

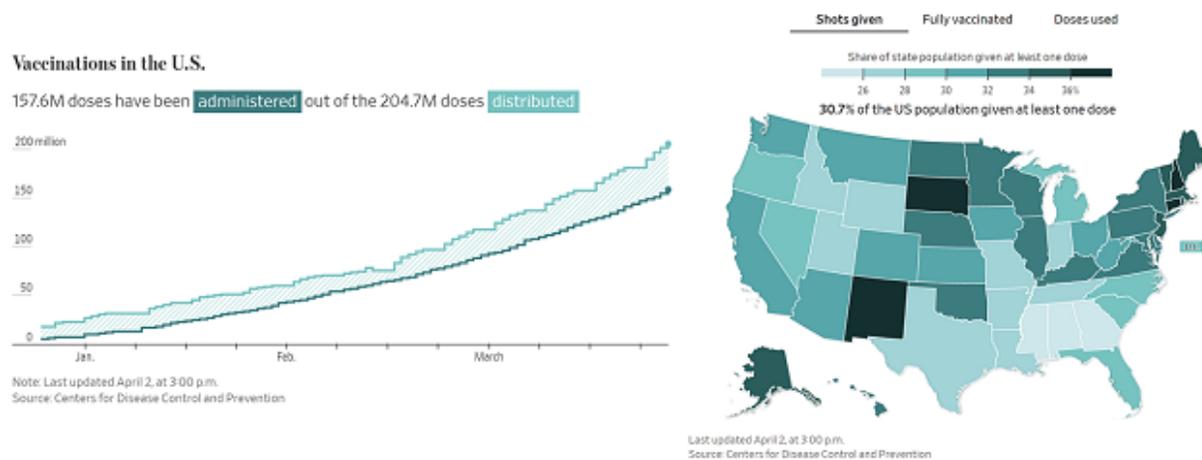


April 15, 2021

Executive Summary
<ul style="list-style-type: none"> <li>The three known COVID-19 variants are contributing to a third or fourth wave of infection, hospitalization, and death around the world. All three strains have arrived in the U.S. since January, and after a year of self-confinement, most Americans are looking forward to getting out and socializing. The battle now is the speed of vaccination vs. the speed of a new wave of infection from the spread of the new strains. The base case is that 70% of the US population would have developed immunity by summer which should minimize the probability of further economy reopening setbacks.</li> </ul>
<ul style="list-style-type: none"> <li>We are expecting a 7% GDP this year in the U.S. if all goes well with vaccine adoption resulting in reopening sooner than later. With the seemingly endless ultra-accommodative monetary policies and a stream of fiscal transfers, personal savings is way up and household private net worth has exceeded pre-pandemic levels. We are flushed with cash (nowhere to spend it last year) with palpable pent-up desire to return to our social and consumption normalcy. These all are supportive of a booming economy for the near term.</li> </ul>
<ul style="list-style-type: none"> <li>The 10-year U.S. treasury bond yield has jumped more than 100bp (1%) from its 2020 March low. Most of the jump came the first quarter in response to a speedier economic recovery and brings the yield back to pre-pandemic level. The economic conditions today are far more favorable, and we expect the rate to be over 2.5% this year.</li> </ul>
<ul style="list-style-type: none"> <li>The Federal Reserve is tasked with promoting and maintaining full employment and price stability to maintain favorable financial conditions. The new monetary framework of reactive rather than proactive policy action means that the Fed will wait until inflation is above the 2% target for sometime (likely 6 to 8 quarters) before reacting by normalizing rates. The Fed expects that to be in 2023. If history is a guide, the Fed will likely taper (i.e. shrink its balance sheet and reduce and remove QE) before lift off from 0% interest rate. The Fed intends to broadcast its policy path early to minimize market dislocation.</li> </ul>
<ul style="list-style-type: none"> <li>Inflation (CPI) for March is at 2.6%, and we expect this rate to go even higher at least for the next few months. This is partially due to the base effect where negative inflation rates of March, April and May in 2020 drop off and are excluded in future annualized calculations. Moreover, the reflation of the economy as it normalizes will add inflationary pressure. We agree with the Fed and the general consensus that these inflationary pressures are transitory in nature and this too is our base case, but it is possible that we move to a slightly higher inflation regime after the transitory period is over.</li> </ul>
<ul style="list-style-type: none"> <li>The challenge to the market is a hands-off Fed allowing nominal rates to rise which could also pull the real (inflation-adjusted) rate less negative. With a frothy market for risk assets, this continuation of rate rise would eventually impact stocks. The pull and push between inflation, real bond yield and the anticipated Fed reaction will continue to add uncertainty and volatility to the bond and stock markets and, at times, with intensity.</li> </ul>

## Is It Open Sky?

It has been understood since the beginning that, until and unless COVID-19 is under control through herd immunity (one form or another), the economy cannot return to pre-pandemic normal. On May 15, 2020, the Trump Administration announced the creation of Operation Warp Speed<sup>1</sup>, a public-private initiative to manufacture vaccines as fast as possible. Since then, an unprecedented 3 vaccines have received “emergency use authorization”. Since Biden’s inaugural pledge that the country would administer 100 million vaccine doses in his first 100 days in office, the U.S. has since agreed to purchase a total of 600 million shots (a two-shot regiment) from Pfizer and Moderna. Additionally, the shipment to states has increased to 10 million weekly under a national plan to revamp the coronavirus vaccine effort. In early February, the White House announced that states collectively would begin receiving 13.5 million doses each week — a jump of more than two million doses due in part to a shift in the



way the government is allocating doses of Pfizer’s vaccine. On March 11<sup>3</sup>, the White House announced that all Americans will be eligible for vaccination by May 1, putting the nation on a path to “normal” by July 4 after previously announcing 90% would qualify by that date and all by May 1. More recently, on April 8, President Biden announced that all adults will be eligible for a vaccine by April 19. As reported by Bloomberg news<sup>4</sup>, more Americans have received at least one dose than have tested positive for the virus since the pandemic began. So far, 183 million doses have been given. As of April 10, an average of 3.11 million doses per day were administered.

In the U.S. the focus is moving from vaccine scarcity to massive inoculation. Within the next few weeks, the issue is how soon would everyone be able to sign up to get vaccinated. This is truly a sea change. The long and winding road through the dark tunnel with a great degree

<sup>1</sup> <https://media.defense.gov/2020/Aug/13/2002476369/-1/-1/0/200813-D-ZZ999-100.JPG>

<sup>2</sup> [https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained#:~:text=An%20Emergency%20Use%20Authorization%20\(COVID%2D19%20pandemic.](https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained#:~:text=An%20Emergency%20Use%20Authorization%20(COVID%2D19%20pandemic.)

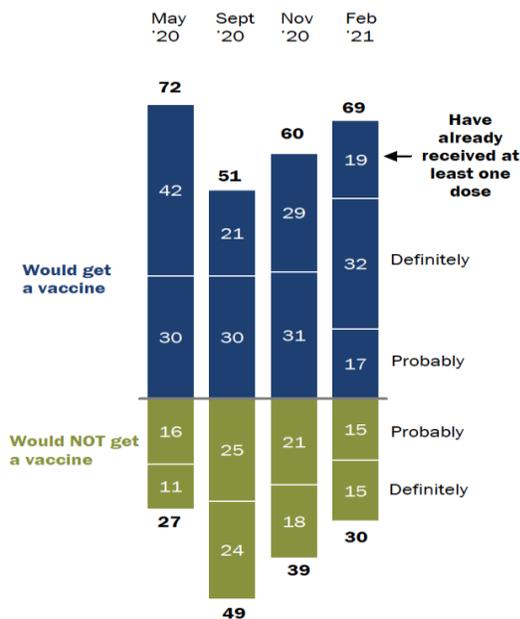
<sup>3</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/11/fact-sheet-president-biden-to-announce-all-americans-to-be-eligible-for-vaccinations-by-may-1-puts-the-nation-on-a-path-to-get-closer-to-normal-by-july-4th/>

<sup>4</sup> [https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?cmpid=BBD041121\\_CORONAVIRUS&utm\\_medium=email&utm\\_source=newsletter&utm\\_term=210411&utm\\_campaign=coronavirus&sref=R4I4MBey](https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?cmpid=BBD041121_CORONAVIRUS&utm_medium=email&utm_source=newsletter&utm_term=210411&utm_campaign=coronavirus&sref=R4I4MBey)

of uncertainty about the vaccine efficacy and availability has given way to exiting the tunnel and into the open sky of normality.

### Half of Americans intend to get a COVID-19 vaccine; 19% already have

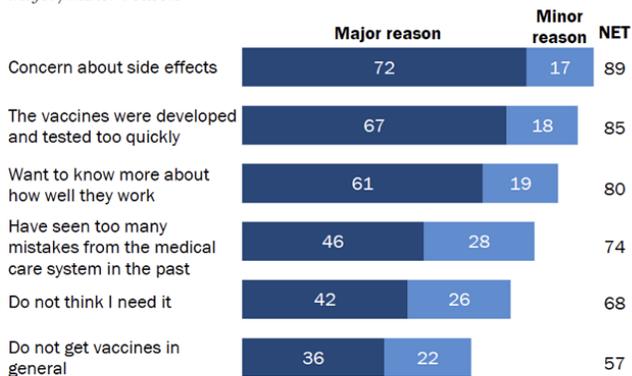
% of U.S. adults who say, thinking about vaccines to prevent COVID-19, they ...



Note: Respondents who did not give an answer are not shown.  
 Source: Survey conducted Feb. 16-21, 2021.  
 "Growing Share of Americans Say They Plan To Get a COVID-19 Vaccine – or Already Have"  
 PEW RESEARCH CENTER

### Those disinclined to be vaccinated cite concerns about side effects, pace of vaccine development and desire for more information as top reasons why

Among the U.S. adults who say they probably/definitely will NOT get a vaccine to prevent COVID-19, % who say each of the following is a major/minor reason

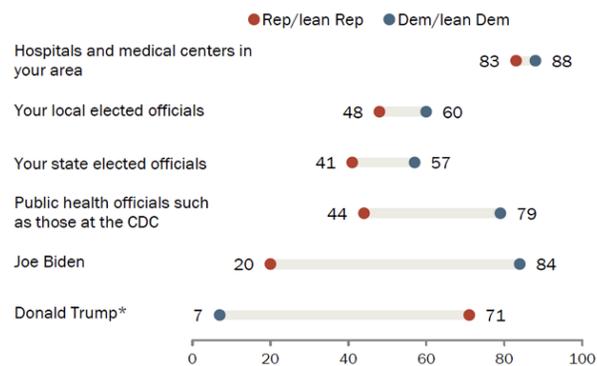


Note: Based on those who say they definitely/probably will NOT get a vaccine to prevent COVID-19. Respondents who gave other responses or did not give an answer are not shown.  
 Source: Survey conducted Feb. 16-21, 2021.  
 "Growing Share of Americans Say They Plan To Get a COVID-19 Vaccine – or Already Have"  
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### Political differences in views of public health officials, Joe Biden on coronavirus response

### Political differences in views of public health officials, Joe Biden on coronavirus response

% of U.S. adults who rate \_\_\_ as doing an excellent/good job responding to the coronavirus outbreak



\*Ratings of Donald Trump from item on how he responded during his time in office.  
 Note: Respondents who gave other responses or did not give an answer are not shown.  
 Source: Survey conducted Feb. 16-21, 2021.  
 "Growing Share of Americans Say They Plan To Get a COVID-19 Vaccine – or Already Have"  
 PEW RESEARCH CENTER

For some time there has been a fair share of the U.S. population reluctant to get vaccinated for a variety of reasons. The Feb 16 to 24 survey by the Pew Research Center, as a part of its longitudinal study, shows an increasing rate of willingness to take the vaccine. The upper left chart shows the gradual and growing percentage of the respondents is “definitely” and “probably” will take the vaccine. The latest poll still shows 30% of the respondents “probably not” to “definitely not” willing to receive the vaccine. The same poll asked the respondents the reasons for their reluctance and the 6 most popular reasons are reproduced in the upper right graph above. The respondents who cited “do not think I need it” and “do not get vaccines in general” are the least likely to change their minds. It is hopeful that this group of “non-believers” is ultimately less than 25% of the population. The lower left chart illustrates the political divide in America and how politicized the pandemic is, which is actually apolitical. This distrust between the citizens and their leaders will continue to challenge vaccination progress and thus the timing for reaching the open sky.

## Another Possible Tunnel – A Race of Inoculation Against Time

The World Health Organization<sup>5</sup> states that when a virus, such as COVID-19, is widely circulating in a population and causing many infections, the likelihood of the virus mutating increases. The more opportunities a virus has to spread, the more it replicates – and the more opportunities it has to undergo changes or mutation. Most viral mutations have little to no impact on the virus's ability to cause infections and disease. But depending on where the changes are located in the virus's genetic material, they may affect a virus's properties, such as transmission or severity. This is why we need to get herd immunity quickly.

The COVID-19 vaccines that are currently in development or have been approved are expected to provide at least some protection against new virus variants because these vaccines elicit a broad immune response involving a range of antibodies and cells. Therefore, changes or mutations in the virus should not make vaccines completely ineffective. In the event that any of these vaccines prove to be less effective against one or more variants, it will be possible to change the composition of the vaccines to protect against these variants. While the medical community is learning more, we need to do everything possible to stop the spread of the virus in order to prevent mutations that could reduce the efficacy of existing vaccines.

According to the CDC, there are at least three COVID-19 (SARS-CoV-2) variants circulating globally. Three new variants<sup>6</sup> emerged in the fall of 2020:

1. In the United Kingdom (UK), a new variant of SARS-CoV-2 (known as 20I/501Y.V1, VOC 202012/01, or B.1.1.7) emerged with a large number of mutations. In January 2021, scientists from UK reported evidence that suggests the B.1.1.7 variant may be associated with an increased risk of death compared with other variants. This variant was reported in the U.S. at the end of December 2020.
2. In South Africa, another variant of SARS-CoV-2 (known as 20H/501Y.V2 or B.1.351) emerged independently of B.1.1.7. This variant shares some mutations with B.1.1.7. This variant was reported in the U.S. at the end of January 2021.
3. In Brazil, a variant of SARS-CoV-2 (known as P.1) emerged that was first identified in four travelers from Brazil who were tested during routine screening at Haneda airport outside Tokyo, Japan. This variant was detected in the U.S. at the end of January 2021.

We should be cautious of these new and emerging variants. Some of the potential consequences are the following:

- Ability to spread more quickly in people
- Ability to cause either milder or more severe disease in people
- Ability to evade detection by specific viral diagnostic tests
- Decreased susceptibility to therapeutic agents such as monoclonal antibodies

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<sup>5</sup> <https://www.who.int/news-room/feature-stories/detail/the-effects-of-virus-variants-on-covid-19-vaccines?gclid=CjwKCAjwgZuDBhBTEiwAXNofRA1EIwr5dgV2YTCZld5D00inl4ci2bhPrsh6mBBcXBvQ46u2XQx2pxoCCXwQAvD BwE>

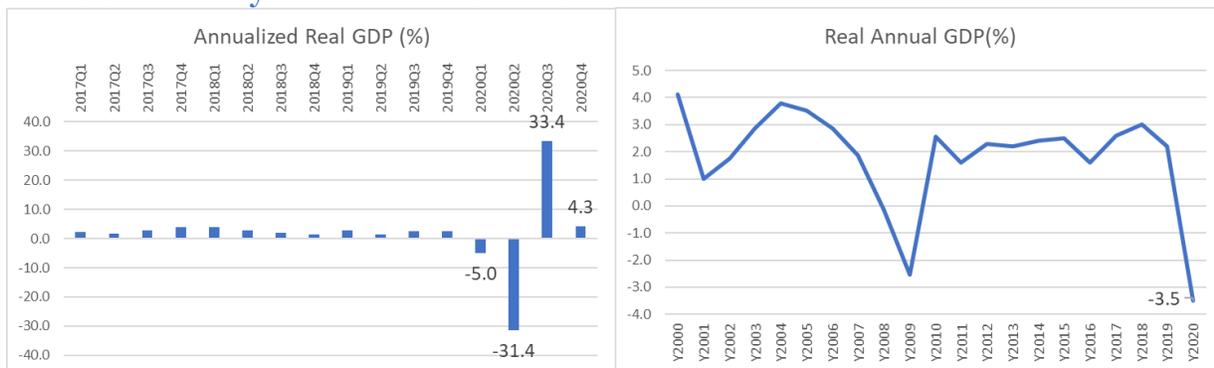
<sup>6</sup> <https://graphics.reuters.com/HEALTH-CORONAVIRUS/EVOLUTION/yxmpjqkdzvr/>

- Ability to evade natural or vaccine-induced immunity

It is possible that one or more of the existing and new variants will be more infectious, deadly and deemed unaffected by existing vaccines. If this happens, it will put us all back into a dark tunnel again. We are certainly not out of the woods yet with COVID-19, but some states began to fully open ahead of herd immunity. For example, Texas Governor Greg Abbott<sup>7</sup> issued an Executive Order on March 10 lifting the mask mandate in Texas and increasing capacity of all businesses and facilities in the state to 100 percent. A current list of restriction-open status is available on USA Today<sup>8</sup>. It also shows the status of growing or shrinking new cases by state. As of April 3, 32 states<sup>9</sup> have an increase in COVID cases; this is a warning sign. In the meantime, Germany is looking to impose stricter measures, and France is going into a third national lockdown. On March 15, Italian Prime Minister Draghi warned of a new wave of contagion and imposed new lockdown restrictions. The culprit appears to be the B.1.1.7 that first appeared in the U.K, even though WHO warned in January of this new variant circulating in Europe. According to The Guardian<sup>10</sup> reporting from Ontario, Canada, on April 4, “Doctors and epidemiologists in Canada’s most populous province have been warning for weeks that the loosening of restrictions, a lack of sick pay for essential workers, and the arrival of infectious new coronavirus variants would usher in a devastating third wave. In British Columbia, the P1 variant, which was first discovered in Brazil, has spread quickly, and in recent days, the province has recorded their highest case load since the pandemic began more than a year ago.”

Our base case is still for the U.S. to achieve herd immunity (70%+ population vaccinated) by summer this year. But we need to closely track the growing and the “type” of new cases. We do not yet have an “all clear” sign. The CDC site<sup>11</sup> offers real time tracking data that provides vaccination progress. However, this country is now more adaptive to restrictions and our healthcare system is more able to respond to new variants.

### The U.S. Economy – Thank You Uncle Sam



The 3<sup>rd</sup> and final GDP estimate for the final quarter in 2020 is a positive 4.3% after affirming a 33.4% increase in the third quarter. After the first two negative growth quarters in 2020 caused by a self-imposed recession, the economy bounced back in the final two quarters, even

<sup>7</sup> <https://open.texas.gov/>

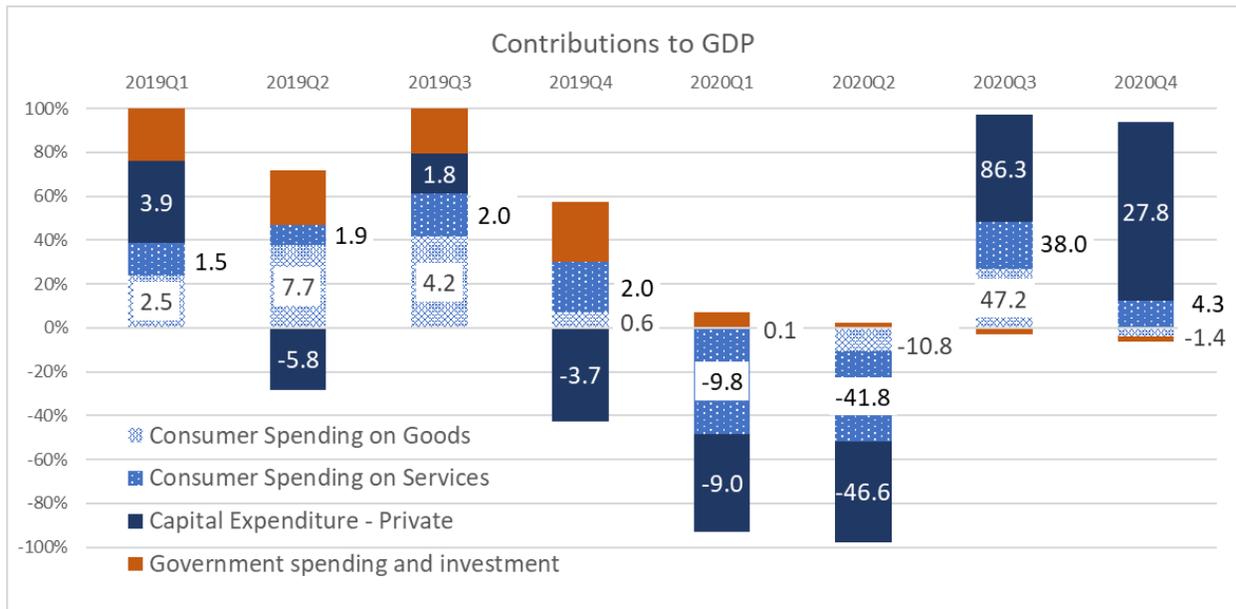
<sup>8</sup> <https://www.usatoday.com/storytelling/coronavirus-reopening-america-map/>

<sup>9</sup> <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

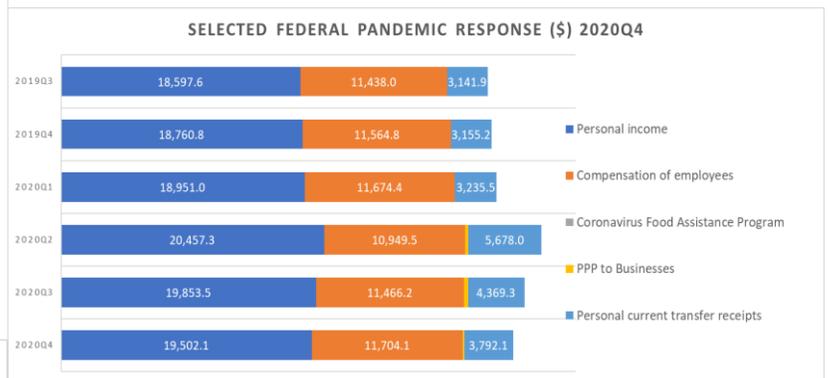
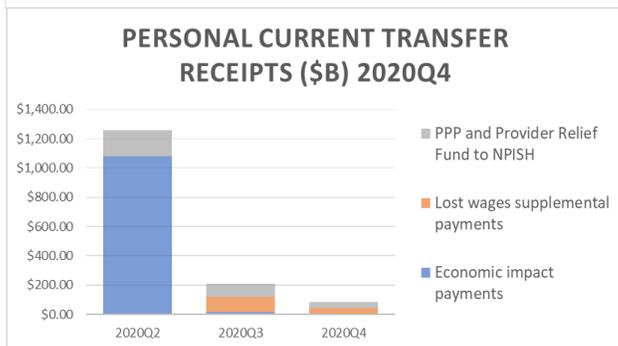
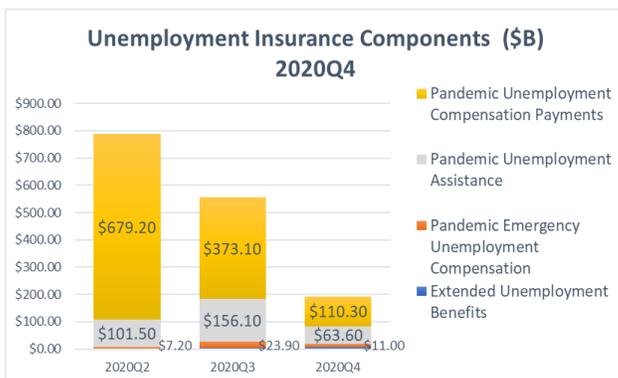
<sup>10</sup> <https://www.theguardian.com/world/2021/apr/04/canada-coronavirus-third-wave-variants-ontario>

<sup>11</sup> <https://covid.cdc.gov/covid-data-tracker/#datatracker-home>

though real GDP for 2020 came in at a negative 3.5%. The average annual real GDP for the first 20 years in this millennium is 2.1%.



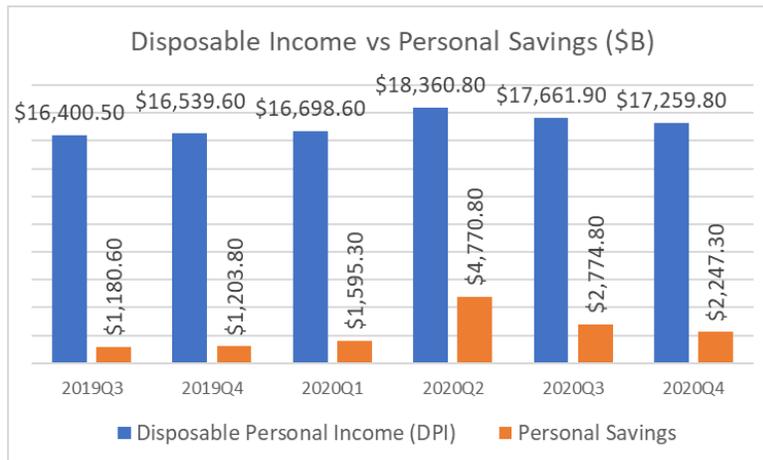
First and second quarter in 2020 saw a collapse in consumer spending on services and private capital expenditures/investments. The third quarter witnessed a jump in consumption of goods and services as well as private investment which includes nonresidential structures and equipment, intellectual property products and residential structures. Government spending and investment were net detractors during the final two quarters. The final quarter also showed strong consumer spending on services.



Special payments and extension of unemployment benefits plus the Payroll Protection Program (PPP) under the total \$2.3 trillion CARES Act relief package<sup>12</sup> significantly truncated the economic fallout from the nationwide closure of the economy. With \$610 billion to households and \$1.2 trillion to large and small businesses and special assistance to

<sup>12</sup> <https://www.crfb.org/blogs/whats-2-trillion-coronavirus-relief-package>

airlines, average Americans' incomes grew beginning in the second quarter last year and continued to exceed pre-pandemic levels through the rest of the year.



Personal disposable income shot up in the second quarter and gradually decreased over the remaining two quarters, but it remains above the pre-pandemic levels. The same is true for quarterly personal savings. The rise in disposable income is due to the significant amount of fiscal transfer from the CARES Act. And due to the unprecedented uncertainty created by the pandemic, households elected to save rather than spend, especially during the second quarter; not to mention that the shutdown of the economy also limited the places to spend. As the various fiscal support programs came to an end towards the fourth quarter, President Trump signed into law in December the Consolidated Appropriations Act 2021<sup>13</sup>, delivering a new \$900 billion economic stimulus package as a follow-up to the CARES Act. This provided the new \$600 stimulus checks and \$300 weekly enhanced unemployment benefits through mid-March 2021 and extended the popular PPP of forgivable loans for small businesses and emergency unemployment benefits for self-employed individuals and gig workers.

On March 11, 2021, President Joe Biden signed the American Rescue Plan<sup>14</sup> which is a new \$1.9 trillion package. In addition to other provisions, this fiscal transfer includes provisions that:

- extend unemployment benefits and related services;
- make up to \$10,200 of 2020 unemployment compensation tax-free;
- provide a maximum recovery rebate of \$1,400 per eligible individual;
- expand and otherwise modify certain tax credits, including the child tax credit and the earned income tax credit; and
- provide funding for small business assistance, including specific programs for restaurants and live venues.

<sup>13</sup> <https://rules.house.gov/sites/democrats.rules.house.gov/files/BILLS-116HR133SA-RCP-116-68.pdf>

<sup>14</sup> <https://www.congress.gov/bill/117th-congress/house-bill/1319>

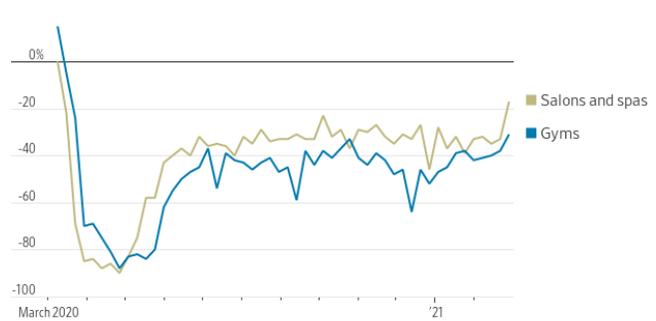
The combined effect on income, savings and spending from the Trump Consolidated Appropriations Act and the Biden American Rescue Plan, totaling almost \$3 trillion, will add fuel to the U.S. economic fire as America is on its way to reopen the economy completely this summer. We are seeing traffic on the highways and people in stores, and congestion is building.

Seated diners from online, phone, and walk-in reservations on OpenTable, change vs. same day in 2019



Note: Seven-day average  
Source: OpenTable

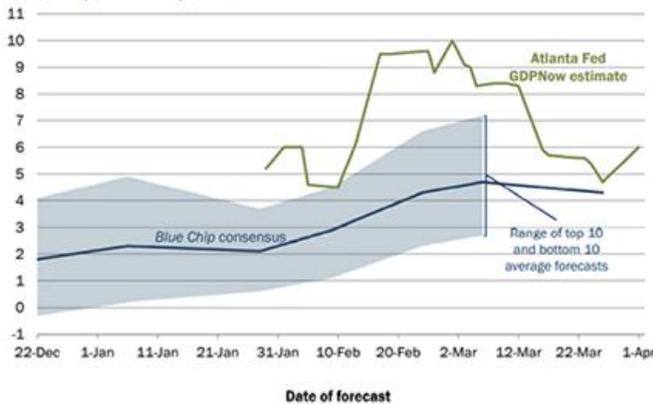
Credit- and debit-card spending, change vs. average for January and February 2020



Note: Gym data reflect the two-week moving average, due to biweekly payment plans.  
Source: Earnest Research

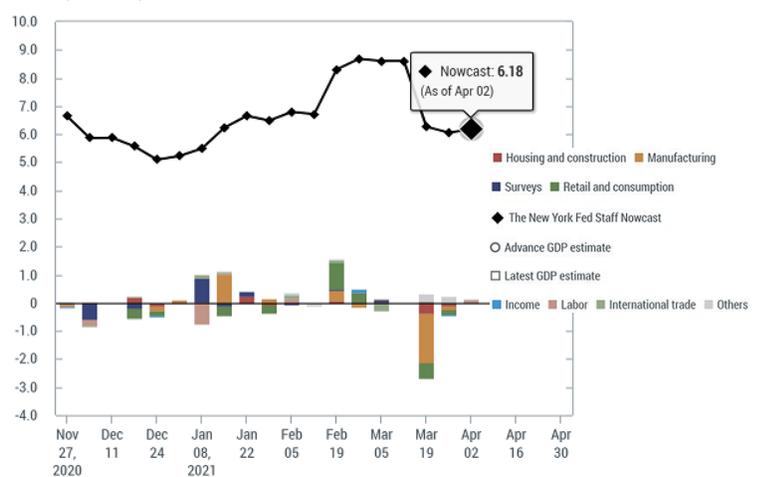
High frequency data supports the economic reflation as evidenced by the number of bookings via OpenTable (upper left graph) and spending at drinking establishments and gyms.

Evolution of Atlanta Fed GDPNow real GDP estimate for 2021: 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.

Percent (annual rate)



The Atlanta Federal Reserve Bank's GDPNow<sup>15</sup> forecasts the second quarter real GDP to be at 6% based on the latest economic data as of April 1. The New York Federal Reserve Bank's NowCast<sup>16</sup> is expecting the real GDP to be at 6.18% based on the incoming data on April 2. Not since 1984 have we witnessed such a high real GDP growth rate, and many professional analysts project an even higher rate towards 8%.

Much of the economic reflation can be credited to (1) the improving accessibility and rate of massive vaccination against COVID-19 that promotes a speedier return to normal; (2) ongoing support through fiscal transfer payments to the masses; (3) maintaining an uber accommodative monetary policy by keeping interest rate at or near 0% and maintaining

<sup>15</sup> <https://www.frbatlanta.org/cqer/research/gdpnow>

<sup>16</sup> <https://www.newyorkfed.org/research/policy/nowcast>

liquidity in the system; and (4) massive personal savings, improving household net worth (buoyant stock and real estate market) and pent up demand after a year of social distancing and shelter-in-place. There seems to be no doubt that we will have at least a couple of strong quarters of GDP growth to wrap up a good year for the U.S. The strong economic revival is expected to follow through into at least the first two to three quarters in 2022. The question is that, after the initial surge in economic activities, will the U.S. land at a higher average real GDP going forward thereafter or go back to a 2% world. Prior to the pandemic, the U.S. was firmly in the 2-2-2 world where the average real GDP is at 2% along with 2% inflation expectation and 2% nominal interest rate. This represented a low growth, low inflation, 0% real interest rate world. Much of the contributing long-term factors, such as aging demographics, technological advancement, increasing public debt and globalization, remain unchanged. The conventional expectation is that, in the longer run, the post COVID-19 world will be back to a 2-2-2 environment.

### Chinamerica Leads World Recovery

The pandemic was discovered in Wuhan, China, in late 2019, and China was the first country that went into a healthcare driven recession and is also the first country leading the economic recovery as the pandemic gets under control. China applied more fiscal and monetary policies in supporting its domestic economy. In the U.S., the pandemic-ravaged economy was supported by massive fiscal and monetary policies which remain in place today. The U.S. and China will again lead the world out of economic contraction and devastation. According to both OECD's March 2021 Interim Economic Outlook<sup>17</sup> and IMF's April 2021 World Economic Outlook<sup>18</sup>, the world will grow at an above trend rate between 5.6% to 6%

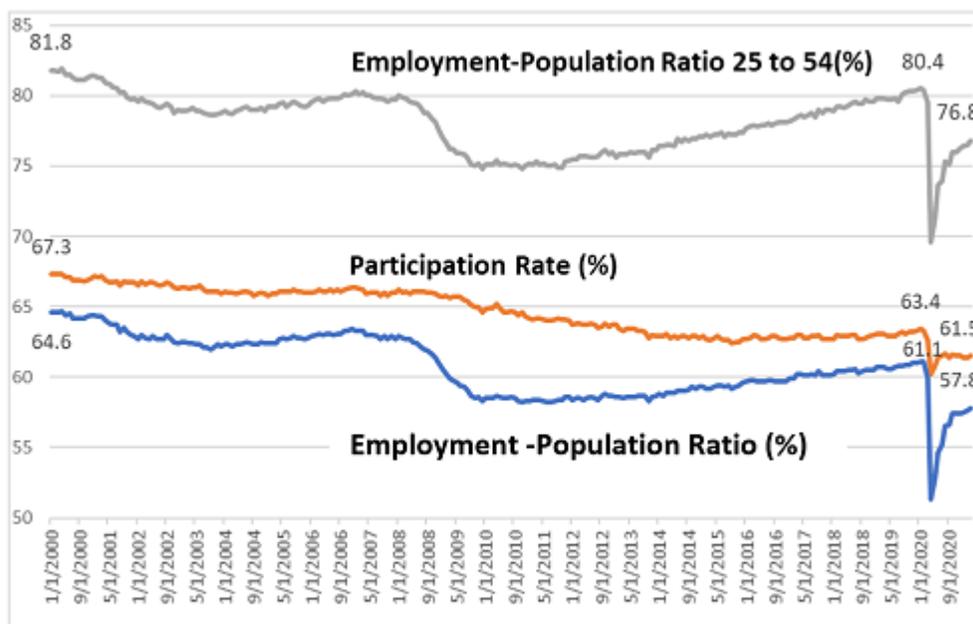
<b>OECD</b>	<b>2019</b>	<b>2020</b>	<b>Project 2021</b>			<b>Project 2022</b>		
<i>Report Date</i>	Oct-20	Mar-21	Apr-21	Dec-20	Apr v. Dec	Apr-21	Dec-20	Apr vs. Dec
<i>U.S.</i>	2.2%	-3.5%	6.5%	3.2%	↑	4.0%	3.5%	↑
<i>World</i>	2.6%	-3.4%	5.6%	4.2%	↑	4.0%	3.5%	↑
<i>G-20</i>	2.9%	-3.2%	6.2%	4.7%	↑	4.1%	3.7%	↑
<i>Euro Area</i>	1.3%	-6.8%	3.9%	3.6%	↑	3.8%	3.3%	↑
<i>China</i>	6.1%	2.3%	7.8%	8.0%	↓	4.9%	4.9%	
<b>IMF</b>			<b>Project 2021</b>			<b>Project 2022</b>		
<i>Report Date</i>	2019	2020	Apr-21	Oct-20	Apr v. Oct	Apr-21	Oct-20	Apr v. Oct
<i>U.S.</i>	2.20%	-3.50%	6.40%	3.10%	↑	3.50%	2.90%	↑
<i>World</i>	2.80%	-3.30%	6.00%	5.20%	↑	4.40%	4.20%	↑
<i>Euro Area</i>	1.30%	-6.60%	4.40%	5.20%	↓	3.80%	3.10%	↑
<i>Advanced</i>	1.70%	-4.70%	5.10%	4.30%	↑	3.60%	2.90%	↑
<i>China</i>	6.10%	2.30%	8.40%	8.60%	↓	5.60%	5.80%	↓
<i>Emerging</i>	3.70%	-2.20%	6.70%	6.00%	↑	5.00%	5.10%	↓

<sup>17</sup> [https://www.oecd-ilibrary.org/economics/oecd-economic-outlook/volume-2020/issue-2\\_34bfd999-en;jsessionid=577wCd1An1oNeOC7GOjrnOI5.ip-10-240-5-20](https://www.oecd-ilibrary.org/economics/oecd-economic-outlook/volume-2020/issue-2_34bfd999-en;jsessionid=577wCd1An1oNeOC7GOjrnOI5.ip-10-240-5-20)

<sup>18</sup> <https://www.imf.org/en/Publications/WEO/Issues/2021/03/23/world-economic-outlook-april-2021>

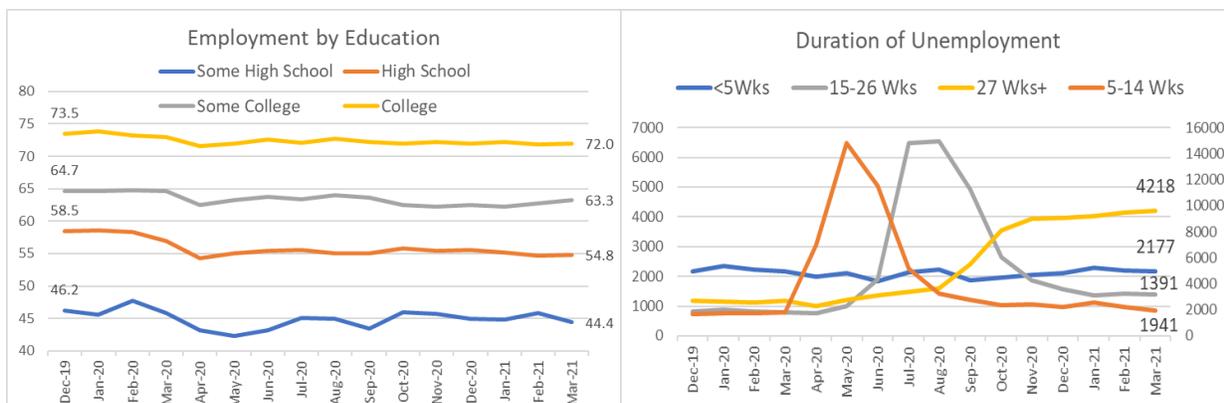
while the U.S. is expected to grow between 6.4% to 6.5% this year and China between 7.8% to 8.4%. It appears that the Euro Area growth remains sub-par at 3.9% to 4.4% after a 2020 contraction between 6.6% to 6.8%. Although the growth rates are expected to be curtailed, the growth remains strong compared to 2019. China, however, is expected to continue to moderate its growth as the country continues to transition from export and manufacturing dependent to a more balanced economy with increasing domestic consumption.

### The Federal Reserve – Want the Cake and Eat It Too



Chair Powell often states and restates the Fed’s mandates are to promote maximum employment and stable prices, along with its responsibilities to promote the stability of the financial system. In the case of maximum employment, the Fed’s understanding of the natural rate of employment (NAIRU), often referred to as  $u^*$ , has evolved. Not since December 1969 has America witnessed a headline unemployment rate (U3) at 3.5%. But the height of 67.3% in employment participation rate reached in January 2001 has not since been attained. In fact, the participation rate has consistently reached lower levels in the ensuing years. Thus, although the U3 rate has dropped from 14.8% in April 2020 to 6% in March 2021, the participation rate is almost 2% below the 63.4% pre-pandemic level. The more accurate or favored metric of the Fed is the employment to population ratio which is now at 57.8%, a 3.3% drop.

Of course, part of this systematic reduction in participation rate is due to demographics. Baby Boomers are reaching their retirement age and leaving the workforce. Moreover, many of them may have lost their jobs and were forced to take retirement during the Great Recession and again during the 2020 pandemic. However, for the prime age workers between age 25 and 54, the participation gap is 3.6% below the pre-pandemic level. This means there still remains a significant gap in the labor force. This gap or slack in labor force employment is the focus of the Fed.



Although the labor market has returned quickly since May 2020 resulting from the sudden shutdown of the national economy, the March Employment Situation report shows that the participation rate for every education level remains below the pre-pandemic levels. As always, the higher the education level, the better the recovery. The newly unemployed (i.e. those with less than 5 weeks or between 5 and 14 week unemployed) have stabilized to drifting downwards; the more troubling data is the significant increase for those with 27 weeks or more in unemployment. Combining this with a yet to fully recover labor participation rate and the working population to employment rate gap and the Fed is rightfully concerned. Even though much of the recovery in the labor economy has been swift since the sudden loss in jobs not caused by financial excesses (as in the Great Recession), it will take time for the rest of the labor economy to fully recover, especially for those most affected. Without a more robust labor economy, it is difficult to see a persistent, increasing aggregate demand that would be sustainable and lead to sustainable inflationary pressures.

The Phillips Curve represents the relationship between the inflation and the unemployment rate. Historically, when unemployment drops past (the unobservable)  $u^*$ , increasing inflation becomes evident. Simply, as more workers are working, more wages are earned with more capacity to spend. This generally increases aggregate demand in the economy and pushes inflation higher. This historically positive correlation between employment and inflation has broken down. There are many speculations as to why low the unemployment rate has not contributed to a rise in inflation since the Great Recession even though most economists do not believe, in the longer run, the correlation between employment and inflation has been repealed.

One of the factors the Fed has consistently credited is the stable inflation environment since the Greenspan Fed, anchoring inflation expectations. In the most recent decade, core inflation rate has persistently fallen below the 2% anchor, not only in the U.S. but in almost all developed economies in Europe and Japan. The Fed has been concerned that the inflation rate continues to fall below the 2% anchor rate. Last year, the Fed ushered in the new Monetary Policy Framework to “achieve inflation that averages 2% over time, and following periods when inflation has been running persistently below 2%, appropriate monetary policy will likely aim to achieve inflation moderately above 2% for some time.” To meet this new framework, the Fed is now taking an *ex post* instead of an *ex ante* approach. This simply means that policy actions will only be taken after the actualization of change and not in

anticipation of change. The reactive in lieu of proactive framework will make the Fed late to the party thus allowing the economy to run hotter and inflation pressure stronger for longer before taking policy action.

Chair Powell in his press conference<sup>19</sup> after the March FOMC meeting laid out the FOMC's objectives as follows:

- labor market conditions that are consistent with our estimates of maximum employment, and that doesn't just mean unemployment, it means a much broader set of criteria;
- inflation at 2 percent and not on a transitory basis; and
- inflation on track to run moderately above 2 percent for some time.

He further affirmed that forward “guidance is outcome based and ties the path of the federal funds rate and the balance sheet to progress toward reaching our employment and inflation goals. The emphasis is on actual progress, not forecast progress. And that's a difference from our past approach.” He also stated that the Committee views maximum employment as a “broad-based and inclusive goal.” The Fed's ability to achieve maximum employment in the years ahead depends importantly on having longer-term inflation expectations well anchored at 2%. It is this delicate balance of not letting inflation be too high for too long (or inflation expectation beginning to move higher or much higher than 2%) and achieving an inclusive labor market with little slack. The main monetary tools to achieve this balance are forward guidance, Fed Funds rate calibration, and managing the Fed's balance sheet. After dropping interest rates to zero percent and invoking a major expansion of its balance sheet to provide plenty of liquidity and maintain market stability, the Fed continues to affirm a longer for lower interest rate environment and to provide the economy the support that it needs for as long as it takes.

In simple terms, the Fed believes that it has the monetary tools to foster and reach “full” employment while tweaking inflation to allow it to move higher than 2% for a period of time to remove disinflation or deflation risks and thereafter to shrink the balance sheet and then raise interest rates to return the inflation rate to 2%.

### **FOMC Members' Expectation – Individual Crystalball-ing**

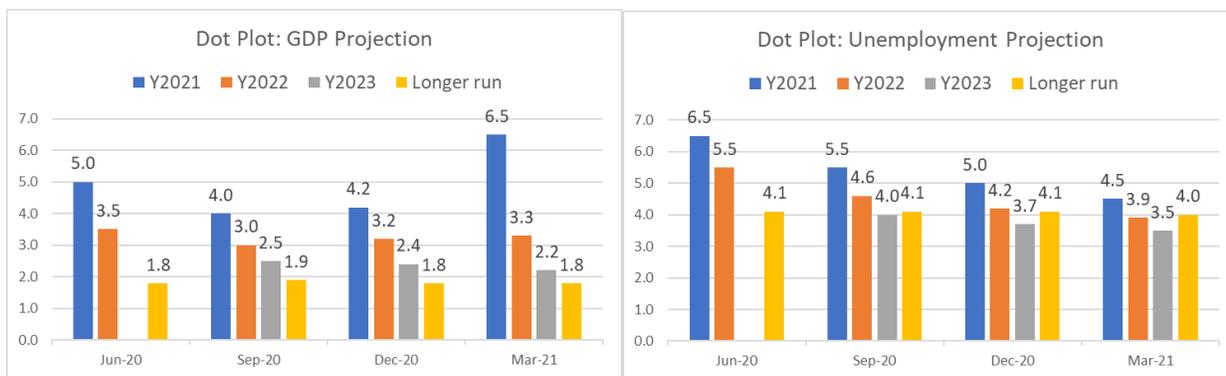
Four times annually, the FOMC publishes its Summary of Economic Projections (SEP). SEP provides a summary update of the Committee participants' “projections of the most likely outcomes for real gross domestic product (GDP) growth, the unemployment rate, and inflation for each year from 2021 to 2023 and over the longer run. Each participant's projections are based on information available at the time of the meeting, together with her or his assessment of appropriate monetary policy—including a path for the federal funds rate and its longer-run value—and assumptions about other factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment of the value to

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<sup>19</sup> <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210317.pdf>

which each variable would be expected to converge, overtime, under appropriate monetary policy and in the absence of further shocks to the economy.”

Chair Powell goes out of his way to say that each SEP does not represent the single view of the FOMC voting members and that the “dot plots” are mere indicators of each member’s projections. This adds an added level of central bank transparency to the public. The March 2021<sup>20</sup> SEP shows that the members have significantly revised the GDP from 4.2% in December to 6.5% and a small upward revision to the 2022 GDP from 3.2% to 3.3%. But in the longer run, the GDP remains below 2% (i.e. the above average GDP growth rate is transitory). Unemployment is projected to continue to improve for 2021. From June 2020 at 6.5% to 4.5% is a substantial improvement. In fact, we expect to be back to pre-pandemic 3.5% in 2023. In the longer run, the projected unemployment rate remains at 4%. (This could be the  $u^*$  at this time.)

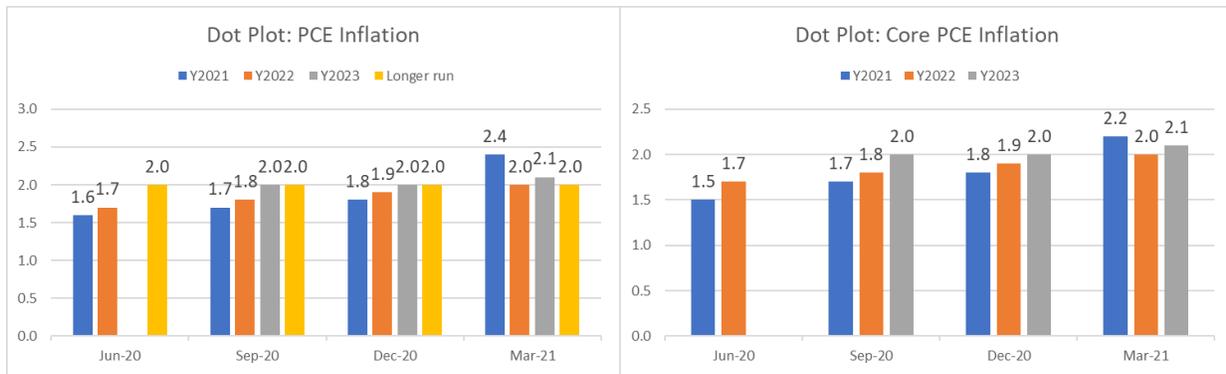


There are two common measures of inflation – Consumer Price Index (CPI) and Personal Consumption Expenditure (PCE). Many government cost of living adjustments rely on CPI while the Fed prefers the PCE. Historically, CPI tends to report higher inflation than PCE. The differences between CPI and PCE are:

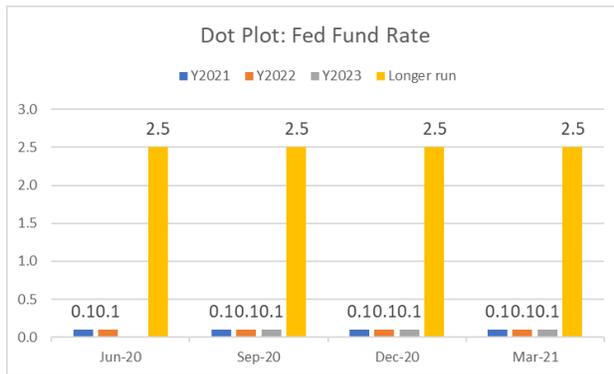
1. Weight Effect – different components of the CPI and PCE are “weighted” differently.
2. Coverage Effect - The CPI only covers out-of-pocket expenditures on goods and services purchased, whereas PCE also includes other expenditures that are not paid for directly (e.g. Medicare, Medicaid and employer provided health coverage).
3. Formula Effect – CPI and PCE are calculated using different formulae.

Finally, the Fed focuses primarily on “core” inflation. Core simply means that the volatile food and energy components are excluded.

<sup>20</sup> <https://www.federalreserve.gov/monetarypolicy/files/fomcproitabl20210317.pdf>



Core PCE projections have consistently been revised upward from 1.5% in June 2020 to 2.2% in March 2021 with inflation expectation to remain anchored at 2%. For 2022 and 2023, core PCE is projected to remain at 2 to 2.1% (i.e. the projected above average inflation rate is transitory).



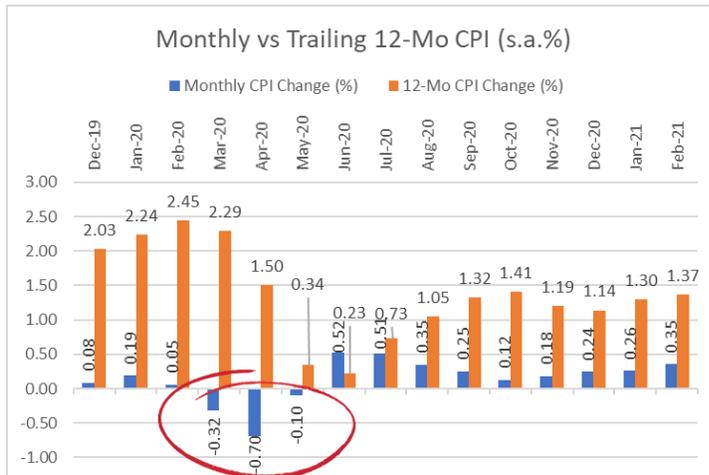
Finally, the projection for the Fed Fund rate remains flat at 0.1% through 2023 with a longer run at 2.5%. The Committee members recognize a brighter outlook for our economy but remain cautious as uncertainties about employment and inflation outcomes remain far from meeting their mandates. As Governor Lael Brainard stated during the National Association for Business Economics Virtual 37th Annual

Economic Policy Conference in Washington:

“[t]he emphasis on outcomes rather than the outlook corresponds to the shift in our monetary policy approach that suggests policy should be patient rather than preemptive at this stage in the recovery.”

The Fed wants to keep its monetary policies accommodative or loose and use forward guidance to announce its intention to keep ZIRP (zero interest rate policy) and QE (quantitative easing policy to buy treasury and mortgage securities) in place for a long time which keeps financial conditions stable and to stimulate the economy. This intends to promote borrowing, risk-taking, and business activities to reach the dual mandates of full employment and price stability (2% core PCE) and, at the same time, to contain inflation from running too hot by carefully broadcasting the Committee’s policy direction and timing through “forward guidance”. Even though the central bank of the U.S. is extremely powerful, policy mistakes can still occur. Since the Great Recession/Global Financial Crisis, the Fed and other central banks have not been able to extricate themselves from ultra-loose monetary policies, and each time they tried, they had to reverse course.

## Higher Inflation – Transitory or Sustained?



Over the next three months, the trailing 12- month CPI will move higher, suggesting that inflation is back. Beginning with the March CPI, we see the dropping off of the March 2020 negative CPI (-0.32%) from being included in the trailing 1- year CPI as the new month (positive CPI) is added. This process will continue for the next two months until all three negative CPI months are removed from the annual trailing calculation. This is often referred to

as the “base effect. We watch out for the monthly change rate to see if inflation is moving up in a higher to much higher rate going forward. The Bureau of Labor Statistics announced on April 13 that the CPI increased 0.6% in March on a seasonally adjusted basis after rising 0.35% in February. The March 1-month increase was the largest rise since a 0.6% increase in August 2012. Over the last 12 months, the all items index increased 2.6% before seasonal adjustment. The core CPI (all items less food and energy) rose 0.3% in March.

CPI-U Expenditure category (abridged)	Relative importance 2021 02	% change (s.a.)	
		Jan. - Feb.21	Feb. - Mar.21
All items	100.00	0.40	<b>0.60</b>
Food	<b>14.05</b>	0.20	0.10
Energy	<b>6.56</b>	3.90	<b>5.00</b>
All items less food and energy	79.39	0.10	<b>0.30</b>
Commodities less food and energy commodities	<b>20.17</b>	-0.20	0.10
Apparel	2.77	-0.70	-0.30
New vehicles	3.73	0.00	0.00
Used cars and trucks	2.71	-0.90	<b>0.50</b>
Medical care commodities <sup>(1)</sup>	1.55	-0.70	0.10
Alcoholic beverages	1.03	-0.10	<b>0.30</b>
Tobacco and smoking products <sup>(1)</sup>	0.62	0.60	0.60
Services less energy services	<b>59.22</b>	0.20	<b>0.40</b>
Shelter	33.13	0.20	<b>0.30</b>
Rent of primary residence	7.80	0.20	0.20
Owners' equivalent rent of residences <sup>(2)</sup>	24.12	0.30	0.20
Medical care services	7.32	0.50	0.10
Physicians' services <sup>(1)</sup>	1.87	2.00	0.30
Hospital services <sup>(3)</sup>	2.23	-0.10	<b>0.60</b>
Transportation services	5.10	-0.10	<b>1.80</b>
Motor vehicle maintenance and repair <sup>(1)</sup>	1.09	0.30	<b>1.00</b>
Motor vehicle insurance	1.63	0.70	<b>3.30</b>
Airline fares	0.60	-5.10	<b>0.40</b>

As stated earlier, we expect, at least for the next two months, for CPI to continue adjusting to the upside and getting to 3% resulting from the base effect and reflecting the increasing economic activities as more states relax restrictions and open their economies. It is important to note that CPI does not take into consideration the rise in financial assets or housing prices which are direct beneficiaries to the monetary and fiscal support.

These monthly CPI and core CPI readings are backward looking. In addition to the base effect, some of the March and the current quarter inflation rise can also be attributable to the following factors:

- 1) The disruption of supply chain under the Trump Administration with tariffs and other tactics came to a tipping point with rolling shutdowns of economies globally. At the same time, with shelter-in-place policies and jobs and economies in disarray, demand also plummeted. The process of restarting the supply chain and getting goods flowing again is uneven and takes time. A case in point is the recent shipping and port congestion challenges at the Suez Canal<sup>21</sup> and the Los Angeles Port<sup>22</sup>. These added friction to global trade and pricing pressure.
- 2) Due to the significant drawdown of inventory levels during 2020 when the economic future was extremely uncertain and now with improving health and economic situations, a buildup is necessary to meet expected increasing demand. This increases the volume of demand that further puts pressure on manufacturing and shipping and ultimately price.
- 3) During 2020 when employees stayed home and worked remotely, they purchased or were provided computers and other electronic equipment. Their children, who were attending classes online, needed similar computing and IT supplies plus electronic gaming equipment. There was also a spike in demand for personal automobiles to travel safely and freely in lieu of public transportation. These are all contributing factors to an electronic chip shortage<sup>23</sup> which are needed in everything like refrigerators, washing machines, cell phones, automobiles, laptops, watches and countless other consumer and industrial goods. A shortage in supply coupled with an increasing demand<sup>24</sup> spells higher prices and inflation pressure.
- 4) There is an abundance of savings and cash reserve thanks to the fiscal transfers from Congress and low interest rates that promoted cash out refinancing of existing homes. As of the end of last year and prior to Biden's 2021 fiscal transfer under the American Rescue Plan, there was almost \$2.25 trillion in personal savings, and as of 1-31-2021, Americans were saving at a rate of 13.6%. Although this is down from a historic 33.7% level in March last year, it is significantly higher than the historical average savings rate. Consensus suggests that the savings rate shall remain above historical

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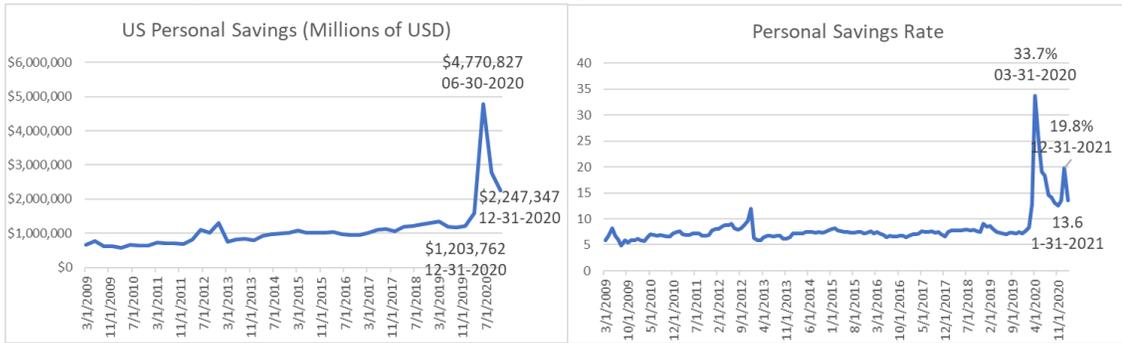
<sup>21</sup> <https://time.com/5949914/cargo-ship-suez-canal-shipping/>

<sup>22</sup> <https://www.reuters.com/article/idUSL1N2KN30A>

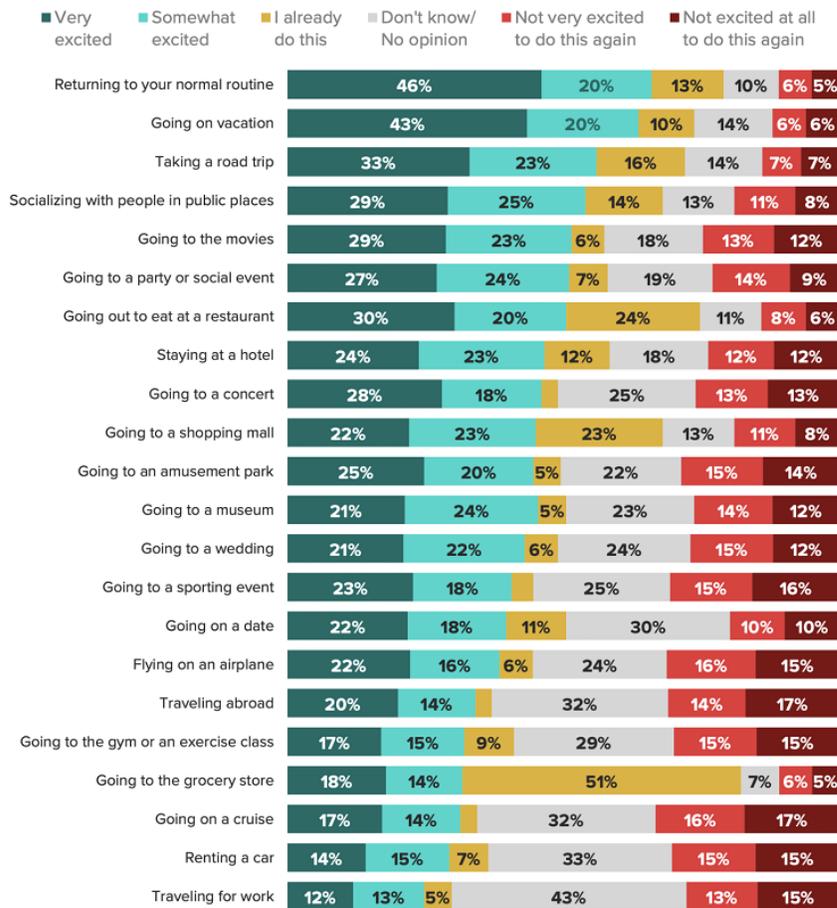
<sup>23</sup> <https://www.reuters.com/article/chips-shortage-explainer-int/explainer-why-is-there-a-global-chip-shortage-and-why-should-you-care-idUSKBN2BN30J>

<sup>24</sup> <https://www.reuters.com/article/idUSKCN2AT211>

norms, and there is excess cash in most Americans' pockets, waiting to be spent when all states are open and we return to normalcy.



5) Pent up consumer demand after over a year of being locked up in their homes cannot be overstated. According to a March 18–21 survey among 2200 U.S. adults by Morning Consult<sup>25</sup>, respondents were asked to consider when the pandemic is under control and the economy has fully reopened, how excited they are about the opportunity to do the following:

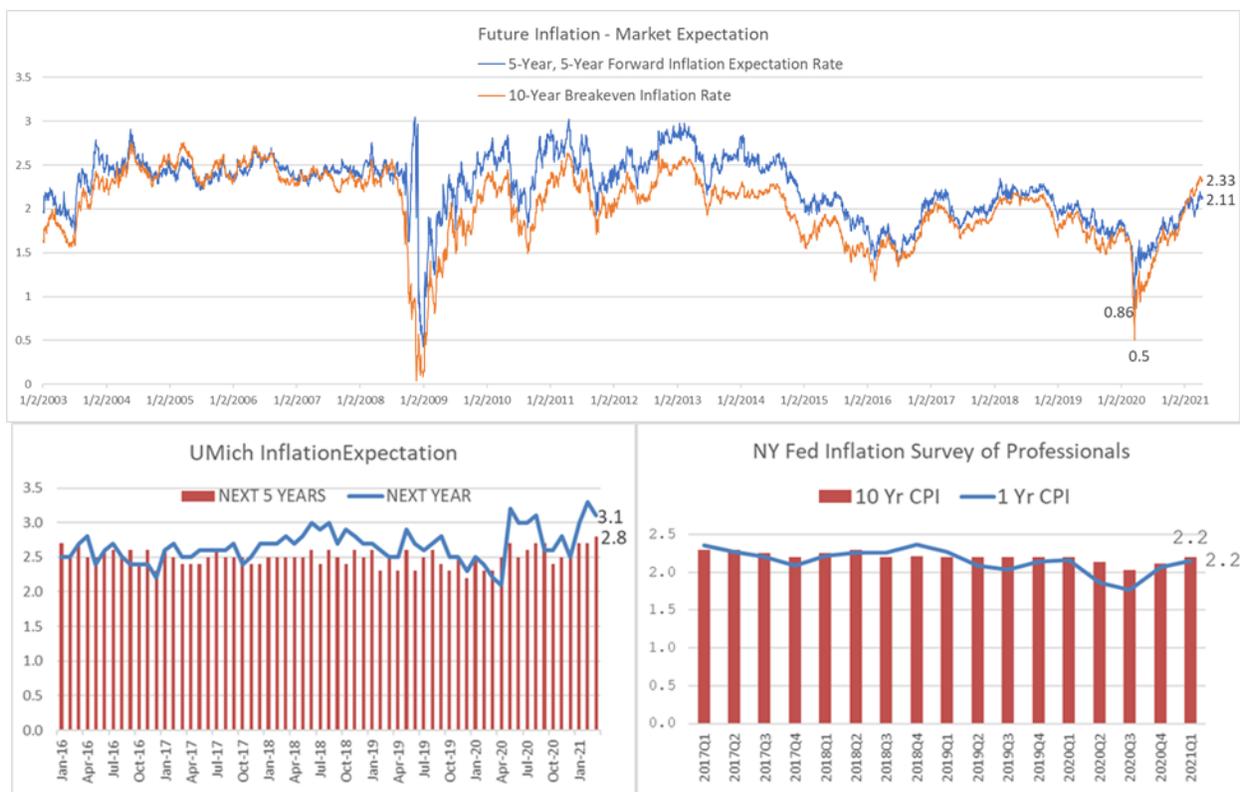


MORNING CONSULT

<sup>25</sup> <https://morningconsult.com/2021/03/24/pent-up-demand-travel-restaurants-cruise-pandemic/>

With these 5 and other contributing factors, it is questionable if the surge in activities will be sufficient to bring inflation back above 2% (say 2.5% to 3%) on a sustainable long-term basis. Over the next year or two, the supply chain will be normalized. Even if companies will sacrifice efficiency (dependent on a single supply and value chain) for resilience (multiple supply and value chains) or reshore certain manufacturing capabilities to minimize foreign dependency, it is questionable if corporations will pass on the additional costs to consumers. Unless there are significant long-term (multi-year) meaningful injections of fiscal stimulus, such as infrastructure projects that boost higher paying jobs nationally, or a significant shortage of commodities (as in the case of the 70's style oil embargo), it is difficult to make a case for inflation to be significantly above trend in the longer run. As a base case, it is reasonable to consider the short-term jump in inflation is transitory.

The consumer and economist surveys and market expectation data are also aligned with the transitory view for inflation.



For example, 5-years from now the expectation for inflation 5-years thereafter is at 2.11%. On the other hand, the 10-year Breakeven Inflation Rate (i.e. the amount of compensation for a 10-year bond holder to be compensated for the expected inflation) is 2.33%. The consumer survey data from University of Michigan suggests that the inflation rate is 3.1% next year and 2.8% in 5-years. This is consistent with the transitory nature of inflation as expressed by the Fed. Finally, professional economists surveyed by the New Year Fed<sup>26</sup> at the end of the first quarter expect inflation next year to be at 2.2% and remain at 2.2% 10 years from now.

<sup>26</sup> <https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/inflation-forecasts>

The dispersion among consumers, professionals and the market expectations of 1-, 5- and 10-years remain pretty small.

### So What Are We Fussing About?

The trend suggests that the strong base case is for the U.S. population to be 70% vaccinated by July 4<sup>th</sup> with the states opening up and companies asking or inviting their employees to return to work in their offices, at least part of each week initially. Air travel is beginning to show signs of life and pent-up consumers are wanting to unleash their emotions and freedom through, travel, leisure and, of course, consuming. The Fed has consistently maintained the current recession era, super dovish policy stance. Vice Chair Richard Clarida in his March 25<sup>th</sup> speech at the Institute for International Finance Washington Policy Summit, stated the oft-quoted Fed position:

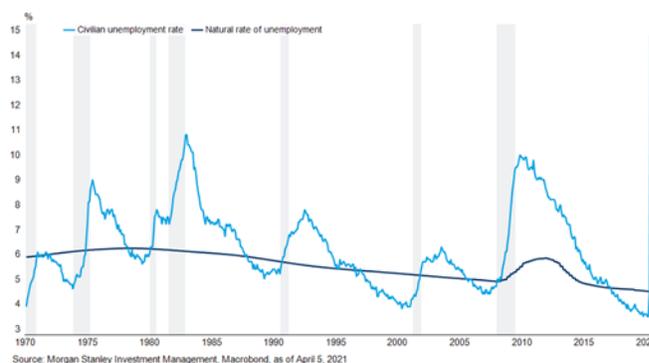
*“with inflation running persistently below 2 percent, our policy will aim to achieve inflation outcomes that keep inflation expectations well anchored at our 2 percent longer-run goal. We expect to maintain an accommodative stance of monetary policy until these outcomes—as well as our maximum-employment mandate—are achieved. We also expect it will be appropriate to maintain the current target range for the federal funds rate at 0 to 1/4 percent until labor market conditions have reached levels consistent with the Committee’s assessments of maximum employment, until inflation has risen to 2 percent, and until inflation is on track to moderately exceed 2 percent for some time.”*

US Core PCE



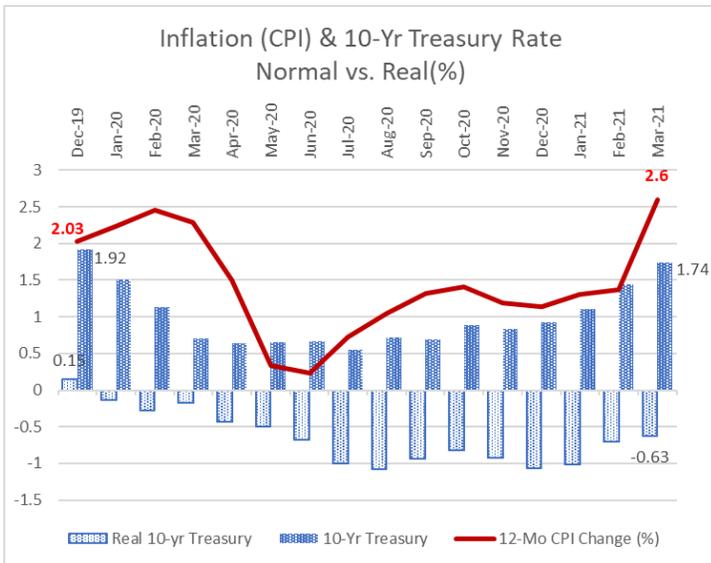
Source: Morgan Stanley Investment Management, Macrobond, as of April 5, 2021

US unemployment rate



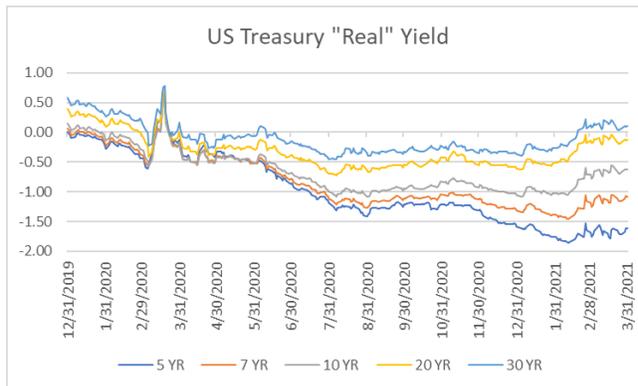
Source: Morgan Stanley Investment Management, Macrobond, as of April 5, 2021

Based on data provided by Morgan Stanley in its March Global Fixed Income Outlook, US Core PCE has been below 2% since late 1990 and the Fed has been trying to push up core inflation to 2% without success. At the same time, the unemployment rate has been higher than NAIRU most of the time over the past two decades and thus is unable to generate the positive correlation of full employment and inflation as expected in the Phillip’s Curve relationship. If this remains true, then we are not hopeful that in the longer run anything is really going to change the employment and inflation dynamics and we are “stuck” with a low growth, low interest rate and low inflation environment.



At the end of December 2019, the normal rate for the 10-year US treasury was at 192bp, and on March 9, 2020, the yield bottomed at 54 bp. Since then, the yield has stayed fairly low during most of 2020. With the approval of and the increasing availability of the vaccine, leading to a faster economic normalization, the rate jumped to 174bp at the end of March this year, a 100bp increase since March's bottom. Although the speed of the increase is significant, the normal rate is now back to the pre-pandemic January 2020 level.

With the persistent and extraordinary fiscal and monetary policy support and the emotional excitement of back to a more normal civic life in the near term, we expect the 10-year rate to move pass the 1.92% yield set on December 31, 2019. We believe the rates can easily be at 2.5% and may even reach 3% within the next 12-months. But the path and speed of this move upward is far from certain.



Separately, the real (inflation-adjusted) treasury rates along the entire yield curve (until recently including the 30-year bond) have been negative. If inflation continues to move higher, the normal rate has to move at the same pace just to make sure the real yield does not fall further into negative territory. This negative yield has been an important factor of pushing equity prices ever higher. When long rates are negative, it is supportive of all securities

with a long maturity date (duration). Stocks, with an infinite maturity date, tend to benefit in this environment. However, its sensitivity to interest rates would also add significant volatility when rate begins to rise.

From a portfolio construction standpoint, we are facing a number of challenges. The diversification effect is diminished when the interest rate is at zero bound with negative real rate for most of the Treasury yield curve. When interest rate rises, bonds drop in value to compensate for the difference in interest earnings (evidenced this first quarter the negative returns in core bonds). At the same time, when interest rates move steeper and at a faster speed, stocks would likely be repriced (i.e. lose value to compensate for the new safe rates) as well.

Since the Great Recession, interest rates have been zero bound and rates did not begin to normalize until six years later and at a slow pace. Further, the unconventional tools of

Quantitative Easing have pumped substantial liquidity into the system to support a stable financial system. But inflation remains below 2%. With the pandemic, the Fed went back into QE and ZIRP. This time, major fiscal policies were also unleashed. We now have more liquidity than ever in the system. Although the Fed does not expect to normalize (raise) interest rates until 2023, it is likely that they will curtail QE (buying Treasury bonds and mortgage-backed securities) first. This will begin to drain liquidity in the system and volatility for stocks and other risk assets would likely ensue. If the Fed sticks to the 2023 calendar, that means in 2022, they will begin to “taper”. This is a real risk. For now, according to the CME Group FedWatch Tool<sup>27</sup>, there is still a 91.9% chance that the Fed Fund rate remains at the zero bound at the Fed’s December 21, 2021 meeting.

We do not expect a repeat of 2020’s outsized return for US stocks this year, and core bonds will remain under pressure as we expect a continuing rise in 10-year Treasuries. On a relative basis, stocks remain more compelling than bonds. As we get closer to 2022, I expect the market will have more concerns about tapering and finally lift off. If we have a strong 2021 and an expected strong GDP at least in the first half of 2023, the market will likely price in a sooner rather than later taper and lift off. Both of these could be bad for stocks. This will be a battle between Fed’s forward guidance and market sentiment.

We are joyfully anticipating and participating in the post-pandemic robust economic recovery and at the same time sensing the beginning of a gradually less supportive environment for stocks and bonds as the market participants test the resolve of the Fed on its patience and its reaction functions to a less accommodative policy stance. Can the Fed really play God?

Sincerely yours,

**EXPERIENTIAL WEALTH**

Philip Chao, Principal & CIO

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<sup>27</sup> <https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>