

Robust Economic Growth and Recovery After a Dreadful Year

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- **GDP:** Following a 3.5% decline in real GDP in 2020, we are forecasting 6.3% growth in 2021, 4.6% growth in 2022, and 2.7% growth in 2023. These rates of growth are considerably higher than the 2.3% we averaged during the recovery from the Great Recession between 2010 and 2019. We expect real GDP to surpass its 2019 peak by the end of Q2 2021 and to surpass pre-pandemic trends by Q1 2022. Real GDP then grows slightly faster than pre-pandemic trends through the end of our forecast period in 2023.
- **Unemployment:** We forecast that the unemployment rate will decline from an average of 6.7% in Q4 2020 to 5.2% in Q4 2021, 4.1% in Q4 2022, and 3.7% in Q4 2023. Recovering labor force participation will slow the decline in the unemployment rate.
- **Inflation:** Our forecast is that annual core PCE inflation will be 1.9% in 2021, peak slightly above 2% in 2022, and then stabilize at 1.9% in 2023. Through the end of 2023, since we don't expect sustained core PCE inflation above 2% and since we expect unemployment to remain above pre-pandemic levels, we do not expect the Federal Reserve will raise the Federal Funds Rate above its current 0%–0.25% target.

2021 will be a year of near-record economic growth, following the worst economic decline in the last 60 years

This time last year, the World Health Organization declared COVID-19 a global pandemic.¹ In an effort to stop the spread of infections, what ensued was one of the most abrupt economic declines in U.S. history as the country stopped virtually all non-essential activities that could not be done remotely. As fear seized credit and equity markets

and threatened to destabilize the financial system, many economists warned of a “depression-like” economy and job losses that “would come for us all.”² Fortunately, quick and decisive fiscal and monetary action and advances in medical knowledge that helped reduce death rates spared the economy from much worse outcomes. The pandemic has now claimed more than 500,000 lives in the U.S.,³ and the economic toll has been devastating, with GDP declining in 2020 by 3.5% from 2019 levels,⁴ and with over 22 million jobs lost during the pandemic.⁵

1. World Health Organization, “WHO Director-General’s Opening Remarks at the Media Briefing on COVID-19,” March 11, 2020, available at: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.

2. See, for example, UCLA Anderson School of Management, “Uncertainty Clouds California Economy; State’s Recovery Will Mirror That of the Nation,” June 24, 2020, available at: <https://www.anderson.ucla.edu/news-and-events/press-releases/uncertainty-clouds-california-economy-states-recovery-will-mirror-that-of-the-nation>; and Ben Casselman and Patricia Cohen, “A Widening Toll on Jobs: ‘This Thing Is Going to Come for Us All,’” *New York Times*, April 2, 2020, available at: <https://www.nytimes.com/2020/04/02/business/economy/coronavirus-unemployment-claims.html>.

3. Nate Rattner and Will Feuer, “U.S. surpasses 500,000 Covid deaths after yearlong battle with pandemic,” *CNBC*, February 22, 2021, available at: <https://www.cnn.com/2021/02/22/the-us-covid-19-death-toll-has-surpassed-500000.html>.

4. Bureau of Economic Analysis, “Gross Domestic Product, Fourth Quarter and Year 2020 (Second Estimate),” February 25, 2021, available at: <https://www.bea.gov/news/2021/gross-domestic-product-fourth-quarter-and-year-2020-second-estimate>.

5. Between February 2020 and April 2020, total non-farm payrolls declined by 22.3 million, from 152.5 million to 130.2 million. This represents a lower bound on the number of jobs lost during the pandemic. See St. Louis Fed FRED series <https://fred.stlouisfed.org/series/PAYEMS>.

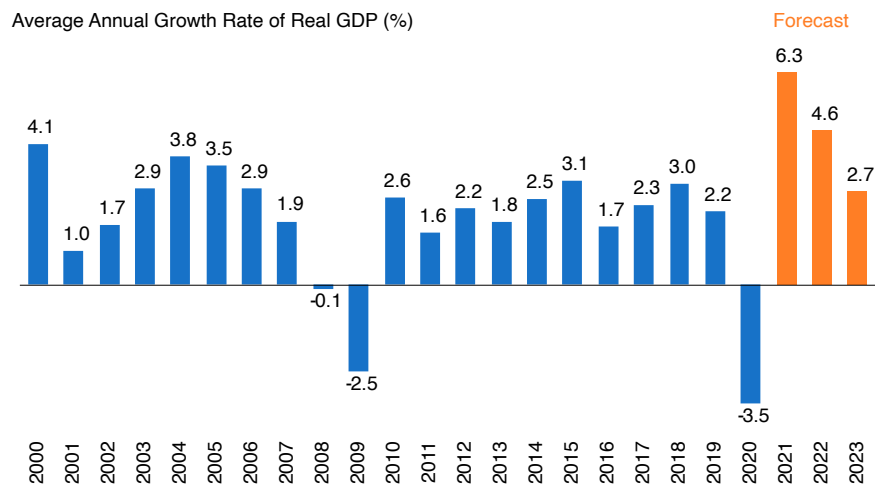
But it could have been worse. Government action – through PPP, extended unemployment insurance, and direct checks – has helped preserve many employer-employee relationships and bolstered household finances, setting the stage for an economic rebound as the country becomes vaccinated and the pandemic wanes. Assuming vaccinations continue at least at 2.5 million doses per day, a milestone the U.S. only recently achieved, and adding the number of people who have recovered from COVID and have at least some immunity, the majority of the U.S. population should have some protection from COVID by the middle of Q2 2021, and by late fall, we are likely to achieve herd immunity.⁶ For the economy, a waning pandemic combined with fiscal relief means a strong year of growth in 2021 – one of the strongest years of growth in the last 60 years – followed by sustained higher growth rates in 2022 and 2023.

Exhibit 1 shows the average annual growth rate of real GDP since 2000 and our forecast for 2021 through 2023.

Following the 3.5% decline in real GDP in 2020, we are forecasting 6.3% growth in 2021, 4.6% growth in 2022, and 2.7% growth in 2023. These rates of growth are considerably higher than the 2.3% rate we averaged during the recovery from the Great Recession between 2010 and 2019. As part of our forecast, we have assumed an additional \$1.5 trillion in fiscal relief will enter the economy toward the end of Q1 and through Q2.⁷

Exhibit 2 shows real GDP growth in 2020 and our forecast for 2021 through 2023 on a quarterly basis. In seasonally adjusted annual rates, we are forecasting growth of 5.9% in Q1, 7.4% in Q2, 8.9% in Q3, and 4.5% in Q4 of 2021, followed by quarterly growth above 2.4% thereafter through the end of 2023. As Exhibit 3 shows, this rate of growth will return real GDP to its 2019 peak by the end of Q2 2021 and to its prior trend by Q1 2022. Real GDP then grows slightly faster than pre-pandemic trends through the end of our forecast period.

Exhibit 1 Real GDP growth since 2000 and forecast for 2021-2023



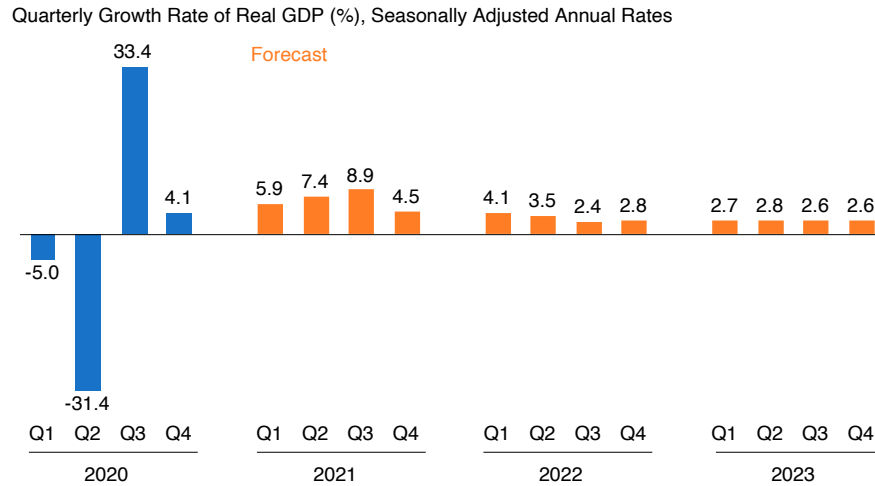
Source: Bureau of Economic Analysis and UCLA Anderson Forecast

6. New York Times, “See How the Vaccine Rollout Is Going in Your State,” accessed February 28, 2021, available at: <https://www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html>; and New York Times, “Coronavirus in the U.S.: Latest Map and Case Count,” accessed March 1, 2021, available at: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>. This also assumes that prior COVID infections and current vaccines offer protection against new variants.

7. The House has passed a \$1.9 trillion fiscal relief package, the “American Rescue Plan.” We assume negotiations in the Senate may reduce the size of the final bill to approximately \$1.5 trillion. For details of the American Rescue Plan, see Rachel Siegel, “What’s in the House’s \$1.9 trillion coronavirus plan,” Washington Post, February 27, 2021, available at: <https://www.washingtonpost.com/us-policy/2021/02/26/american-rescue-plan-house-coronavirus-stimulus/>.

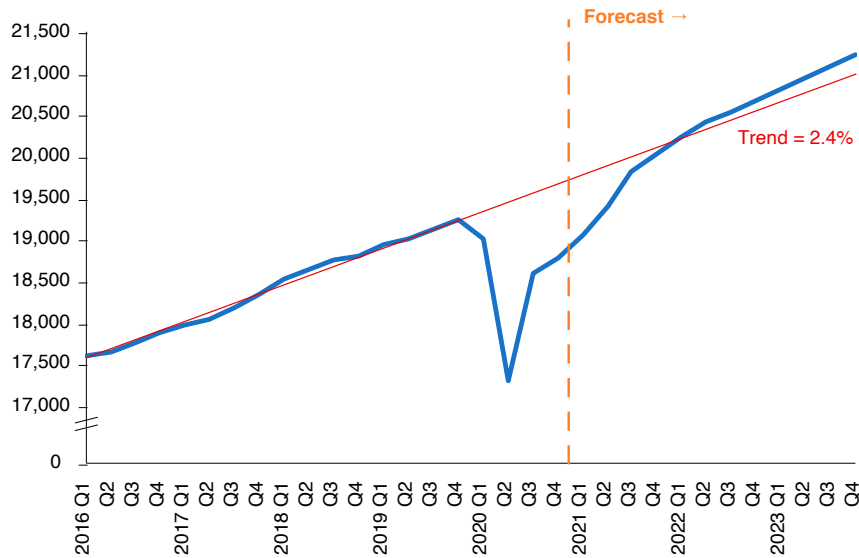
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Exhibit 2 Quarterly real GDP growth in 2020 and forecast for 2021-2023



Source: Bureau of Economic Analysis and UCLA Anderson Forecast

Exhibit 3 Real GDP, Seasonally Adjusted Annual Rates (\$ Billions)



Source: Bureau of Economic Analysis and UCLA Anderson Forecast
 Notes: Pre-pandemic trend line shown in light red.

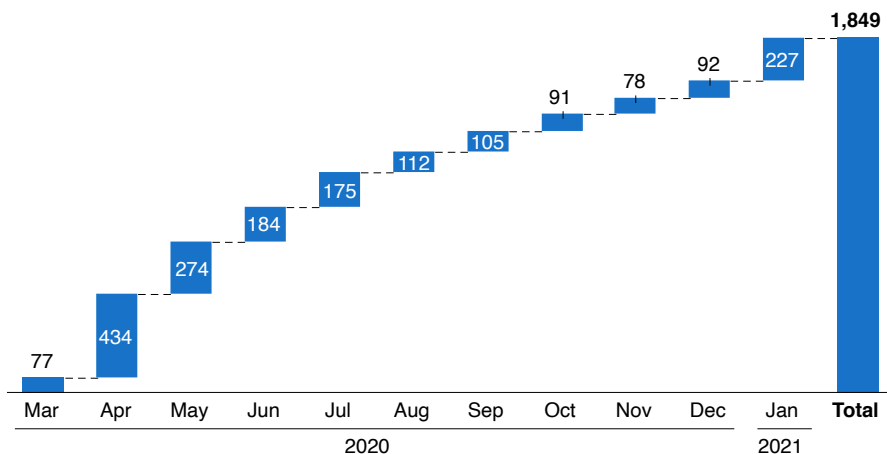
The main drivers of this growth are a partial release of pent-up savings, a resumption of services consumption back to previous trends, and a robust housing sector (for more on the housing sector, see Section 4). Offsetting some of this growth is a return of above-average consumption of goods to prior trends. During the pandemic, Americans consumed more goods and fewer services. We expect these patterns to reverse as the pandemic wanes and the economy fully reopens.

Exhibit 4 shows that Americans have accumulated \$1.8 trillion in additional savings above pre-pandemic trends since March 2020. This includes money received from the \$908 billion fiscal aid package passed in December 2020 and disbursed through January 2021 but does not include money from the proposed \$1.9 trillion American Rescue Plan. We expect a substantial portion of these savings to be released into the economy over the course of the year.

With mass vaccinations and social interactions resuming, our forecast is for increased consumption of services and stabilizing consumption of goods (see Exhibit 5). We

forecast that consumption of services and consumption of goods both return to pre-pandemic trends by the end of 2023. Within services, as we show in Exhibit 6, we expect the recovery to be led by healthcare as people feel comfortable resuming preventive and elective treatment. Our forecast is that healthcare spending will surpass its 2019 peak by Q4 2021. Next is food services and accommodation as people feel comfortable going to bars and restaurants and staying in hotels, followed by recreational services as people feel comfortable going to museums, theaters, amusement parks, sports centers, and art venues. Our forecast is that food services and accommodation as well as recreation services will surpass their 2019 peak by Q1 2022. Other services, including education and social services, will likely recover by mid-2022, with some delay associated with reduced childcare depending on parents' work arrangements. Finally, we expect transportation services will take longer to recover because of diminished commuting and work-related travel. Our forecast is that transportation services will surpass its 2019 peak by Q3 2022.⁹

Exhibit 4 Personal Saving Above Pre-Pandemic Trends Since March 2020 (\$ Billions)



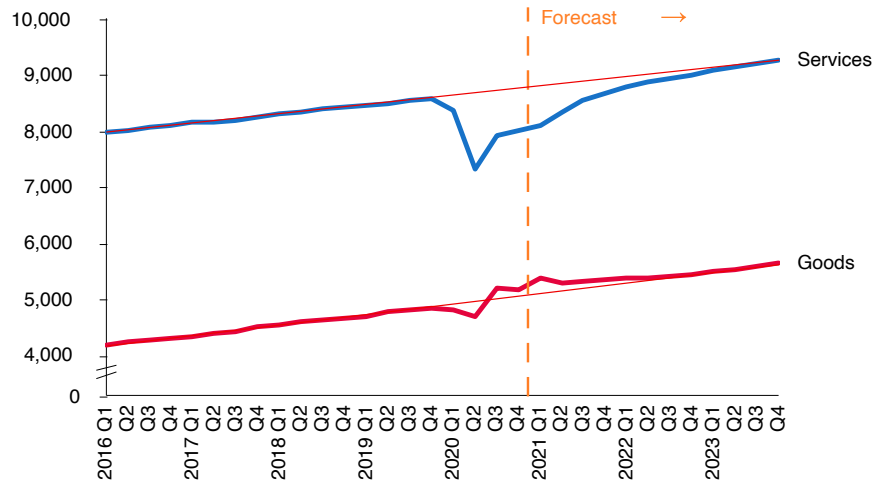
Source: Bureau of Economic Analysis and St. Louis Fed FRED series <https://fred.stlouisfed.org/series/PMSAVE>. To obtain monthly saving above pre-pandemic trends, we take personal saving at annualized rates for each month between March 2020 and January 2021, subtract from each month the average level of personal saving at annualized rates between March 2019 and January 2020 (the average is \$1.206 trillion per month in annualized rates), and divide by 12 to obtain monthly rates. The sum of additional monthly saving above pre-pandemic trends between March 2020 and January 2021 is \$1.849 trillion.

8. See also Neil Irwin and Weiyi Cai, “Why Markets Boomed in a Year of Human Misery,” *The Upshot*, New York Times, January 1, 2021, available at: <https://www.nytimes.com/2021/01/01/upshot/why-markets-boomed-2020.html>. Note this article does not include data from the \$908 billion December fiscal aid package or from the proposed \$1.9 trillion American Rescue Plan.

9. Consumption of housing, utilities, finance and insurance, and telecommunications services have been minimally affected by the pandemic and are not shown in Exhibit 6.

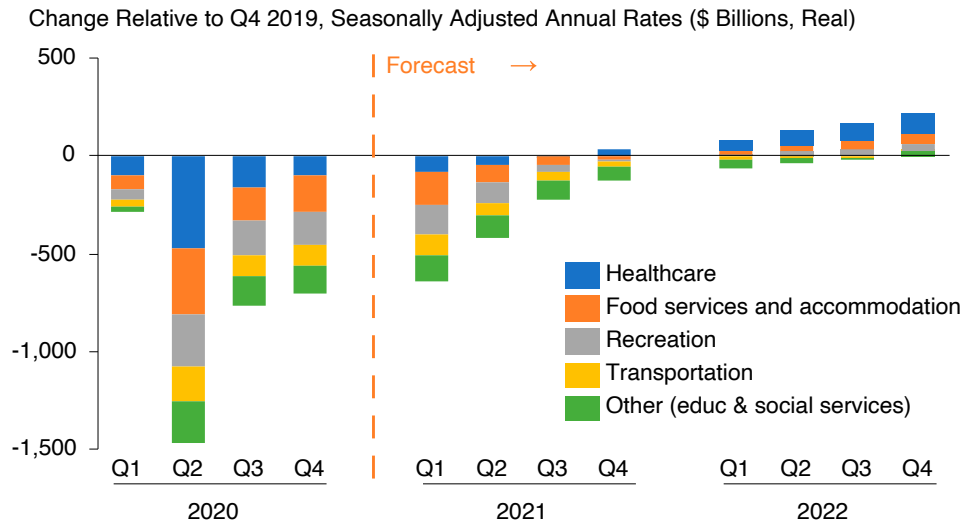
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Exhibit 5 Consumption of Goods and Services, Seasonally Adjusted Annual Rates (\$ Billions, Real)



Source: Bureau of Economic Analysis and UCLA Anderson Forecast
 Notes: Pre-pandemic trend lines shown in light red.

Exhibit 6 Services consumption relative to Q4 2019 - Healthcare, food services and accommodation, recreation, transportation, and other (education & social services)



Source: Bureau of Economic Analysis and UCLA Anderson Forecast. See also Claudia Sahm, "Shortfall in services is widespread and poised to rebound as vaccinations continue," February 28, 2021, available at: https://twitter.com/Claudia_Sahm/status/1366088900637315074.

Unemployment will take some time to come down as many people who left the labor force during the last year re-enter and search for work

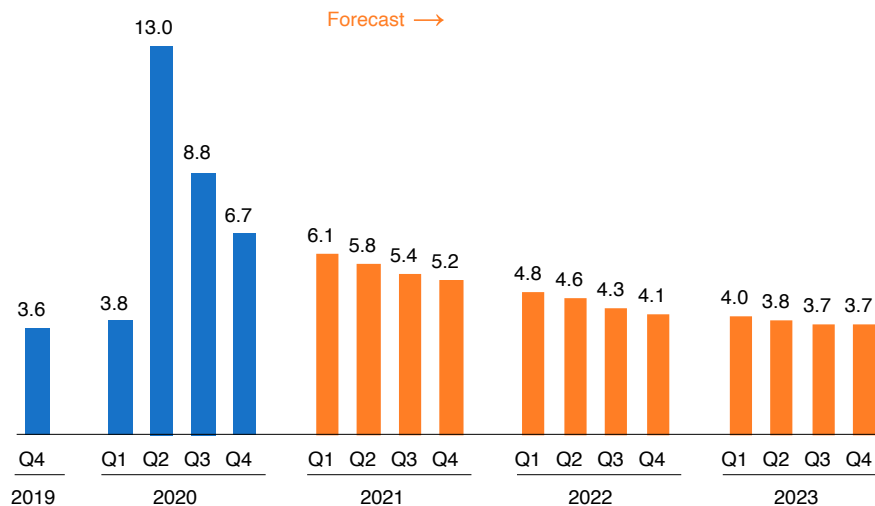
After peaking in Q2 2020, unemployment recovered substantially in Q3 as businesses recalled temporary workers. Further declines in unemployment have been more gradual and driven both by the economic recovery and by an exodus of workers, especially women, from the labor market.¹⁰

Our forecast is for a continued gradual recovery in the unemployment rate. As we show in Exhibit 7, we expect the unemployment rate to decline from an average of 6.7% in Q4 2020 to 5.2% in Q4 2021, 4.1% in Q4 2022, and 3.7% in Q4 2023. Only by the end of 2023 do we expect the economy to reach approximately the same unemployment rate as

immediately prior to the pandemic (the unemployment rate was 3.6% in Q4 2019).

There are two countervailing forces affecting the unemployment rate. First, is the economic recovery, which we expect will be robust and will help pull unemployment down. Second is the re-entry of workers into the labor market, which will push unemployment back up. Currently, labor force participation is as low as it was in 1976, at 61.5%. Considering this lower labor force participation, many economists and the Federal Reserve estimate that the “true” unemployment rate is closer to 10%.¹¹ As the economy fully reopens and schools resume, we expect workers who left the labor force, including those who left for childcare and homeschooling responsibilities, to re-enter and begin looking for work. The net effect is a gradual decline in unemployment and an increase in both the labor force participation rate (see Exhibit 8) and in the number of total nonfarm payrolls (see Exhibit 9).

Exhibit 7 Unemployment Rate (U3), Quarterly Average (%)



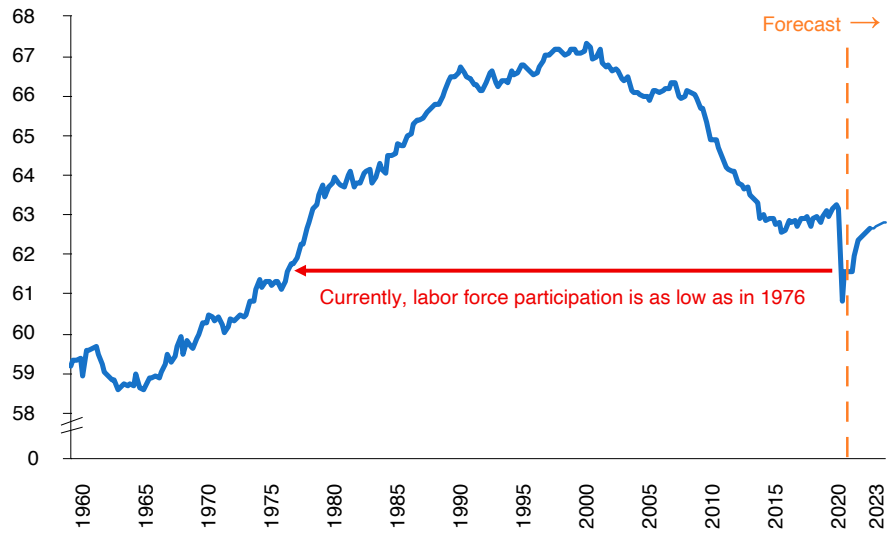
Source: Bureau of Labor Statistics and UCLA Anderson Forecast

10. See Kathryn A. Edwards, “Women are Leaving the Labor Force in Record Numbers,” RAND, November 24, 2020, available at: <https://www.rand.org/blog/2020/11/women-are-leaving-the-labor-force-in-record-numbers.html>, and UCLA Anderson Forecast, “Forecast Direct: Gender Inequality and the Pandemic,” March 2021, available at: <https://www.anderson.ucla.edu/centers/ucla-anderson-forecast/forecast-direct>.

11. See, for example, Joseph Brusuelas, “February jobs preview: Winter doldrums ahead of a springtime rebound,” RSM US LLP, March 3, 2021, available at: <https://realeconomy.rsmus.com/february-jobs-preview-winter-doldrums-ahead-of-a-springtime-rebound/>, and Lucy Bayly, “Real unemployment rate closer to 10 percent, says Fed Chair Jerome Powell,” NBC News, February 10, 2021, available at: <https://www.nbcnews.com/business/economy/real-unemployment-rate-closer-10-percent-says-fed-chair-jerome-n1257331>.

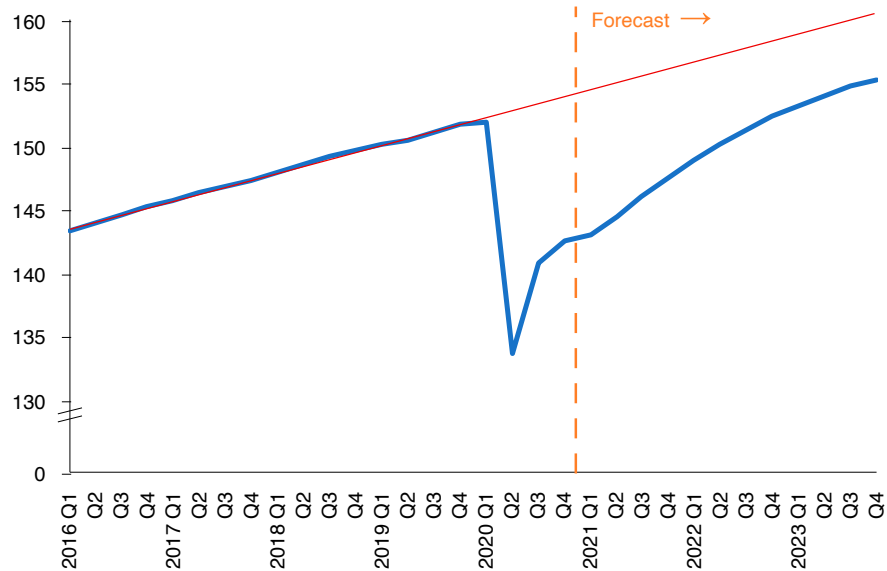
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Exhibit 8 Labor Force Participation Rate (%)



Source: Bureau of Labor Statistics and UCLA Anderson Forecast

Exhibit 9 Total Non-farm Payrolls (Millions)



Source: Bureau of Labor Statistics and UCLA Anderson Forecast
Notes: Pre-pandemic trend line shown in light red.

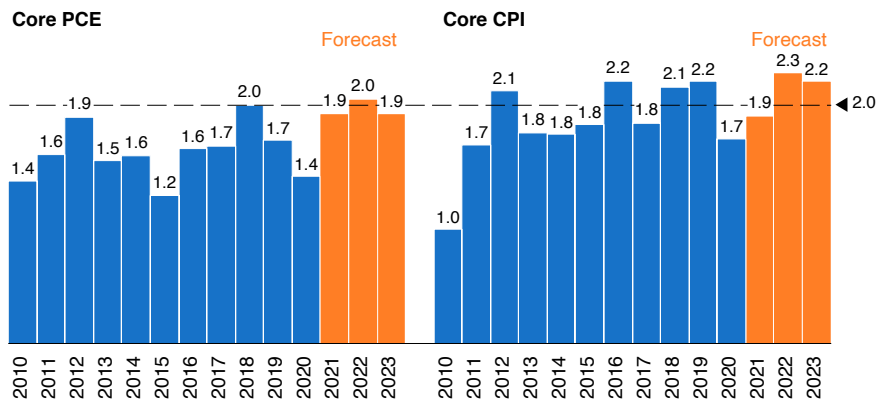
Core PCE inflation will likely accelerate temporarily above 2% by 2022, then stabilize below 2% in 2023

With an economic rebound and the release of pent-up demand, we expect moderate core PCE inflation, excluding food and energy, in 2021 relative to 2020 price levels. Our forecast is that average annual core PCE inflation will be 1.9% in 2021, peak slightly above 2% in 2022, and then stabilize at 1.9% in 2023. In Exhibit 10, we show annual inflation rates since 2010 for both core PCE (the measure the Federal Reserve uses) and core CPI. Over the last

decade, the economy hasn't consistently reached 2% core PCE inflation. Our forecast is that inflation for 2021–2023 will be higher than over the last decade, but the levels will not be concerning.

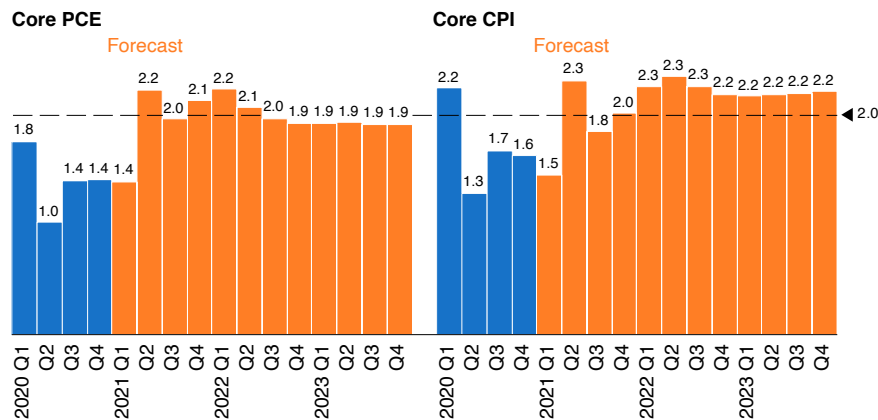
On a quarterly basis, we expect an acceleration of year-over-year inflation in 2021 relative to price levels in 2020. This acceleration is due both to the projected economic rebound and to low base effects, with prices returning to their pre-pandemic trends. Exhibit 11 shows year-over-year inflation, on a quarterly basis, for both core PCE and core CPI. We have not shown inflation measures including food and energy prices. Our forecast is that West Texas Intermediate

Exhibit 10 Annual Core PCE and Core CPI Inflation (average annual YOY % change in price levels)



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and UCLA Anderson Forecast

Exhibit 11 Quarterly Core PCE and Core CPI Inflation (quarterly YOY % change in price levels)



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and UCLA Anderson Forecast

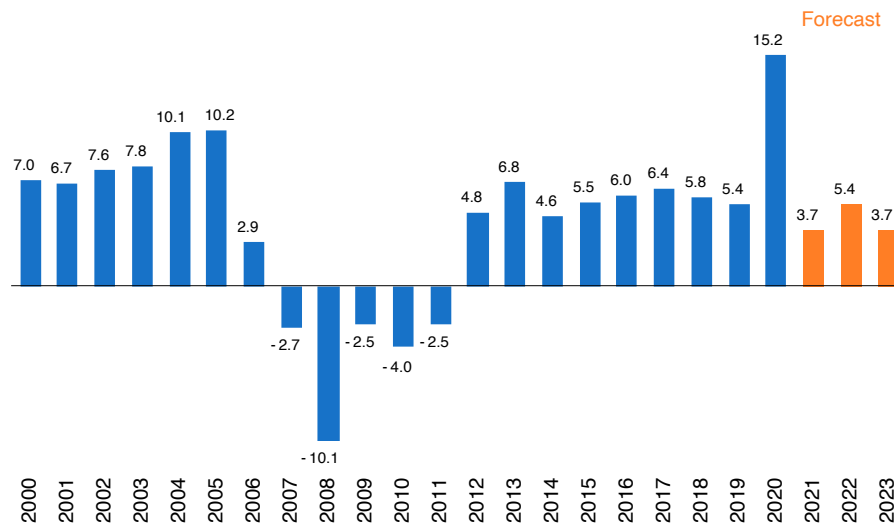
crude oil prices will rise to \$69 per barrel in Q3 2021 and then decline to \$55–\$60 per barrel by the end of 2022 as additional supply comes online. It was at \$28 per barrel in Q2 2020. This volatility in oil prices, as travel resumes and before additional supply comes online (keeping in mind that oil producers cut supply during the pandemic), will lead to volatility in non-core inflation measures.

There are several reasons why we don’t expect core PCE inflation to accelerate consistently above 2%. First, the economy currently has considerable slack capacity in employment. Unemployment remains high and labor force participation remains low, and this situation is unlikely to correct itself quickly, as discussed in Section 2. Second, during the pandemic, we have already experienced a surge in goods consumption and congestion in logistics without a surge in inflation. We now expect goods consumption to return to prior trends. This will ease upward pressure on goods prices. Third, while we expect a surge in services consumption, we expect that services consumption will return to prior trends. We don’t foresee a sudden surge above prior trends in services consumption that would be enough to exceed capacity constraints and generate rapid inflation. Where we foresee high sustained demand relative to supply is in housing, which we discuss in Section 4. Through the end of 2023, since we don’t expect sustained core PCE inflation above 2% and since we expect unemployment to remain above pre-pandemic levels, we do not expect the Federal Reserve will raise the Federal Funds Rate above its current 0%–0.25% target.

Real estate markets point to a structural reorganization of our economy that is likely to persist even after the pandemic wanes

Throughout this pandemic, the housing market has exhibited remarkable resiliency. Fueled by record-low mortgage rates, desire for more space, the beginning of a demographic bubble as millennials age into home-buying years, a decade of below-average rates of homebuilding, and older homeowners staying put, home buyers have bid up housing prices amid record-low inventory, especially in suburban areas. Home prices were 15.2% higher in Q4 2020 compared with Q4 2019, and our forecast is that home prices will continue to increase, but at a slower pace, up another 3.7% year-over-year by Q4 2021, 5.4% by Q4 2022, and 3.7% by Q4 2023 (see Exhibit 12). This is different than the housing boom in 2000–2005. We are not forecasting continued high rates of home price appreciation as occurred back then. We view the 15.2% increase in home prices in 2020 as a one-time pulling forward of home price appreciation that would have occurred in later years, as home buyers competed to take advantage of low mortgage rates and to gain extra space during the pandemic. With this pulling forward, future home price appreciation in 2021–2023 is below the average rate of appreciation we experienced during the housing recovery in 2012–2019.

Exhibit 12 Home Prices, Q4-to-Q4 % Change, FHFA Housing Price Index



Source: Federal Housing Finance Agency and UCLA Anderson Forecast

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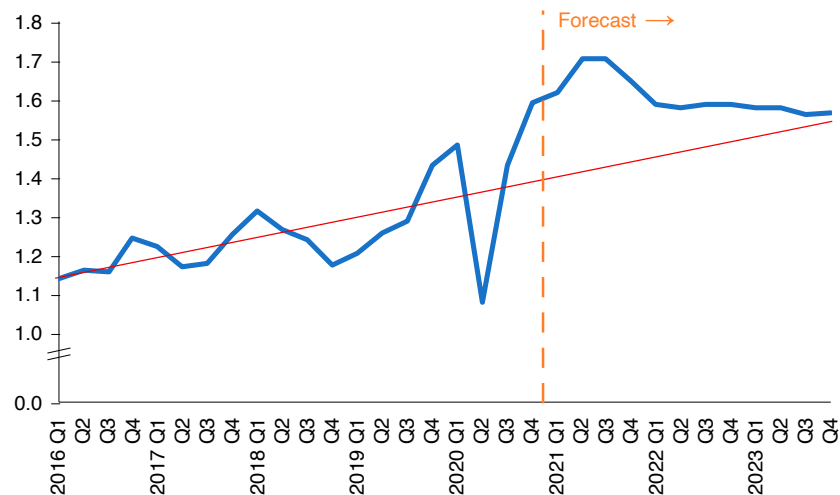
With higher home prices, homebuilders are optimistic, and permits and housing starts signal robust homebuilding for the next several years.¹² Together with older home buyers who were reluctant to list their homes during the pandemic but may be willing to do so as the pandemic wanes, this increased supply will mitigate home price appreciation. In Exhibit 13, we show our forecast for housing starts for each quarter through 2023. We expect housing starts to peak at 1.71 million units in Q2 2021 (in annualized rates) and then gradually decline to 1.56 million units by the end of 2023. This contrasts with a peak of 2.1 million units in 2005, during the height of the housing boom, and with 1.2–1.4 million units in 2019, prior to the pandemic.

When we think about why real GDP rises above trend after Q1 2022, as shown in Exhibit 3, the answer isn't because of consumption. Consumption of goods and services both return to pre-pandemic trends. The answer is mostly because

of residential fixed investment, including home improvements, which remains elevated and above pre-pandemic trends throughout our forecast period (see Exhibit 14).¹³

Where the housing boom is happening provides a telling story of what the post-pandemic future of cities might look like. The data do not support a doom-and-gloom story of the demise of American cities.¹⁴ With the exception of the core areas of New York and San Francisco, home prices increased in major U.S. cities. But they increased more in surrounding suburbs and in second-tier cities (see Exhibit 15). In contrast, apartment rents declined in almost all major urban areas. Commercial real estate has also underperformed, with 76% of business leaders polled by a Fortune Analytics survey saying they'll need less office space in the future.¹⁵ With the economy recovering, and with restaurants, bars, and entertainment reopening, cities will regain the amenity value they lost during the pandemic. Without the restrictions

Exhibit 13 Housing Starts, Annualized Rates, Millions of Units



Source: U.S. Census and UCLA Anderson Forecast

Notes: Pre-pandemic trend line shown in light red.

12. See National Association of Home Builders / Wells Fargo Housing Market Index, February 17, 2021, available at: <https://www.nahb.org/news-and-economics/housing-economics/indices/Housing-Market-Index>.

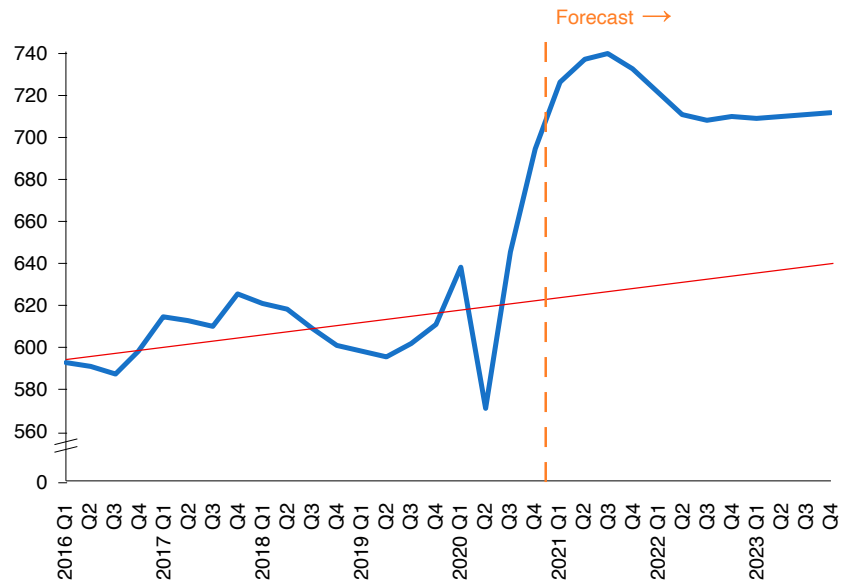
13. The other components of investment are nonresidential fixed investment and inventories. Nonresidential fixed investment returns to pre-pandemic trends by Q1 2022. It then remains slightly above pre-pandemic trends. The final piece of investment, business inventories, remains high throughout 2021–2023, as businesses replenish the inventories they depleted during the pandemic. The replenishment of business inventories contributes to above-trend real GDP in 2022–2023, but less so than residential fixed investment. While government purchases of goods and services briefly surpasses pre-pandemic trends in 2021 (associated with the rollout of vaccines), it does not contribute to above-trend growth in 2022–2023. Similarly, net exports do not contribute to above-trend growth in 2022–2023. Above-trend real GDP growth in 2022–2023 is associated with home building and home improvements and, to a lesser extent, to the replenishment of business inventories.

14. See, for example, Jerry Nickelsburg, “How Serious Is the Bay Area Exodus?” UCLA Economic Letter, UCLA Ziman Center for Real Estate, March 3, 2021, available at: <https://t.e2ma.net/message/25y6yh/ym5bjpq>.

15. Lance Lambert, “Work-from-home isn’t going away: Only 4% of CEOs plan to add office space,” Fortune Analytics, February 4, 2021, available at: <https://fortune.com/2021/02/04/work-from-home-isnt-going-away-say-ceos/>.

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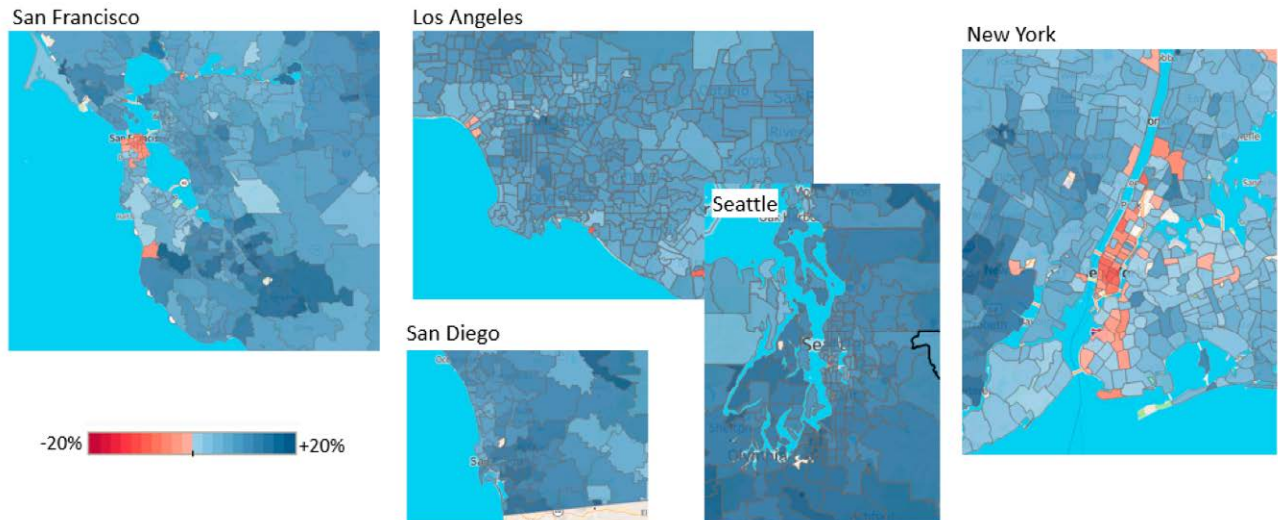
Exhibit 14 Residential Fixed Investment, Annual Rates (\$ Billions, Real)



Source: Bureau of Economic Analysis and UCLA Anderson Forecast

Notes: Real gross private fixed residential investment, billions of chained 2012 \$, annual rates. Pre-pandemic trend line shown in light red.

Exhibit 15 Change in home prices by zip code, December 2019 to December 2020



Source: Zillow and UCLA Anderson Forecast

of social distancing and with the ability to go out, living in small urban apartments won't be as dire. We expect some recovery in apartment rents, but rents will remain more affordable (or less unaffordable) given that many prior renters have become homeowners. Commercial real estate, on the other hand, is likely to underperform for the next few years.¹⁶

Following a euphoric resumption of social activity, our economy will stabilize to a different post-pandemic baseline than would have been the case had the pandemic never occurred

We have embarked on a once-in-a-lifetime policy experiment to test the ability of government intervention to make even deadly pandemic-sized economic shocks a short blip in our economic history. Governments around the world acted swiftly to ensure a vaccine race through advance purchases even before vaccines were guaranteed to work. We have achieved highly effective vaccines in record time, including vaccines that use new mRNA technology that had been in development for 30 years.¹⁷ Government policies in the U.S. helped keep businesses afloat and helped maintain employer-employee relationships, which now means that when the economy is ready to fully reopen, businesses and workers will also be ready. If the motto of the pandemic was to survive, the motto post-pandemic is to thrive, and because of the policies implemented to date, we're in a position to have a rapid economic recovery. This is not to discount the loss of life and jobs that occurred over the past year. But it's important to keep in mind that this time last year, we faced the prospect of hundreds of thousands of more deaths and a "depression-like" economic decline.¹⁸

Following the Great Recession, government response was tepid. During the crisis itself, the government intervened to stave off a much worse economic calamity, but then it backed away, allowing the economy to hobble along with what became the slowest economic recovery of the last 60 years. Concerns about deficits, excessive government spending, and inflation overrode concerns about full employment and popular wellbeing.

This time around, things are different. Congress is poised to pass a proposed \$1.9 trillion fiscal aid package, which will hasten the rate of recovery. There's also the potential for an infrastructure package later this year. The Federal Reserve has pledged to keep interest rates low until the employment-to-population ratio, not just unemployment, has recovered, and it has pledged to look at the unemployment rate of minority groups, not just overall unemployment. The Federal Reserve has indicated it will only act on inflation once it's clear there's sustained inflation above 2%, rather than an anticipation of inflation. This is a radical shift in economic thinking from just over five years ago when the Federal Reserve started raising rates at the end of 2015 despite an unemployment rate of 5.0% at the time and core PCE inflation of 1.2%.

Recently, bond markets have signaled concern about higher inflation, but our economic forecasting model – even taking together an economic reopening, the release of pent-up savings, and an estimated fiscal aid package of \$1.5 trillion (after negotiations in the Senate) – fails to generate sustained core PCE inflation above 2%. The nature of our economy is different than it was during the high-inflation period of the 1970s. We have more than double the number of products now, measured in SKUs (stock keeping units), than we did in the 1980s.¹⁹ This makes it easier for consumers to substitute

16. See Allen Matkins and UCLA Anderson Forecast, "Commercial Real Estate Survey," Winter 2021, available at: <https://www.allenmatkins.com/anderson-forecast/allen-matkins-ucla-anderson-forecast-california-cre-survey.html>.

17. Anthony Komaroff, "Why are mRNA vaccines so exciting," Harvard Health Blog, December 10, 2020, available at: <https://www.health.harvard.edu/blog/why-are-mrna-vaccines-so-exciting-2020121021599>.

18. Sheri Fink, "Worst-Case Estimates for U.S. Coronavirus Deaths," New York Times, March 13, 2020, available at: <https://www.nytimes.com/2020/03/13/us/coronavirus-deaths-estimate.html>.

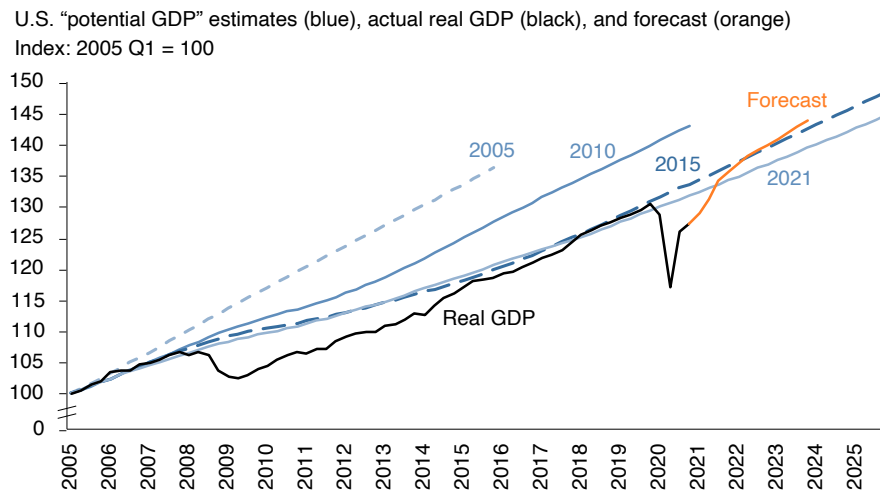
19. Jenny Rudd, "Checking out productivity in grocery stores," Beyond the Numbers, U.S. Bureau of Labor Statistics, December 2019, available at: <https://www.bls.gov/opub/btn/volume-8/checking-out-productivity-in-grocery-stores.htm>.

between similar products in response to price increases. The internet has provided more transparency on prices; it has become easier for consumers to comparison-shop. We’ve outsourced manufacturing to other countries and lowered the cost of goods production. We buy more goods and services from companies like Amazon, Netflix, Peloton, Walmart, and Costco, which have the benefit of cost-reducing scale efficiencies that put downward pressure on prices.

This all means we have the opportunity to test how much we can stimulate the economy and how rapidly employment

can recover without overheating the economy. If real GDP goes above “potential GDP” without generating sustained inflation, it will signal that we have been too modest in our assumptions about the productive potential of our economy. As Exhibit 16 shows, we have repeatedly revised downward “potential GDP” and accepted secular stagnation as an untested reality.²⁰ These next few years will help us discover if secular stagnation has been a myth we’ve mistakenly bought into and whether we have the capacity to grow much faster than we’ve done in decades.

Exhibit 16 The U.S. Congressional Budget Office has repeatedly revised downward its estimates of “potential GDP”



Source: Based on charts by Claudia Sahm and Alex Williams. See Claudia Sahm, “The path to a recovery for all,” March 3, 2021, available at: <https://stayathomemacro.substack.com/p/the-path-to-a-recovery-for-all>, and Alex Williams, “Potential Output: Little Explanation for a Big Number,” *Employ America*, February 23, 2021, available at: <https://employamerica.medium.com/potential-output-little-explanation-for-a-big-number-50a06e3a6ce9>. Data from St. Louis Fed FRED series <https://alfred.stlouisfed.org/series?seid=GDPPOT> and <https://fred.stlouisfed.org/series/GDPCI>, U.S. Congressional Budget Office, U.S. Bureau of Economic Analysis, and UCLA Anderson Forecast.

20. See Alex Williams, “Potential Output: Little Explanation for a Big Number,” *Employ America*, February 23, 2021, available at: <https://employamerica.medium.com/potential-output-little-explanation-for-a-big-number-50a06e3a6ce9>. The U.S. Congressional Budget Office estimates potential GDP using an estimate of the natural rate of unemployment. Its estimate of the natural rate of unemployment assumes an unemployment rate for Black Americans of approximately 10%. In other words, in the U.S. CBO’s calculations, the economy is at full potential when the unemployment rate for Black Americans is approximately 10%.