage points to 20%, and risk premia on Russian sovereign debt have soared. Delays and difficulties in making international payments are disrupting trade and could result in debt defaults in Russia. Conditions have also tightened in financial markets around the world, reflecting greater risk aversion and uncertainty, with higher risk premia and currency depreciations also occurring in many emerging-market economies and Central and Eastern European economies with relatively strong business ties with Russia. Commercial air travel and freight are also being rerouted or ceasing operations altogether, increasing the costs of doing business, and many multinational companies have suspended operations in Russia.

<https://www.oecd-ilibrary.org/sites/4181d61b-en/index.html?itemId=/content/publication/4181d61b-en#chapter-d1e21>

# Final Words

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- Living with Covid - As we move from a pandemic to an endemic, we are moving from masking, social distancing, testing, tracing and vaccination to boosters (or annual vaccination) and accepting the permanency of Covid in some form. The fear is a mutated strain that is far more virulent and lethal that renders current vaccines ineffective and has significant breakthrough infection. Covid can still be economically disruptive. The West is way ahead of China where Covid-Zero remains the policy. Even with a less effective vaccine, China has not made vaccination compulsory and has fallen into a comfort zone. Now, the option to minimize a significant healthcare crisis is narrowing. The consequences are citizen discontentment and remaining vulnerable to healthcare crisis, mortality and a continuing economic slowdown while extending supply chain disruption globally. In the longer run, this is negative to the Communist Party and President Xi. This further accelerates supply chain alternatives to China.
- Russian Invasion – Over a month ago, when Russia invaded Ukraine, three main outcomes were presented. (1) The base case (40% to 55%) – this would be a 3-month event and the damage to the world economy would be limited and markets will return (bounce back) to normal times. We were not in this camp. (2) The bad case (25% to 35%) – the war will drag on for 6-months or longer but will be contained to Ukraine, and direct military conflict with NATO is avoided. This is our base case. (3) The worst case (5% to 20%) – the war will escalate to include nuclear, biological and/or chemical attacks and one or more NATO countries would be brought into the conflict directly. The longer the conflict, the more damage to the global economy. The commodity supply chain for base metals, energy, and agricultural products would be further disrupted and prolong elevated inflation. Financial sanctions to the Russian government negatively impact global growth and the spillover with second derivative financial effects have not been fully experienced yet.
- Inflation is here to stay for a while – The Covid initiated supply chain disruption led to a serious supply shock. Government largess through fiscal transfers lined American pockets with an added financial cushion. During the period of shelter in place, Americans turned to spending on goods as the service economy was largely shuttered. This demand shock further exacerbated the supply chain and ultimately drove up prices further. Much of the commodity prices elevated further once Russia invaded Ukraine. As the economy reopened, consumers naturally pivoted to spending on services (travel, restaurants, hotels, theater, etc.). This began further demand escalation while the supply shock remained unresolved. This is also the period of “great resignation” with hostile policy towards immigration which creates labor shortages that drive up wages. Today, supply side remains the greater attributions to inflation. The Federal Reserve’s tightening policy will need to be much more aggressive in order to curtail inflation.
- The chance of a “policy mistake” of excessive monetary tightness from rate hikes and balance sheet reduction is likely. Historically, it takes 6 to 12 month to see the true effect of a rate increase. At the current speedy increase in inflation, the Fed will likely be more aggressive for too long and trigger a recession.

# Investment Implications

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- It is well understood that bonds lose value in a rising interest rate environment. The longer the bond duration, the greater the loss in value. As such, we continue to favor shorter maturities bonds as we see more upside to rates before this is all over. It is also important to note that there are two components to an interest yielding bond: income and price. As such, some of the price erosions during a rising rate environment will be made up by the income generated if held for the year. Moreover, this is where active management intends to add value.
- The U.S. economy is moving from economic growth and expansion in a low interest rate, low inflation, strong labor economy and strong recovery environment to a slowing growth, higher inflation (i.e., stagflation) environment with a recession not too far behind.
- When interest rates were at 0% and real rates in the negative territory, taking full-on risk in stocks made perfect sense, especially high growth stocks. More importantly there was a Fed Put where the Fed will come to the rescue when stocks sell off. Today, interest rates rise in anticipation of the Fed's aggressive monetary response with an end of the Fed Put, and stocks tend to also underperform, especially those that require a long-term investment horizon (such as those with little to no earnings). However, certain investment styles and equity characteristics tend to hold up such as stocks with high free cash flows, pay consistent and growing dividends, and generally in quality and value style tend to be more resilient as the economy is expected to slow.
- As we anticipate an elevated inflation environment brought on by a further disruption to supply (due to geopolitical conflict and supply chain disruption resulting from the China's zero Covid policy), commodity (energy and food) prices will likely remain high for an extended period with an upside price surprise. Allocating to commodities (implicit inflation hedge) and inflation protection securities such as TIPS (explicit inflation hedge) makes sense. In the case of TIPS, we do not favor long duration bonds due to the rising interest rate environment mentioned above.
- In the short run, investing in China remains challenging due to its Zero-Covid policy which dampens economic activities. However, to maintain a GDP at 5% or more would require new rounds of monetary easing and fiscal stimulus. For a longer investment horizon, investing in China makes sense.
- For certain investors who do not need daily liquidity to their investments and have a longer investment horizon, private market allocation makes sense - private credit (lending) and private equity. Since these investments are typically not marked to market pricing daily and often have liquidity gates, they prevent behavioral biases of selling low and staying in cash. With that said, doing proper due diligence and understanding the risk of private markets and the competence and differentiation of managers is critical.
- Private REITs remain interesting. They possess both an income component (rent) and an appreciation component, especially during an increasing inflation environment.

# Disclosures and Limitations

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Prepared by:  
Philip Chao, CIO  
Experiential Wealth, Inc.  
[pchao@experientialwealth.com](mailto:pchao@experientialwealth.com)  
[www.experientialwealth.com](http://www.experientialwealth.com)

