

The Pandemic Recession (Mid-February 2020, to Mid-April 2020)

How to Find a Job in a Recession

I have written an entire chapter on finding a job (Chapter 1) but finding one in a recession presents some special challenges. During the Pandemic Recession, data from Indeed, the job posting website, showed that [ongoing job postings in April 2020](#) were down 31% from the year before. Additionally, new job postings were down 49% from the year before. According to [the Brookings Institute](#), younger workers experienced a great rise in unemployment, as is typically the case during recessions.

Finding a job in any economy takes a lot of hard work, and all the advice I gave in Chapter 1 still applies. One thing that you want to do in a recession is double down on your networking. I said that 80% of jobs are gotten through networking, and that is always true. Your family, your friends, and your school's alumni/ae association are the people who will really care about trying to help you get a job. But there is an additional effort you can make. Adam Grant, an industrial psychologist at the Wharton School, suggests we need to reach out to our **weak ties**. In his *New York Times* article, "[We Don't Just Need to Connect—We Need to Reconnect](#)", Grant notes, "Our strong ties tend to give us redundant information. They tend to know many of the same things and the same people that we do. Weak ties open up access to new people and new leads." Grant suggests we rekindle connection with our dormant ties. These are people we have had a relationship with but have not spoken to in a while. We have a lot in common with them, and it is easy to call them up to see how they are. It also is a lot of fun reconnecting.

Finally, lots of research shows that those graduates who enter the job market in a recession usually receive lower starting salaries than those graduating in an economic expansion. They also often have to take jobs that do not fit their ideal. That is just life. This means you should not hesitate to change jobs as soon as

the economy improves. Changing jobs is the fastest way to increase your salary and to get to the career you want.

The Shut-Down of the U.S. Economy

Spoiler alert! At the time of this writing (August 2021), the Pandemic Recession was considered officially over. It lasted only two months: from mid-February to mid-April of 2020. As I previously noted, it is the National Bureau of Economic Research that decides when we are in a recession and when a recession is over. It is worthwhile to see [how they decided on the duration of the Pandemic Recession](#):

The NBER's traditional definition of a recession is that it is a significant decline in economic activity that is spread across the economy and that lasts more than a few months. The committee's view is that while each of the three criteria—depth, diffusion, and duration—needs to be met individually to some degree, extreme conditions revealed by one criterion may partially offset weaker indications from another. For example, in the case of the February 2020 peak in economic activity, we concluded that the drop in activity had been so great and so widely diffused throughout the economy that the downturn should be classified as a recession even if it proved to be quite brief. The committee subsequently determined that the trough occurred two months after the peak, in April 2020.

Thus, while the Pandemic Recession is an official recession, it was the shortest recession in American history.

Pandemic Recession Was the Shortest Ever in the U.S.

Length of recessions in the United States since World War II (in months)*



* According to the NBER's definition, a recession involves a significant decline in economic activity that is spread across the economy and typically lasts more than a few months.

Sources: NBER, U.S. Bureau of Labor Statistics



Figure 1. *Pandemic Recession Was the Shortest Ever in the U.S.* by Statista is used under a [CC BY-ND 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/).

Although it was the shortest recession, it still cost twenty-two million jobs. Additionally, millions of gig workers lost their livelihoods. Further, it ended the longest period of economic growth in U.S. history.

Pandemic Ends Longest Growth Cycle in U.S. History

The longest economic expansions in the United States since World War II (in months)*



* The NBER broadly defines an expansion as a period, usually lasting several years, during which economic activity rises substantially, spreading across the entire economy.

Sources: National Bureau of Economic Research, BEA



Figure 2. *Pandemic Ends Longest Growth Cycle in U.S. History* by Statista is used under a [CC BY-ND 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/).

The Pandemic Recession was caused by the COVID-19 global outbreak. This

pandemic caused economic shutdowns of various lengths in almost every country. That is, the United States was not alone in this recession. Take China, for example. Even though China was not in a recession in 2020, its growth rate declined precipitously and represented a real backsliding of its economy. China's economy grew 6% in 2019 but only 2% in 2020.

Take a look at the GDP numbers in the following chart. Note that they are reported in **Purchasing Power Parity (PPP)** for 2019. This means that the GDP numbers are adjusted for the difference in the general cost of living in those countries (which for China and India is much lower than the cost of living in the U.S.). To illustrate this, we can use the famous **Big Mac Index**. Since McDonald's is in almost every country, comparing the cost of a Big Mac in China to the cost in the U.S. gives us a ratio to adjust upward the GDP of China to compare to the GDP of the United States:

$$\frac{\text{Cost of Big Mac in U.S.}}{\text{Cost of Big Mac in China}} = 1.2 \times \text{GDP of China}$$

$$1.2 \times \text{GDP of China} = \\ \text{GDP of China in PPP with the U.S.}$$

Of course, economists do not just use the cost of a Big Mac to do this calculation but an entire series of relative prices in the two countries. **GDP per capita** (per person) is the standard by which we compare economic well-being among countries, which means that calculating the PPP for GDP is not just an academic exercise but a real-world assessment of a country's economic well-being. As a result of the PPP adjustment of the various GDPs below, it looks as if China has the largest economy in the world in absolute 2019 dollars. However, this is not yet true (although it will be true sometime soon). By way of comparison, here are the 2019 GDPs of these countries in constant absolute 2019 dollars:

Table 1. 2019 GDP in Constant Absolute 2019 U.S. Dollars

Country	2019 GDP in Constant Absolute 2019 U.S. Dollars	% of World GDP
China	\$14,342,902.84 (millions) = \$14.3 trillion U.S. dollars	15.9%
United States	\$21,427,700.00 (millions)	24.3%
India	\$2,875,142.31	3.3%
Japan	\$5,081,769.54	5.8%
Germany	\$3,845,630.03	4.3%
Russia	\$1,699,876.58	1.9%
Indonesia	\$1,119,190.78	1.3%
United Kingdom	\$2,827,113.18	3.2%
World	\$87,751,540.85 (millions) = \$87.8 trillion U.S. dollars	100%

The arbiters of recessions in the U.S. are a group of academic economists on the NBER Business Cycle Dating Committee. On Monday, June 9, 2020, the NBER Business Cycle Dating Committee announced that the current U.S. recession began in February 2020 and ended the longest expansion of the U.S. economy (128 months) since the beginning of record keeping in 1854. Still, it appears that the recession ended and recovery began after only a few months.

A **recession** is defined by two quarters (six months) in which the GDP declines over the previous quarter. NBER gives an even [narrower and more academic definition](#):

The NBER does not define a recession in terms of two consecutive quarters of decline in real GDP. Rather, a recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales.

Since the end of World War II (1945), there have been 12 business cycles in the U.S. economy; that is, 12 recessions and economic expansions (including the Pandemic Recession). The recessions have lasted an average of 11 months apiece, and the economic expansions between recessions have lasted on average 5 years each. If economists could predict recessions, managing any

economy would be a lot easier. However, the variability in their lengths and the time between them prevents any ability to predict a recession.

One thing we can say, however, is that recessions are not inevitable. For example, until Australia entered a recession in 2020 (like virtually every other country has or will), their economy did not have a recession for three decades. Perhaps it is America's policy choices that keep the U.S. business cycle oscillating.

But back to the most recent recession. The first case of this coronavirus was detected in Hubei Province in China in late 2019. On December 31, 2019, China reported a cluster of cases of pneumonia in people associated with the Huanan Seafood Wholesale Market in Wuhan, Hubei Province.

On March 12, 2020, President Trump declared a national state of emergency. This allowed states to automatically access about \$50 billion in emergency funds to fight the virus. Trump also advised states to shut down group gatherings, including sports venues, bars and restaurants, and schools. In cascading closures from March 1 to March 15, 2020, most states also declared a state of emergency and shut down all non-essential gatherings.

The Shut-Down's Effect on Employment

The pandemic shutdown caused the economy (measured in GDP) to contract by 9.5% from the first to the second quarter of 2020. As the graph below illustrates, consumer spending on services dropped significantly during this time. We can contrast this with the total drop of 2.5% of GDP during the entire Great Recession (December 2007 to June 2009). By convention, the Bureau of Economic Analysis reports the change in GDP on an annualized basis, which means that if the change in GDP were to continue for an entire year, the reported number would be the annual change in GDP. Overall, [the economy shrank by 3.5% in 2020](#).

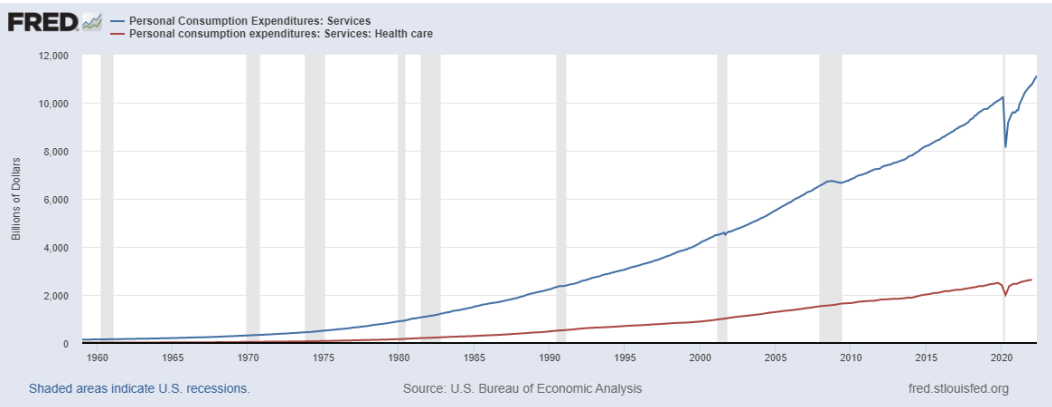


Figure 3. U.S. Bureau of Economic Analysis, [Personal Consumption Expenditures: Services \[PCES\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Personal consumption expenditures: Services: Health care \[DHLCRCI0027SBEA\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021.

As Ben Casselman of the *New York Times* [reported](#):

The economic collapse in the second quarter was unrivaled in its speed and breathtaking in its severity. The decline was more than twice as large as in the Great Recession a decade ago, but occurred in a fraction of the time. The only possible comparisons in modern American history came during the Great Depression and the demobilization after World War II, both of which predated modern economic statistics.

Additionally, we saw that consumer spending dropped dramatically in the second quarter and consumption spending is about 70% of the measurement of GDP.

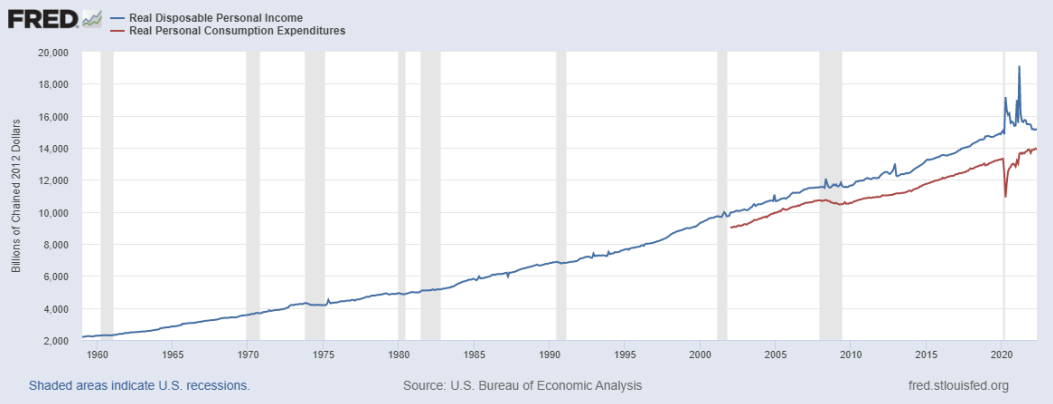
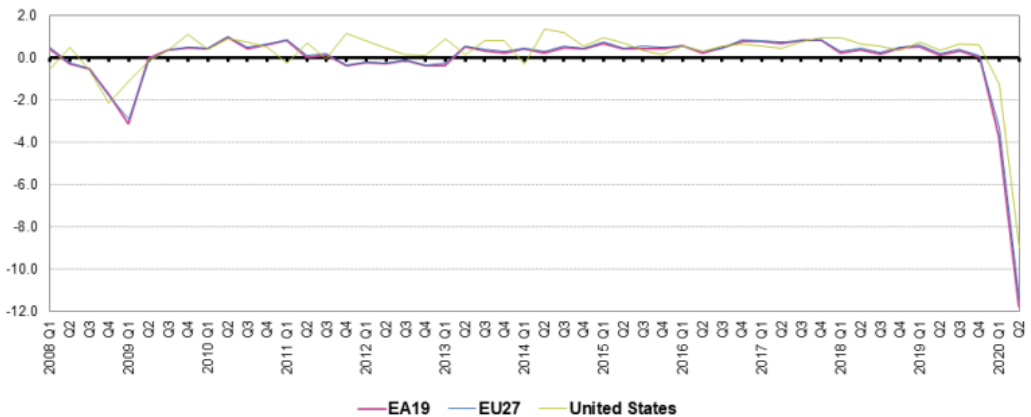


Figure 4. U.S. Bureau of Economic Analysis, [Real Disposable Personal Income \[DSPIC96\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Real Personal Consumption Expenditures \[PCEC96\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021.

Data from the European Union shows that they also had an historic drop in GDP in the second quarter of 2020. GDP in the Eurozone declined 12.1% from Q1, 2020.

GDP growth rates

% change over the previous quarter, based on seasonally adjusted data, 2020Q2



Source: Eurostat (online data code: namq_10_gdp) and (naidq_10_gdp) for US)

eurostat

Figure 5. [GDP Growth Rates](#) by © European Union, 1995-2013 has [no known copyright restrictions](#).

GDP decreases -12.1% in Q2 vs. Q1, 2020

This article is an economic analysis of the Pandemic Recession. However, the principal actor here is the coronavirus, and it has no respect for economics. On Wednesday, July 29, 2020, during one of his regular Federal Open Market Committee press conferences, Jerome Powell, Chair of the Federal Reserve Bank, [stated](#) that the recovery of the economy did not depend just on the monetary and fiscal policy decisions of the U.S. Government. Rather, it also depended on getting COVID-19 under control:

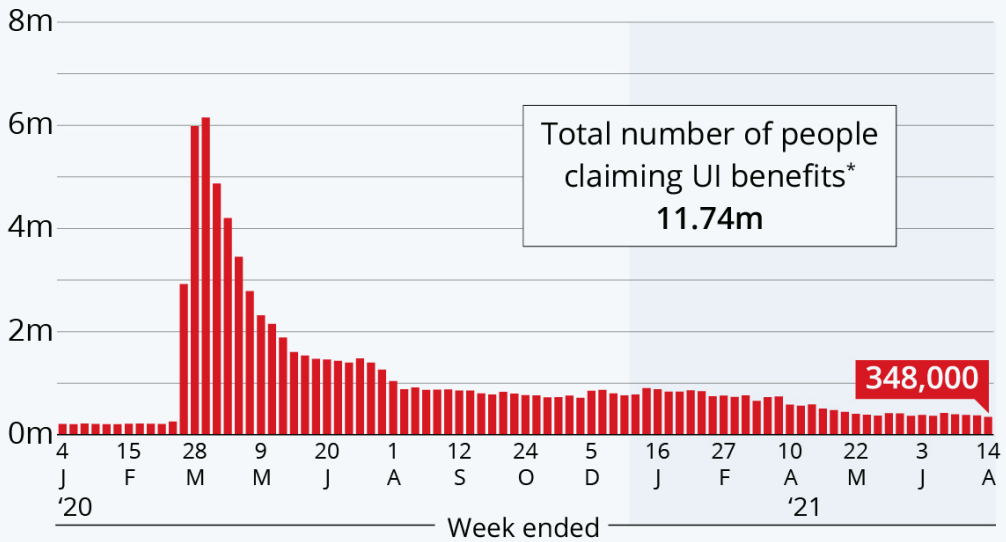
After declining gradually from a peak near the end of April, the number of COVID-19 cases has increased sharply in many parts of the country since mid-June. We have thus entered a new phase in containing the virus, which is essential to protect both our health and our economy. *As we have emphasized throughout the pandemic, the path forward for the economy is extraordinarily uncertain and will depend in large part on our success in keeping the virus in check* (italics are mine).

The shutdowns devastated the U.S. economy. As of July 2020, approximately 22,000,000 workers had filed for unemployment over the period beginning the week of March 15, up to and including the week ending July 11, a period of only about four months. However, with some states reopening, those continuing to receive unemployment benefits at the end of 2020 totaled 9,600,000.

The following graph shows those currently receiving unemployment under various programs as of the week of December 12, 2020. Some of these programs were created by the Coronavirus Aid, Relief, and Economic Security (CARES) Act.

Jobless Claims Hit Pandemic Low Despite Delta

Weekly initial jobless claims in the United States (seasonally adjusted)



* persons claiming unemployment insurance benefits in all programs in the week ended July 31, 2021

Source: U.S. Department of Labor



Figure 6. *Jobless Claims Hit Pandemic Low Despite Delta* by Statista is used under a [CC BY-ND 3.0 License](#).

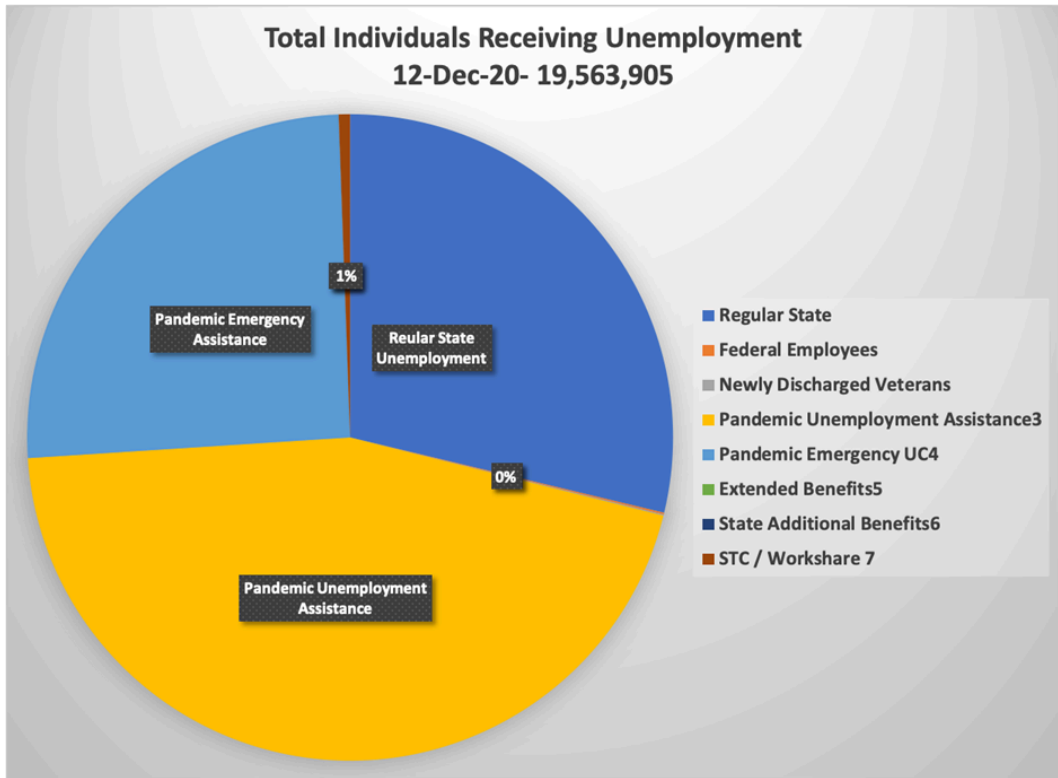


Figure 7. Total Individuals Receiving Unemployment. Source: Labor Department data.

The Pandemic Unemployment Assistance program was created by the CARES Act for self-employed and gig workers and for people whose usual state unemployment benefits ended. (Some states, like Mississippi, give very small and very short unemployment compensation.) Weekly new unemployment claims are called **high frequency data** since they are published every week. The gold standard unemployment report is by the Bureau of Labor Statistics, called **the Employment Situation(Empsit)**; it is published once per month. Since the data gathered for Empsit is completed by the 12th of every month, it did not keep up with the actual layoffs as evidenced by the New Jobless Claims Report. As is usual in the United States, unemployment is not distributed equally among ethnic groups. Black and Latino workers have historically had higher rates of unemployment, and this was [exacerbated by the recession](#).

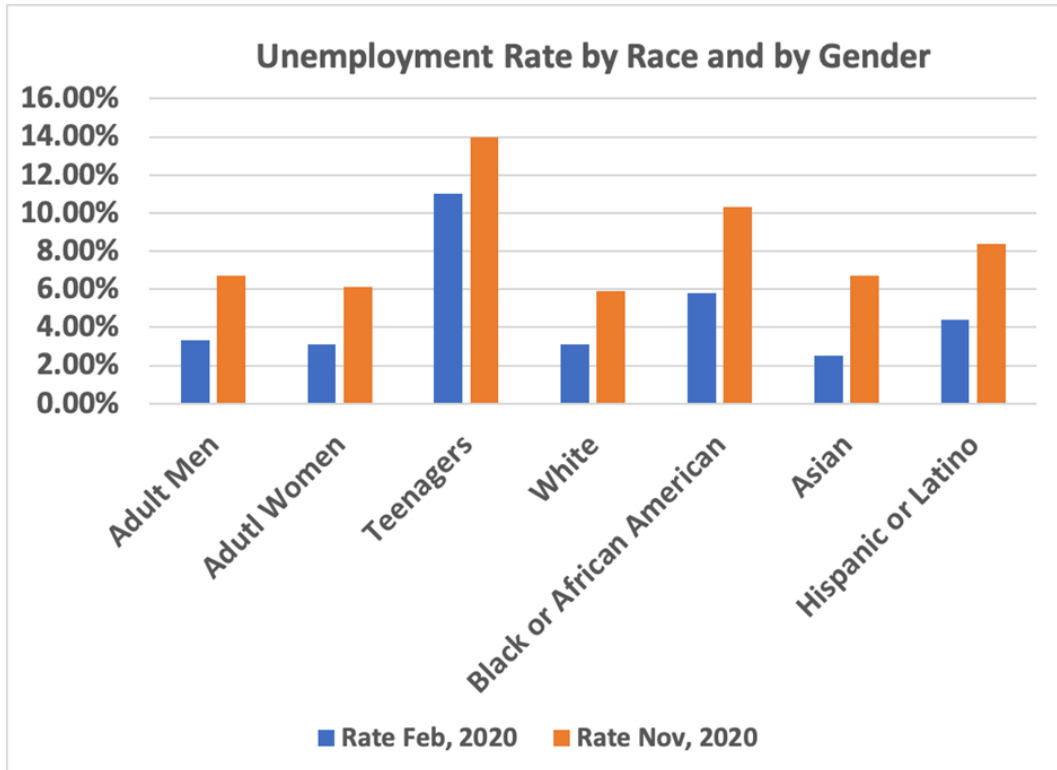


Figure 8. Unemployment Rate by Race and by Gender. Source: Bureau of Labor Statistics data.

Faculty Data at the Bureau of Labor Statistics

In May 2020, the [breakdown in the calculation](#) of the government statistics unfortunately led to delays in financial assistance to the most needy. The Emspit for May 2020 listed 20,000,000 unemployed workers, The New Jobless Claims Report totals to the end of May showed 37,000,000 workers on unemployment benefits. How could the economists reconcile the discrepancy?

The simple fact is that the Emspit lags behind the New Jobs Claims Report. However, another reason (and a happy one) for this discrepancy is that the New Jobless Claims does not deduct from its total those who return to work. The Payroll Protection Plan (PPP) gave employers two months of payroll and

required employers to retain workers or rehire them if they had been laid off. Some states also began a partial re-opening of leisure, hospitality and medical services, resulting in workers being rehired.

President Trump held a press conference to take credit for the creation of 2,500,000 jobs (as reported in the May Emsit) and the drop in the unemployment rate to 13.3%. He declared this the beginning of “Making America Great Again,” and said the economy would immediately take off like a rocket ship. Unfortunately, some Republican members of Congress pointed to these numbers as a reason to delay any further fiscal policy initiatives. The May unemployment rate was so surprising to economists that most of us immediately tried to figure out why we were so far off in our forecasts. Well, it turns out there was a [huge error](#) in the May Emsit, where unemployed people were accidentally characterized as employed . It certainly is also important that our President and Congress do not use erroneous data to base their policy decisions (whether intentionally or unintentionally), as it affects so many lives.

If the Bureau of Labor Statistics had adjusted the data to take into account the error, the unemployment rate for May would have been 16.4%, a great deal higher than the 14.7% rate reported for April. Further, in April, the BLS said the real unemployment rate was likely about 19.7%, not 14.7% as officially reported due to the same error in reporting.

As the economy improved, we saw the number of New Jobless Claims decrease and more workers return to their jobs. Still, it is quite remarkable that the number of people employed has not recovered to pre-pandemic levels. GDP has exceeded its pre-pandemic level, and as we know, employment is intimately tied to production of GDP.

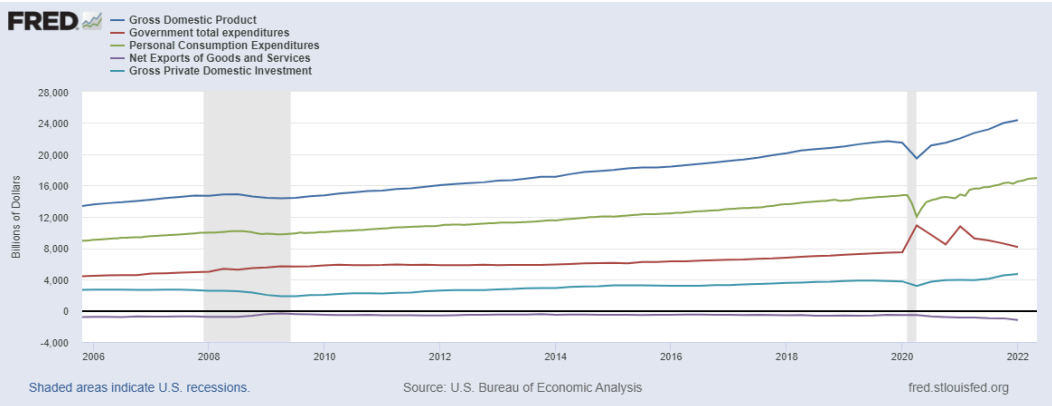


Figure 9. U.S. Bureau of Economic Analysis, [Gross Domestic Product \[GDP\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Government total expenditures \[W068RCQ027SBEA\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Personal Consumption Expenditures \[PCE\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Gross Private Domestic Investment \[GPD\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Net Exports of Goods and Services \[NETEXP\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021.

In addition to GDP, the graph above also includes the following:

- C = Personal Consumption Expenditure
- G = Government Total Expenditure
- I = Gross Domestic Private Investment
- (X-N) = Net Exports

As I have pointed out elsewhere in the book, these are the components of Gross Domestic Product:

$$\text{GDP} = \text{C} + \text{I} + \text{G} + [\text{X-N}]$$

Adding these to the graph allows us to see how each of the components contributes to the variability of GDP.

A problem we had in the Pandemic Recession and still have now is how unreliable our statistics are, especially the unemployment rate. [In Axios](#), Felix Salmon warned about this unreliability:

If you don't know how broken something is, you're not going to be able to fix it. That's the crisis facing policymakers trying to repair a devastated economy without knowing the true degree to which the pandemic has hurt the country.

Economists were taken aback by the unprecedented magnitude of people losing their jobs and the speed with which it happened. We had never seen anything like this in the history of the U.S. Economy.

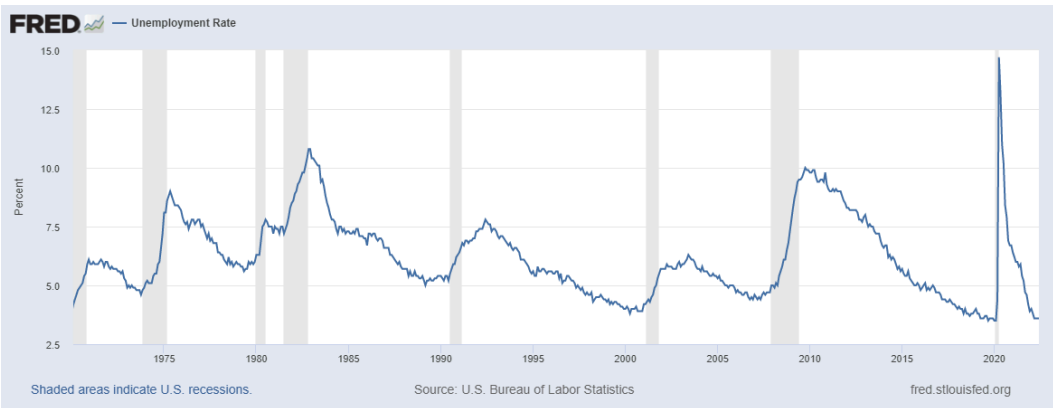


Figure 10. U.S. Bureau of Labor Statistics, [Unemployment Rate \[UNRATE\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021.

Looking at the above FRED chart, you can see how quickly the unemployment rate rises in a recession and how long it takes for it to return to pre-recession levels. For example, in the Great Recession, the unemployment rate rose to 10% in about 24 months. However, it took over 6 years to return to the 4.5% unemployment rate immediately prior to that recession. Unfortunately, the recovery from this recession will likely take many years to return to where it was before. In April 2020, the National Association of Business

Economists surveyed 45 of their members who run an economic forecasting model as their job. Here are their median projections for the economy for the next two years. Note that the actual unemployment rate in the first quarter of 2020 was 3.8% and was expected to still be 6.0% in the last quarter of 2021.

Table 2. Unemployment Rate Projections

Quarter/ Year	GDP (annual rate)	Unemployment Rate
Q1-20	-2.0%	3.8% (actual)
Q2-20	-26.5%	12.0
Q3-20	2.0	10.5
Q4-20	5.8	9.5
Q1-21	6.0	8.0
Q2-21	4.5	7.4
Q3-21	3.8	6.6
Q4-21	2.9	6.0

In addition, the Congressional Budget Office (CBO), the bi-partisan accounting and forecasting agency for Congress, also revised their forecast of GDP for the next decade. The CBO projected a 15.8% unemployment rate for the third quarter of 2020 (versus the 10.5% prediction by the NABE economists) and a 9.5% unemployment rate for all of 2021. See the CBO Chart below.

The Unemployment Rate

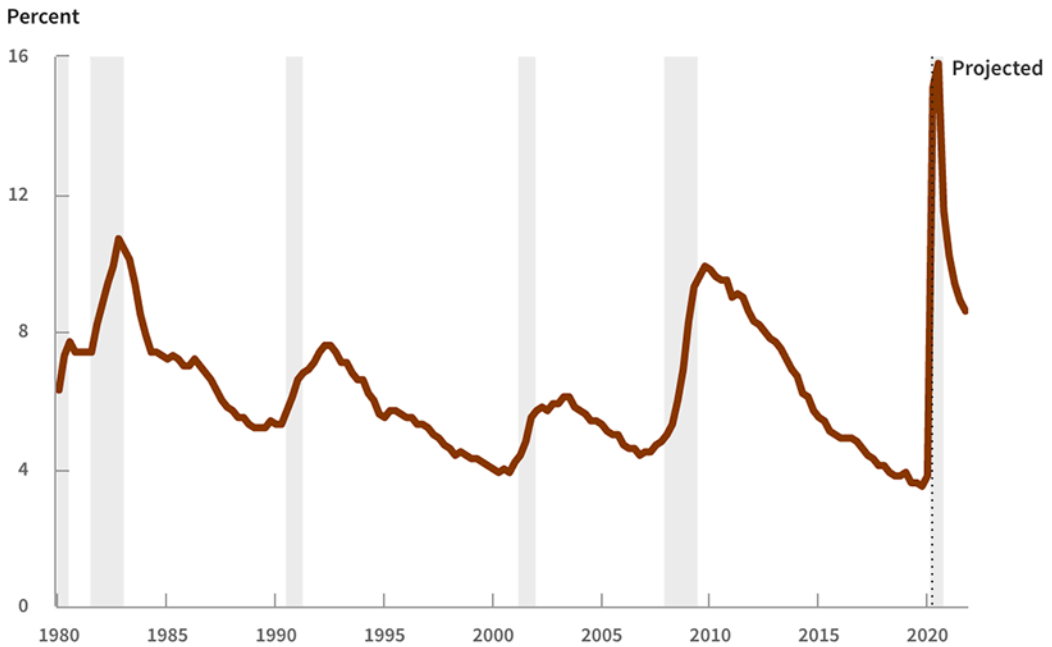


Figure 11. *The Unemployment Rate* by the [Congressional Budget Office](#) is in the public domain.

Forecasts of the Long-Term Effect of COVID-10 on the U.S. Economy

At the end of the first quarter of 2020, the CBO published a forecast of both GDP output and employment for 2020 and 2021 by quarter. As you can see from the GDP graph below, the CBO estimated that GDP would decline in absolute terms by 11% in the second quarter of 2020, compared to where it was at the end of 2019. If this decline continued for a whole year, the annualized decline would be at the rate of 38%. Further, GDP would still be 1.8% lower in absolute terms at the end of 2021 than it was at the end of 2019. This is not what is called a V-shaped recovery. This is what is called a Nike Swoosh-shaped recovery.

As mentioned above, there is an intimate relationship between the GDP

and employment, wages, and personal income. Lower GDP means higher unemployment, lower wages, and lower income. In the second graph below, the CBO forecasted 25,600,000 less people employed in the second quarter of 2020 compared to the end of 2019. Another astounding characteristic of the Pandemic Recession is that this happened with lightning speed. The layoffs began in earnest in the third week of March 2020, and over the next 11 weeks, approximately 42 million workers filed for unemployment benefits.

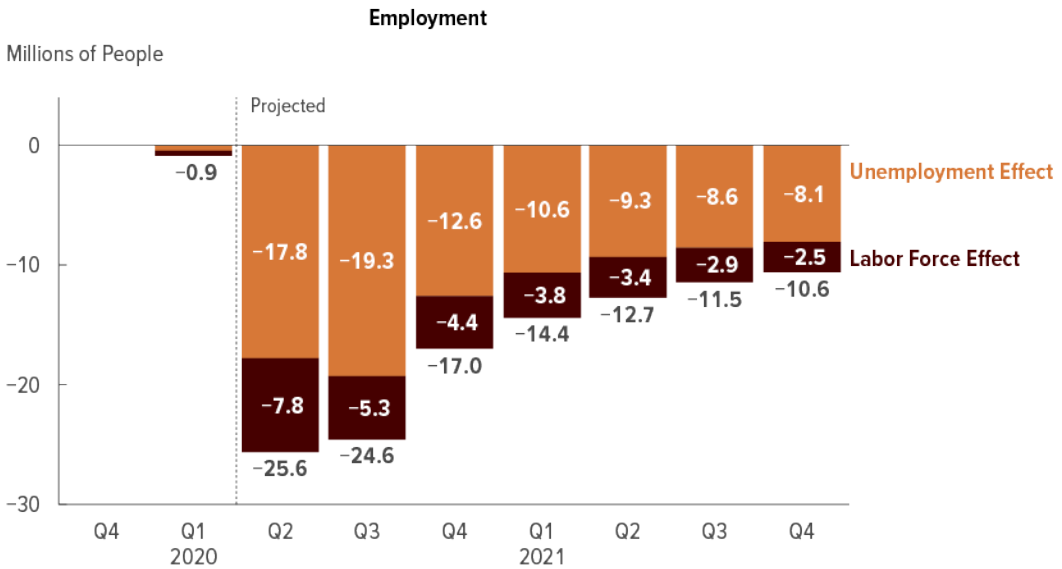
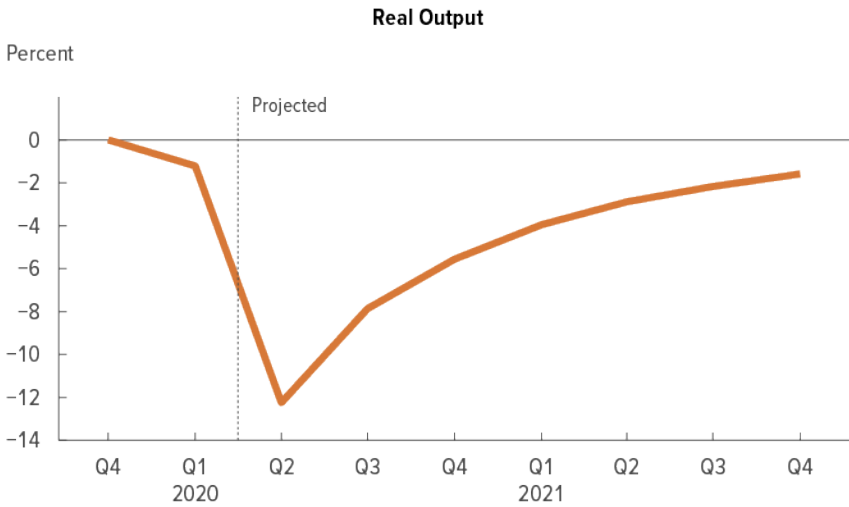


Figure 12. [Output and Employment Measured as the Difference From the Fourth Quarter of 2019](#) by the [Congressional Budget Office](#) is in the public domain.

Notes: The **unemployment effect** is the number of unemployed people (jobless people who are available for work and are either seeking work or expecting to be recalled from a temporary layoff) in the fourth quarter of 2019 minus the number of unemployed people in a given quarter. The **labor force effect** is the size of the labor force (the number of people in the civilian noninstitutionalized

population who are at least 16 years old and either working or unemployed) in a given quarter minus the number in the fourth quarter of 2019.

While it is extremely difficult to forecast the future, there are certainly thousands upon thousands of economists who do it for a living. As discussed above, the CBO regularly creates forecasts of the economy. One forecast looked at how the COVID-19 shutdown would affect the economy on a long-term basis. According to this, the pandemic's economic impact will be deep and durable. In a publication released in May 2021, the CBO revised its 10-year forecast of the GDP it had published in January 2021. According to this new estimate, the pandemic will decrease the U.S. nominal GDP by 5.3% (- \$15.7 trillion) and the real GDP by 3% (- \$7.9 trillion) over the coming decade.

The Federal Reserve Bank of Atlanta, which regularly produces a flash estimate of GDP, estimated that GDP would decline at an annual rate of - 52.8% in the second quarter of 2020 (April to June). Note that this is a quarterly decline reported as an annual rate, traditionally done to make it easier to compare rates. If the decline continued for the entire year at that rate, GDP would be 52.8% lower. A rough way to convert this to an absolute drop for the quarter is to divide the reported rate by four (= -13.2%). Compare this to the total drop in GDP in the last recession, which was -4.1% and to the total drop in GDP in the Great Depression, which was -30%. The numbers are staggering.

Last, but not least, the Federal Reserve Bank creates extensive economic projections every quarter. The Fed projected the unemployment rate would be 6.5% in 2021, showing a slow recovery. The drop in GDP was projected to be -6.5% for 2020 and to bounce back slowly in 2021 and 2022, before returning to a long-term growth rate of 1.8% annually. Inflation will continue to be below the Fed's target rate of 2%. This projection of a Federal Funds Rate that is virtually 0% signals a promise by the Federal Reserve Bank to keep short-term rates effectively zero through 2022.

Table 3. Federal Reserve Bank Economic Models

Variable	2020	2021	2022	Median Projections Longer Run
Unemployment Rate	9.3%	4.5%	3.8%	4.0%
Changes in Real GDP	-6.5%	7.0%	3.3%	1.8%
PCE Inflation	2.0%	3.4%	2.1%	2.0%
Federal Funds Rate	0.1%	0.1%	0.1%	2.5%

Source: Federal Reserve Bank Economic Models data (6/10/2021).

Unfortunately, the recovery from the Pandemic Recession will not be uniform. Some sectors will recover swiftly, and some will take many years to recover.

After years of keeping short-term interest rates effectively at 0% by pegging the Federal Funds Rate, which controls all short-term interest rates, and after \$5.3 trillion in fiscal stimulus, the unemployment rate fell to 3.5%. This is full employment, according to the Fed. (The number of unemployed people at or below 4% unemployment is considered job turnover, or “frictional” unemployment).

Due to the invasion of Ukraine, supply chain bottlenecks, and a jump in the price of oil, inflation began to climb significantly in April 2021. The Federal Reserve Bank abruptly reversed course and began raising short-term interest rates from 0% to 3% by October 2022.

Jerome Powell, Chair of the Federal Reserve Bank, has now promised to keep raising the Federal Funds Rate until annual inflation returns to the Fed’s target rate of 2%. At time of this writing, most economists are predicting a recession within the next year (see CNN’s “Before the Bell” podcast, October 25, 2022).

The Monetary and Fiscal Policy Response to the Pandemic Recession

On March 3, 2020, the Federal Reserve Bank had an emergency meeting and cut its Federal Funds Rate, which controls all short-term interest rates, by 0.5% to 0.65%, the first cut in its lending rate since the Great Recession. Chairman

Jerome Powell further pledged to do whatever was necessary to support and stabilize the U.S. financial markets. By April, the Fed Funds Rate was reduced to effectively 0%. Simultaneously, and with unprecedented speed, Congress passed in March 2020, a massive fiscal stimulus, worth \$2.2 trillion dollars, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). There is no need to explain each of the components, but below are the significant ones.

Economic Impact Payments to Households

Each taxpayer received \$1,200 either directly deposited to their checking account or mailed as a paper check. Joint filers each received \$1,200. In addition, households received an additional \$500 for each dependent child. Congress hoped we would spend it all and not just use it to paydown our credit card debt.

Paycheck Protection Program (PPP)

This \$650 billion program gave 2.5 times the average monthly payroll to all businesses, but it was meant to target small businesses. This was to pay the businesses' payroll for the next two months to keep workers employed. If the businesses' workers remained employed in the shut-down, and 75% of the money was used for payroll over the eight weeks, the loan was forgiven. The PPP has since been revised to allow the payroll loan to be used over 24 weeks, and the loan is forgiven if 60% of the money is used for payroll.

\$600 Unemployment Benefit Supplement

Unemployment benefits are given to the states in block grants, and the states are responsible for doling them out. As a result, there is a hodgepodge of different payment schedules. Most states pay between \$300 to \$500 per week for a total of 26 weeks. However, Mississippi, Alabama, and Louisiana only pay a maximum of about \$250 per week, while Massachusetts pays a maximum of \$1,200 per week. These are based on your salary while working. The CARES Act added \$600 per week to every unemployment benefit paid by the states,

regardless of the amount of the benefit. The supplemental benefit was set to end in July 2020 and was then extended to December 24, 2020.

Stimulus payments for individuals appear to have been effective. JPMorgan and University of Chicago recently released [a report](#) on the effect of the additional benefits on consumer spending. Those who were unemployed decreased their spending by 20% after they were unemployed. The extra \$600 per week began to be paid in April. Note that March 15, 2020 was the week of the national stay at home order.

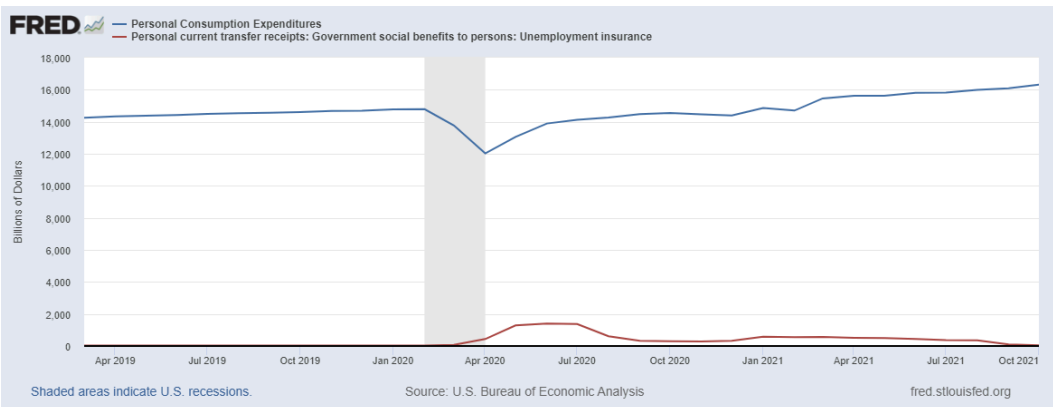


Figure 13. U.S. Bureau of Economic Analysis, [Personal Consumption Expenditures \[PCE\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Bureau of Economic Analysis, [Personal current transfer receipts: Government social benefits to persons: Unemployment insurance \[W825RCI\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 4, 2021.

At the level of the macroeconomy, the data shows that the stimulus payments are doing what fiscal stimulus is supposed to do. It is supposed to replace income when people are laid off in a recession. The Pandemic Shut Down resulted in a big drop in spending. The partial re-opening, the \$1200 stimulus checks, and rising consumer confidence increased spending in May and June 2020, but in July, the re-closing of some venues and the ending of the unemployment benefit supplement caused a drop in August consumer spending. The U.S. Government extended benefits and expanded fiscal stimulus beyond the CARES Act, both in December 2020, at the end of the

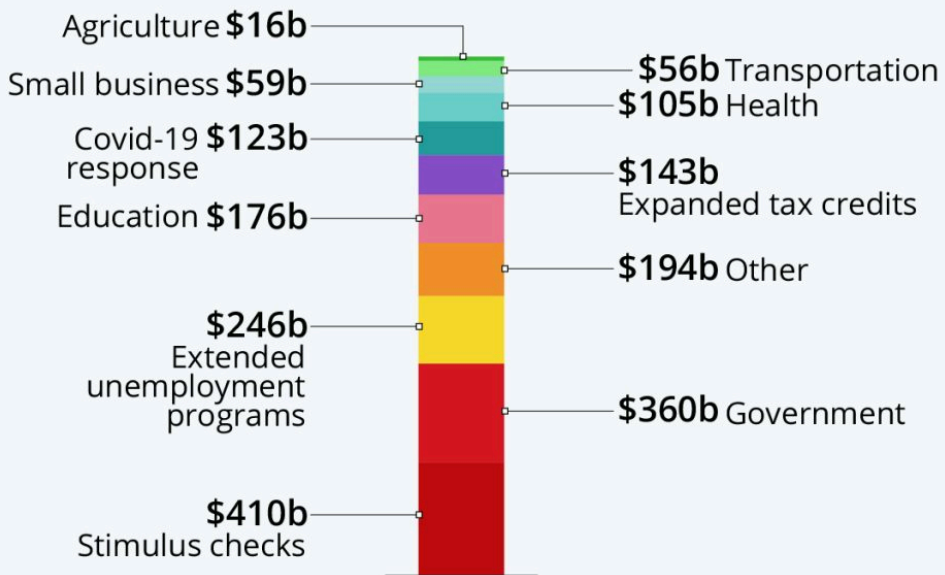
Trump administration, and in early 2021, at the beginning of the Biden Administration. These additional stimulus packages included:

1. The COVID Relief and Government Funding Bill
2. The American Rescue Plan Act
3. Infrastructure Investment and Jobs Act (IIJA)
4. The American Jobs and Family Act

Here is what was in the American Rescue Act:

What's In The \$1.9 Trillion Stimulus Package?

Composition of the American Rescue Plan Act
(in billion U.S. dollars)



Source: The Wall Street Journal



Figure 14. *What's In The \$1.9 Trillion Stimulus Package?* by Statista is used under a [CC BY-ND 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/).

On top of the Fiscal Policy moves of Congress and the Fed's reduction of its Fed Funds Rate to effectively 0%, the Federal Reserve Bank immediately embarked on a trick it used in the Great Recession to keep banks from going bankrupt and to stimulate the economy. It increased its own assets to approximately \$7 trillion dollars. This is sometimes called printing money, but the Fed doesn't actually print money; it just added \$3 trillion Dollars to its balance sheet.

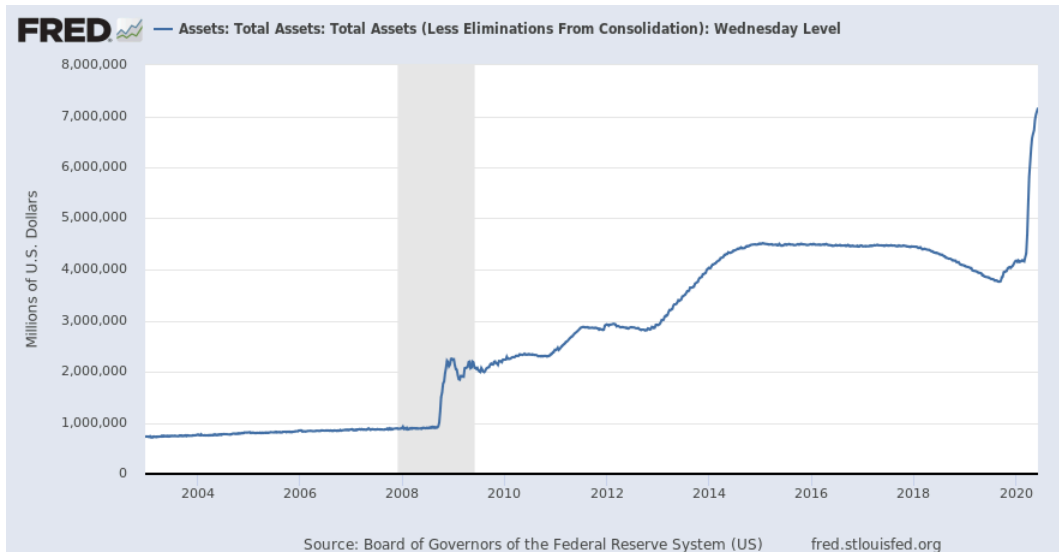


Figure 15. Board of Governors of the Federal Reserve System (US), [Assets: Total Assets: Total Assets \(Less Eliminations from Consolidation\): Wednesday Level \[WALCL\]](#), retrieved from FRED, Federal Reserve Bank of St. Louis; October 3, 2021.

The Fed then proceeded to lend money to banks using the Treasury Bonds the banks own as collateral; this is normal practice for the Fed. However, the Fed went beyond this and bought long-term securities in the open market and in bond offerings. This included:

- Treasury Bonds
- Mortgage Bonds (of Fannie Mae and Freddie MAC)
- Municipal Bonds of states and municipalities
- Corporate Bonds

As of December 30, 2020, the chart below shows the investment holdings of the Federal Reserve Bank. Note that this totals \$6.7 trillion dollars. If you look at the graph above, you can see how amazing this is, given that the Fed only had

\$800 billion dollars in assets at beginning of the Great Recession in December 2007.

Table 4. Summary Report

Security Type	Total (in Thousands)
US Treasury Bills (T-Bills)	326,044,000.00
US Treasury Notes and Bonds (Notes/ Bonds)	3,654,338,679.20
US Treasury Floating Rate Notes (FRN)	16,096,475.30
US Treasury Inflation-Protected Securities (TIPS)*	273,305,708.80
Federal Agency Securities**	2,347,000.00
Agency Mortgage-Backed Securities***	1,924,219,061.30
Agency Commercial Mortgage-Backed Securities***	9,246,597,536.70
Total SOMA Holdings	6,205,597,536.70
Change from Prior Week	11,820,298.40

Source: NY Federal Reserve Bank

*Does not reflect inflation compensation of 35,866,292

**Fannie Mae, Freddie Mac and Federal Home Bank

***Guaranteed by Fannie Mae, Freddie Mac

All this Fed activity pushed long-term interest rates down to historic lows. For example, the yield on the 10-year Treasury Bond had been about 0.7% since the Fed started its buying program in early March 2020. Note that the Fed's purpose in lowering interest rates has a number of objectives. First, it wants to make it easy for banks to borrow money to keep them solvent. Banks can now borrow money at an interest rate of effectively 0%. Another reason is to make it cheaper for consumers and corporations to borrow money. Corporations can borrow cheaply from banks or from corporate bond markets; for consumers, the cost of mortgages and auto loans decreases.

Unfortunately, most of this aid went to large well-established corporations. Essentially, for small businesses, the only aid available to them was from the

PPP. The large corporations can get this plus can borrow other money at dirt-cheap rates. They also can issue bonds at rates not far above what Treasury bonds are paying (In 2020, the 10-year treasury yield was 0.6%, and the Fed promised to keep it there until the unemployment rate dropped to full employment. However, since the time inflation reared its ugly head, the 10-treasury bond yield has risen to 4%.) In addition, larger corporations can borrow money from the Fed at historically low rates under a new program created by the CARES Act. This has left small businesses deeply vulnerable to the predatory practices of their larger competitors. Big corporations can take their market share, offer to buy them, or just wait out their demise.

Two Economic Myths Debunked

As we economists watched the unfolding of Pandemic Recession, we saw two of the great economic myths of the 20th century destroyed:

1. The importance of the level of national debt
2. The belief that you should not cut wages in a recession, but rather cut workers

The Importance of the Level of National Debt

According to the CBO, the entire U.S. government budget for the 2019 fiscal year was \$4.4 trillion dollars. This budget resulted in a deficit of close to \$1 trillion dollars. Of course, the Treasury had to borrow the money to finance the deficit by issuing more U.S. Treasury Bonds thereby increasing the U.S. National Debt by \$1 trillion dollars. On March 27, 2020, President Trump signed into law the CARES Act. It added \$2.2 trillion to the deficit in fiscal year 2020 and to the U.S. National Debt. Note that this is a 50% increase in the Federal Budget. However, with this \$2.2 trillion plus the projected deficit of \$1.1 trillion the CBO projected that the government would add \$3.7 trillion additional dollars to the U.S. National Debt in fiscal year 2020. There is a sea change going on in Congress. As Jim Tankersly reported in [the New York Times](#):

Running such a large deficit would have been politically untenable just

a year ago; since the end of World War II, economists have often warned that doing so would risk runaway inflation and possibly unsustainable tax hikes on future generations. But now, even some of the country's most ardent deficit hawks have watched the debt pile up and said: More, please.

The Republican Party used to be the deficit hawks in Congress, bemoaning every penny that Democrats would spend when they were in power. They also rolled out several conservative minded economists who warned of the debt, noting that it would cause:

- Runaway inflation because it put too much money into the economy
- The crowding out of businesses and consumers from the financial markets due to the government competing for the same investors as private borrowers and due to higher interest rates caused by government demand for borrowing
- Lower future government benefits due to the interest due each year on the debt
- Higher taxes on future generations who will eventually have to pay back the debt racked up today

Even Kenneth Rogoff, a Harvard University economist often cited in support of deficit reduction, changed his tune. Rogoff has done seminal work on the effect of government debt on economic growth in partnership with Carmen Reinhart (formerly of Harvard and now the chief economist of the International Monetary Fund). Jim Tankersly quotes Rogoff as saying, "Any sensible policy is going to have us racking up the deficit for a long time, if you can...if we go up another \$10 trillion, I wouldn't even blink at that now."

Economists are the "high priests" of Capitalism, especially in the U.S. When the high priests destroy a "sacred" myth that has been recited and worshipped for many years, they have to substitute a new myth. What is that New Myth? The New Myth is that the deep drop-off in consumer spending plus the closing of so many businesses make it not just okay but actually *desirable* to run up huge deficits to try to fix the economy (particularly with interest rates pushed to effectively zero and the disappearance of inflation).

On top of all the politicians calling for more fiscal spending, Jerome Powell,

Chair of the Federal Reserve Bank called for more spending by Congress. Powell has long been a fiscal hawk, but in a series of speeches, he said the Federal Reserve Bank will keep interest rates low plus do whatever other Monetary Policy actions necessary for “as long as it takes” to revive the economy.

The Belief That You Should Not Cut Wages in a Recession, but Rather Cut Workers

In a [2020 New York Times article](#), Nelson Schwartz explains that in past recessions, employers cut workers rather than reduce salaries for everyone. However, in this Pandemic Recession, many more companies reduced salaries for everyone, including top executives, and retained workers. Of course, this was not a universal practice, as evidenced by the huge number of people who filed for jobless claims, but there were enough to challenge the long-held theory that if you cut salaries, workers will reduce their effort, and the company will be less profitable. Schwartz also notes that according to one study, 537 public companies had cut executive salaries during the Pandemic Recession. Of course, for top executives of public companies, the majority of their compensation is in the form of stock or stock options, so reducing executives' salaries is clearly not as big a sacrifice as reducing the salaries of other employees. However, it does send a symbolic message. It is certainly unclear whether the Pandemic Recession will cause a lasting change in management behavior when it comes to layoffs. However, this recession shows the old way is not necessarily the right way.

The Effect of the Pandemic Recession on the Stock Market

In March 2020, the U.S. economy was doing well and unemployment was at a historic low. That same month, Saudi Arabia and Russia engaged in a brutal price war in order to gain market share. Saudi Arabia was offering crude oil at prices \$6 to \$8 per barrel below U.S. prices. While worldwide demand for oil and gasoline was plummeting due to sheltering in place, the supply of oil was increasing. Oil prices dropped off the cliff. While the huge drop in

oil prices might normally help the consumer and help businesses, it did not help when many businesses were shut down. However, it did cause the prices of oil company stocks to tank, helping to bring down the stock markets. The stock market Indices (The Dow Jones Industrial Average, the S&P 500, and the NASDAQ Composite) had been advancing since January 2020, and had all reached new highs for the year in mid-February 2020. All the markets then started dropping in response to the recession, and all three U.S. Indices reached a low on March 23, 2020, each dropping over 30%.

A remarkable rally then took hold of the stock markets, despite three apocalyptic negative forces: COVID-19, civil unrest, and a failing economy. As of this writing (June 9, 2020) a strong 56-day rally that posted the best 56-day performance of the markets since 1933 brought each of the Indices back to either within range of their February 19, 2020, high or better than it:

- Dow Jones: +3.4%
- S&P 500: +0.05%
- NASDAQ Composite: +10.6%

The fascinating phenomenon here is how quickly markets recovered from their reaction to the recession. The NASDAQ stock market index was especially buoyant after the bear market in March. It is up 44% as of the end of 2020. The Nasdaq Composite Index, which is dominated by Apple, Microsoft, Amazon, Alphabet, and Facebook, surged since late March 2020. Thirty eight percent of the Nasdaq Index is composed of these five mega-tech stocks, and the Index is weighted 49% in tech stocks.

The Nasdaq Composite fell at the beginning of the Pandemic Recession, but investors appeared to have faith that the tech stocks would not suffer the same fate from the shutdown as companies in other industries. The tech stocks do appear to have been “coronavirus resistant,” with Amazon gaining 71.6%, Facebook up 20.9%, Alphabet up 27.9% and Microsoft up 40.2%. Unfortunately, if we use the traditional and time-tested fundamental valuation method of the **Forward Price/Earnings Ratio (P/E Ratio)** stocks were at their most expensive since just before the 2000 recession, when the dot-com stock bubble burst. However, it appears that the forward price-to-earnings ratio is broken, notably for the high-flying tech stocks but less so for the overwhelming majority of the S&P 500 stocks, and we need to understand why that is the case. The value of the P/E Ratio is that it measures what investors should fundamentally want,

our **return on investment (ROI)**. The return on our investment is the profits (or **earnings**) per share divided by the price we have to pay for one share of the company's stock.

$$\text{ROI} = \frac{\text{Earnings Per Share}}{\text{Price Per Share}}$$

The P/E Ratio is the Price Per Share divided by the Earnings Per Share.

$$\text{P/E} = \frac{\text{Price Per Share}}{\text{Earnings Per Share}}$$

By simple mathematics, the ROI on a stock is the inverse of the P/E Ratio.

$$\text{ROI} = \frac{1}{\text{P/E Ratio}}$$

The current Forward-Looking P/E Ratios of the stock market are:

Table 4. Forward-Looking P/E Ratios

Stock Index	P/E Ratio 12/30/2020	P/E Ratio 12/30/2019
Dow Jones Industrial Average	24.91	19.09
S&P 500 Index	26.75	19.77
NASDAQ Composite Index	32.79	24.10

Let's compare these to the P/E Ratios of the past, as we discussed in Chapter 14, Investment Fundamentals:

Table 5. P/E Ratios of S&P 500 Stocks

P/E Ratio	Source	Dates	P/E Av./Estimate
One Year Trailing P/E	Robert Schiller (Yale)	1872 to 2015	15.5
CAPE 10 Year P/E	Robert Schiller (Yale)	1818 to 2013	16.5
One Year P/E Estimate	FactSet	2000 to 2019	15.2
10 Yr. Av. P/E Estimate	FactSet	2000 to 2019	15.0

Why were the P/E Ratios so high? We are not able to really understand this until six months or a year down the road and the actual data can be used to see which of our theories holds water. However, there is evidence to think about before then to try to understand the disconnect between the Pandemic Recession and stock prices.

One of the fundamental truths of the stock market is “regression to the mean.” This saying anticipates that these high P/E Ratios will return to the average P/E Ratios. Indeed, as of the publication of this article, the current forward-looking P/E Ratios of the stock market are headed back to the mean.

Table 6. Forward P/E Ratios (10/25/2022)

Stock Index	Forward P/E Ratios
Dow Jones Industrial Average	16.77
S&P 500 Index	16.57
NASDAQ Composite Index	20.97

Stock market analysts and pundits have generally cited a couple reasons that the markets have soared while approximately 37,000,000 workers lost their jobs, and factories, retailers, and offices shut down. One is that the Federal Reserve has pumped \$1 trillion dollars into the financial markets at interest rates close to zero and bought trillions more of Treasury Bonds and Mortgage Bonds. When Fed Chair Jerome Powell said he will do “whatever it takes to help the economy,” many felt that that means supporting the stock markets.

Another reason is that the stock markets always look ahead. According to [Jeremy Siegal of Wharton](#), there was nothing strange about the market’s rising despite the unemployment figures. Investors already anticipated they would be terrible:

It’s Principle 1 of Finance 101: Anything that is expected doesn’t move the market. People who were dismayed by its upswing since mid-March didn’t understand how the market works. Over 90 percent of the value of stocks is dependent on earnings more than a year in the future.

The arguments about the Fed stimulus and the forward-looking markets are traditional answers from Wall Street pundits. However, they are not the entire story.

First, a whole bunch of companies withdrew their earnings forecasts (often called **earnings guidance**) due to the wild uncertainty of the pandemic shutdown. This is a critical piece of information that stock market analysts use to predict corporate earnings. Obviously, with great uncertainty about earnings, the calculation of the P/E ratio is severely handicapped, and it is therefore difficult to calculate what is the fundamental value of a stock. Secondly, there have been real structural changes in the stock markets that have to one extent or another inflated the price of stocks in the U.S. Markets.

In his [May 2020 article for the New York Times Magazine](#), Michael Steinberger outlines a number of these changes. The purpose of the stock markets is to efficiently provide capital to corporations to facilitate economic growth (and

thereby, increase employment). However, as Steinberger states, “Even before the coronavirus struck, there were some trends that called into doubt how well the market was facilitating economic growth.” In 1997, there were roughly 7,500 publicly traded companies. Now there are approximately 3,600 public companies—less than half. Some of them went out of business, but a lot of them were gobbled up by other public companies in mergers and acquisitions. With an increasing amount of money in 401(k)’s and pension funds chasing fewer stocks, it makes sense that prices of stocks inflate.

Private equity investment, a \$5 trillion dollar market, has driven the drop in public companies over the last two decades. Staying private avoids the regulations and oversight of the Securities Exchange Commission and avoids all of Wall Street’s incessant demands of constant earnings per share growth. There are now nearly 8,000 private-equity owned companies, according to Steinberger. Additionally, it has become a common strategy of CEOs to buy back their company’s own stock when they have cash. This increases the earnings per share and therefore the price of the stock. Since all the stock indices are based on stock prices, this makes the stock market indices rise.

The Tax Act signed by President Trump in December 2017, dramatically cut the rate of corporate taxes from 35% to 20%. The myth told by the President and Republican Congress was that corporations would invest the money in new plants and equipment, thus creating jobs, and then would use some of the resulting tax savings to raise workers’ wages. Instead, public companies used most of the tax savings to buy back their own stock.

Finally, on June 9, 2020, [Axios reported](#) some specific influences inflating stock market prices during the coronavirus shutdown and resulting recession (though possibly only short-term phenomena). Dion Rabouin says:

Professional investors have largely abandoned the stock market since the coronavirus pandemic sent U.S. stocks to the fastest bear market in history — but a massive group of sports bettors, bored millennials and hungry new investors have jumped into retail trading with both feet. They may be a driving force pushing U.S. stocks to their recent highs and potentially driving them further.

Rabouin states that the biggest four online retail trading platforms—E-Trade, TD-Ameritrade, Charles Schwab and Interactive Brokers—executed more trades in March and April of 2020 than in the entire first six months in 2019.

An [article by Gregory Zuckerman and Mischa Frankl-Duval in the Wall Street Journal](#) also chronicled the “rush to risk” of the small retail investors:

Another reason for the rise: Individual investors, some new to the market, are showing a sudden appetite for risk. If shares keep rising, the newbies and others will be rewarded. However, the recent action reminds some veterans of past speculative frenzies, some of which ended badly, especially for investors who climbed on board late (2020).

In a subsequent [Wall Street Journal article](#), Zuckerman, Frankl-Duval, and Michael Wursthorn detailed the rise of amateur investors in the stock market (2020).

An especially nefarious (in my opinion) internet start-up, Robinhood, became a **unicorn** (a start-up worth a billion or more) based on living off small retail stock investors. Nathaniel Popper of the [New York Times reports](#):

More than at any other retail brokerage firm, Robinhood's users trade the riskiest products and at the fastest pace, according to an analysis of new filings from nine brokerage firms by the research firm Alphacution for *The New York Times* (2020).

Personally as I have watched the stock market like a hawk for the last twenty years, I have seen this “small guy investor” scenario play out approximately every five years. As the market climbs closer to its all-time high, the volume of trading by small retail investors increases until the market reaches its peak and then experiences a **market correction** (a 10% to 19% drop in the market). The retail investor usually doesn't have the experience to know when to sell and often rides the market to its bottom. At that point, the “small guy” panics and sells at a loss. In the aftermath of these losses, the retail investor swears off the market for years, licking their wounds. Approximately five years later, this phenomenon repeats itself as the market again tests new highs. I am not sure if the retail investors who jump into the stock market about every five years are the same who took the losses or a new batch of younger amateurs, but the behavior is predictable in my experience.

On the other hand, until July 2020, professional investors generally remained on the sidelines of the stock markets. According to Rabouin, data from the Investment Company Institute show that equity stock funds had six straight weeks of outflows from the week ending April 22 to the week ending May 27, 2020, for a total outflow of \$78.2 billion (2020). On the other hand, bond

funds had an equivalent flow inward (\$91.7 Billion) in the seven weeks ending May 27. Institutional traders finally began to move back into the stock market. According to data from Bank of America, professional investors placed \$6.2 billion into stocks in the last week of July, 2020, compared with \$32.5 billion into bonds.

Finally, everyone wanted to get in on the soaring stock market. As a result, [the Washington Post reported on August 13, 2020](#) that the stock market flirted with an all-time high. The S&P 500 touched a new record the previous day before edging down:

The S&P 500 popped above its highest-ever closing level, and stands poised to erase its bear-market plunge in record time. But as stirring as the recovery has been, it's also a case study in how stock benchmarks can be misleading when it comes to the experience of investors at large.

Bloomberg's Vildana Hajric, Lu Wang and Claire Ballentine [report](#):

It took just 175 days for the index to go from peak to trough to peak, a recovery that has come faster than any comparable one in the past. The previous 12 cycles that saw stocks recover from a drop of at least 20% took an average of four years. Since bottoming in March, the S&P 500 has risen about 50%, with more than 40 of its members doubling. More than \$12 trillion dollars of share value that vanished is now all but restored. The S&P 500 rose as much as 1.6% to 3,387.89, briefly surpassing its Feb. 19 closing record. It pulled back in the final half hour of trading to end at 3,380, 0.2% shy of the all-time high (2020).

The tech rally led the S&P 500 Index from a drop during the Pandemic of 35% to a return to near its all-time high on February 12, 2020. It took about six weeks to fall into a bear market, the fastest drop in history from an all-time high to a bear market. The S&P 500 Index then climbed back in 126 days to where it was before the Pandemic Recession. Likewise, this was the fastest recovery from a bear market in history. By way of comparison, if we go all the way back to 1928, just before the stock market crash of 1929 and subsequently the Great Depression, it has taken an average of more than 1,500 stock trading days (about six years) to return to record levels (Banerji, 2020).

Such an amazing stock market rebound leads us to ask, why did the S&P 500 recover so quickly? Gunjan Banerji gives us a few reasons.

Stimulus From the Fed and Congress

The response of the Federal Reserve Bank and Congress was faster and stronger than ever before. The Fed reduced short-term interest rates to essentially 0% and resumed buying more long-term bonds to reduce interest rates. Congress passed a \$2.2 trillion dollar stimulus package that included extra unemployment compensation, \$1,200 checks for taxpayers and Payroll Protection Payments that gave 2 and a half months salary to companies that promised not to lay off their employees.

Perhaps even more important, the Fed promised to keep short term rates at 0% through the end of 2023. According to a research study by BNP Paribas the zero interest rates increase the fundamental values of U.S. stocks (based on their net income per share) by 25% (Snayed and Banerjee, 2020).

Expectations of a Strong Recovery

There was an unwavering faith that once the pandemic is under control, the U.S. economy would bounce back. The earnings of the S&P 500 companies dropped 32% in the second quarter of 2020. However, analysts expected that earnings would surpass pre-pandemic earnings in 2021.

The Dominance of the Tech Giants

The five largest companies in the S&P 500—Apple, Amazon, Microsoft, Google and Facebook—made up 23% of the value of the S&P 500, so their prices exerted a huge effect on the value of the S&P 500 Index. Due to the pandemic, the stock price of these companies soared.

The Return of Individual Investors

I talked above about the retail investor jumping into the stock market. It has never been easier and cheaper to trade. Competition has forced brokerage fees to zero and buying and selling on your phone is easier than buying on Amazon.

The retail or individual investor (as opposed to mutual funds or institutional investors) now makes up 20% of market activity, double the usual amount. This is enough to move the markets. These individual investors swap tips on social media platforms like TikTok, Reddit, and Discover.

Momentum Trading

A study by Societe General, a European bank, shows that individual investors (and institutional investors) are chasing stocks that rise the most. This is known as the **momentum trade**. In addition, individual investors are investing in call options and borrowing heavily to magnify their returns on the upside. Unfortunately, this also magnifies their losses on the downside. However, since the pandemic recession, the stocks with the highest options activity have outperformed the market.

Here is a graph of the performance of these largest S&P 500 stocks in 2020:

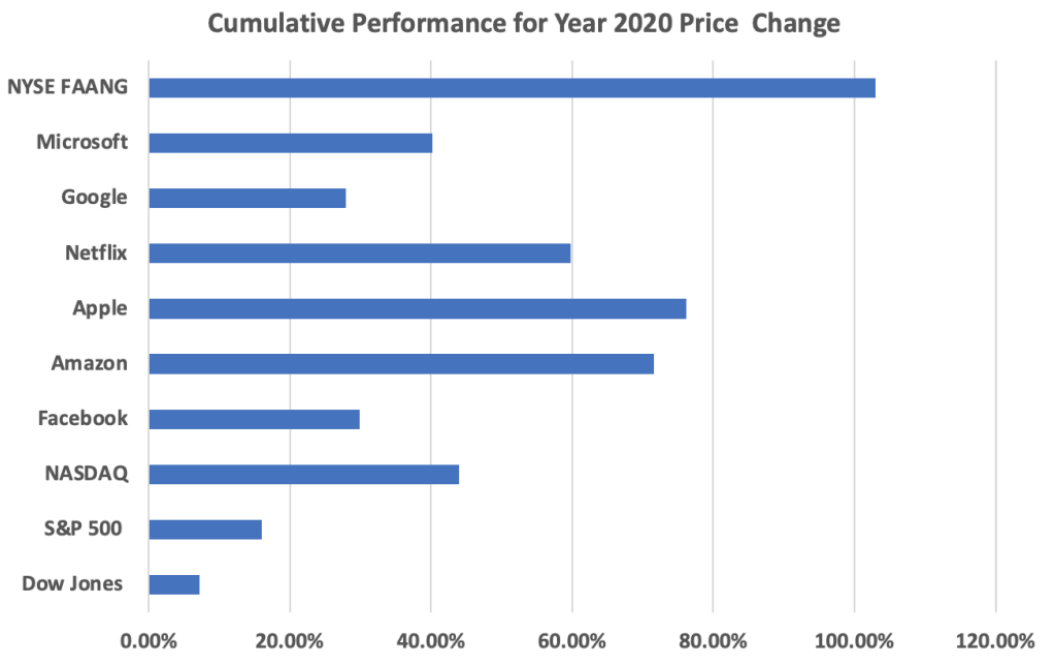


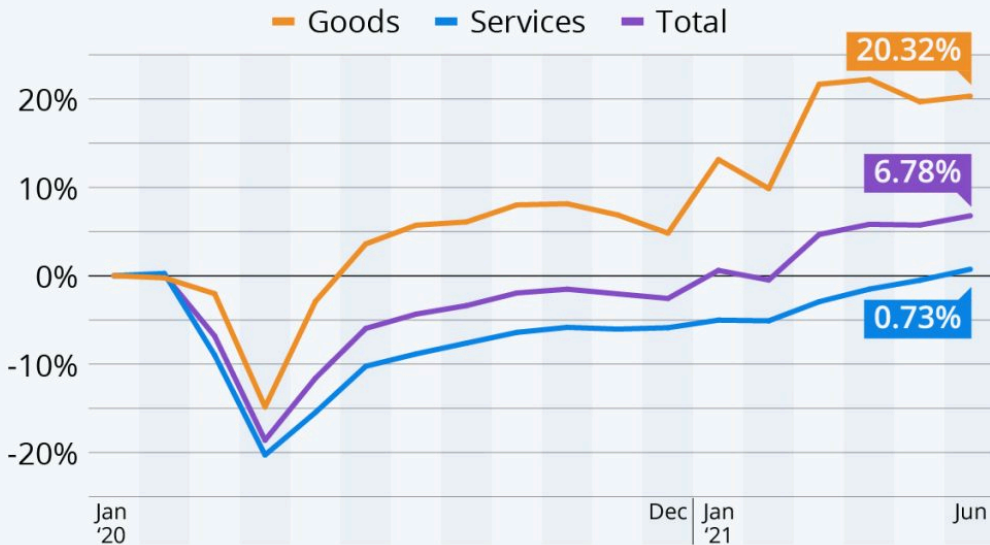
Figure 16. Cumulative Performance for Year 2020 Price Change by Fred Rowland is used under a [CC BY-NC 4.0 License](https://creativecommons.org/licenses/by-nc/4.0/).

When Will the Effects of the Pandemic Recession Be Over?

As we said in the beginning of this article, the Pandemic Recession is officially over, according to the National Bureau of Economics Research. In addition, by June 2021, Personal Consumption Expenditures on both goods and services had returned to or exceeded the pre-Pandemic levels:

U.S. Services Spending Climbs to Pre-Pandemic Level

Change in personal consumption expenditures on goods and services in the U.S. since January 2020*



* underlying monthly spending data is seasonally adjusted at annual rates

Source: U.S. Bureau of Economic Analysis

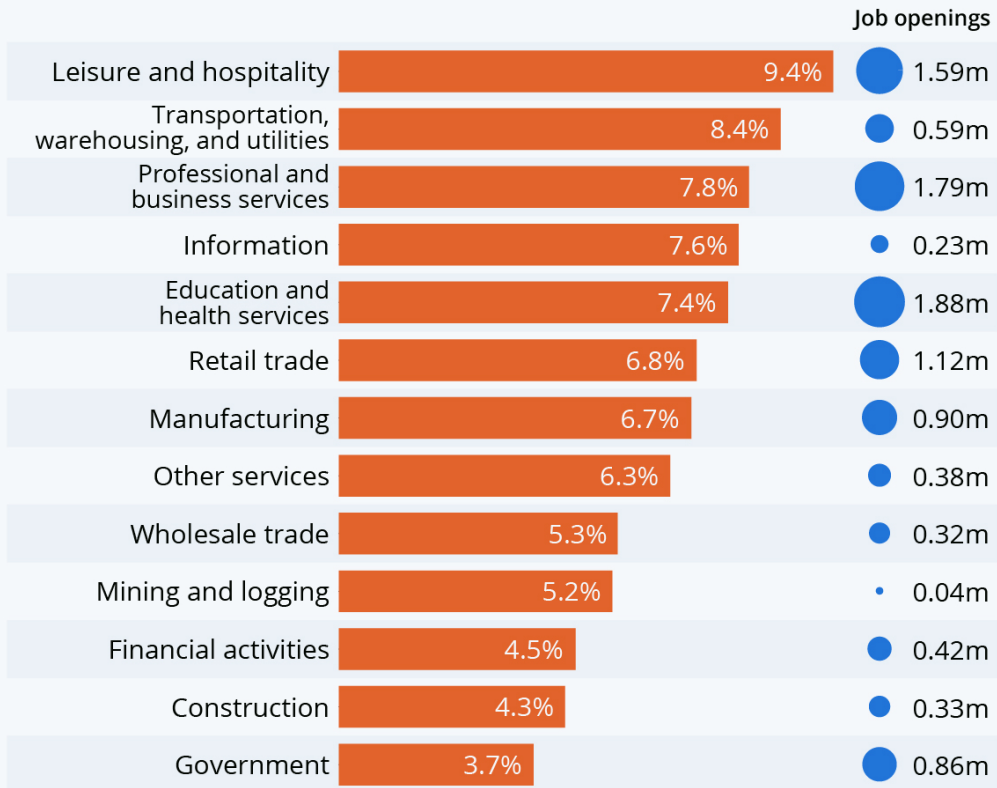


Figure 17. U.S. Services Spending Climbs to Pre-Pandemic Level by Statista is used under a [CC BY-ND 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/).

However, there was still a way to go. 22 million people lost their jobs in the recession but only 15 million have been hired back; employment has not returned to pre-Pandemic levels. One reason for this was an anomalous mismatch between the jobs available in the labor market and the candidates seeking employment. Here, according to Statista, were job openings in various industries:

Where Employers Struggle to Fill Open Positions

Job openings rate by industry in the U.S. in September 2021*



* The job openings rate is the number of job openings on the last business day of the month as a percent of total employment plus job openings.

Source: U.S. Bureau of Labor Statistics



Figure 18. *Where Employers Struggle to Fill Open Positions* by Statista is used under a [CC BY-ND 3.0 License](https://creativecommons.org/licenses/by-nc/3.0/).

So when might employment return to pre-Pandemic levels? On September 21, 2022, following a regularly scheduled Federal Open Market Committee meeting, Chair Jerome Powell unveiled the Fed’s latest long-term projections for the U.S. Economy. As you know, there are twelve Federal Reserve Bank Districts, and each of the twelve Presidents attend the FOMC meetings. In addition, every quarter each Fed District President must bring an economic forecast from their own economic model. Twenty-five or more economists at each Fed Bank work on these forecasts each quarter. If you multiply that by twelve Federal Reserve Banks, you get 300 plus economists working on these forecasts each quarter.

In addition, the main Fed in Washington, D.C. also generates a forecast. The forecast presented by Chair Powell on September 21, 2022 gave the median and the range of these thirteen forecasts of the economy. I include the actual Fed forecasts below, but here is a summary of the median of the forecasts. They predict a recovery that is exceptionally more rapid from a recession that we have seen following past recessions.

Table 7. Economy Forecasts

Variable	2022	2023	2024	Median Projections Longer Run
Unemployment Rate	3.8%	4.4%	4.4%	4.0%
Change in Real GDP	0.2%	2.2%	1.7%	1.8%
PCE Inflation	5.8%	2.8%	2.3%	2.0%
Federal Funds Rate	4.4%	4.6%	3.9%	2.5%

Source: Federal Reserve Bank Economic Models data (6/10/2021).

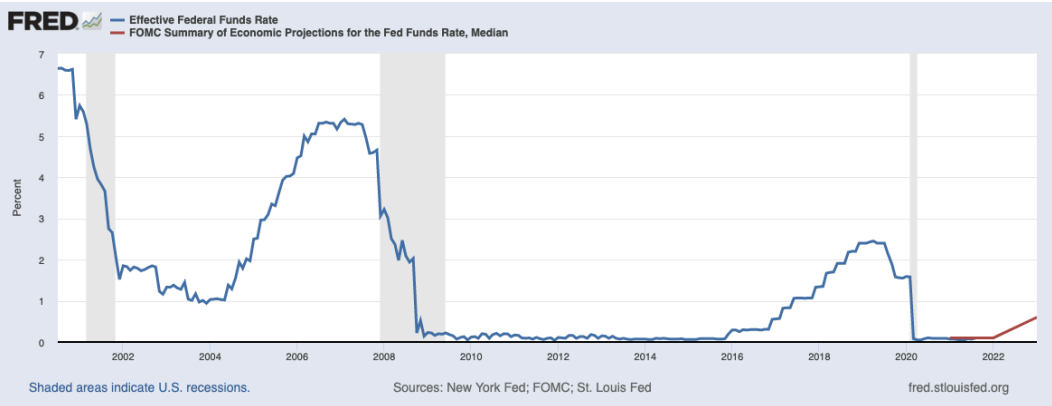


Figure 19. Federal Reserve Bank of New York, [Effective Federal Funds Rate \[EFFR\]](#), retrieved from [FRED](#), Federal Reserve Bank of St. Louis; October 4, 2021. U.S. Federal Open Market Committee and Federal Reserve Bank of St. Louis, [FOMC Summary of Economic Projections for the Fed Funds Rate, Median \[FEDTARMD\]](#), retrieved from [FRED](#), Federal Reserve Bank of St. Louis; October 4, 2021.

As of August 2021, fifteen million of the twenty-two million who lost their jobs in the Pandemic Recession have been hired back or found new jobs. There are seven million still unemployed from the recession. This is quite typical of recessions; [it takes time to recover from the full effects of an economic downturn](#). The United States is ahead of most of the rest of the world in recovery from the Pandemic Recession, but it is not over yet.