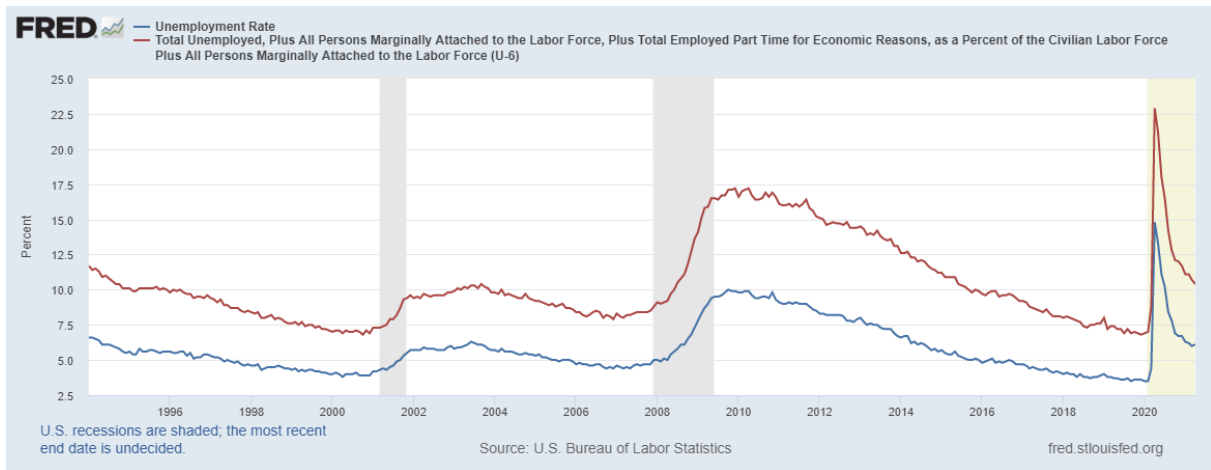


The Macroeconomics of Covid-19

We conclude the semester by looking specifically at the macroeconomic aspects of the covid-19 pandemic. There is no doubt that the pandemic caused a severe global recession. In the United States, its impact was clear in April 2020's 14.7% U-3 unemployment rate. U-6 also peaked in April 2020 at 22.9%.

Figure 1: U.S. Unemployment Rates



Aggregate Supply or Aggregate Demand?

The pandemic adversely impacted both aggregate demand and aggregate supply. Aggregate demand was impacted primarily by the measures that households took to avoid catching the illness. Lower demand is reflected in the example of restaurants. Even if they were able to stay open, fewer customers choose to patronize them. The impact of aggregate supply was felt through closures (sometimes voluntary, and sometimes mandated by governments) that reduced economic activity, even if customers were willing.

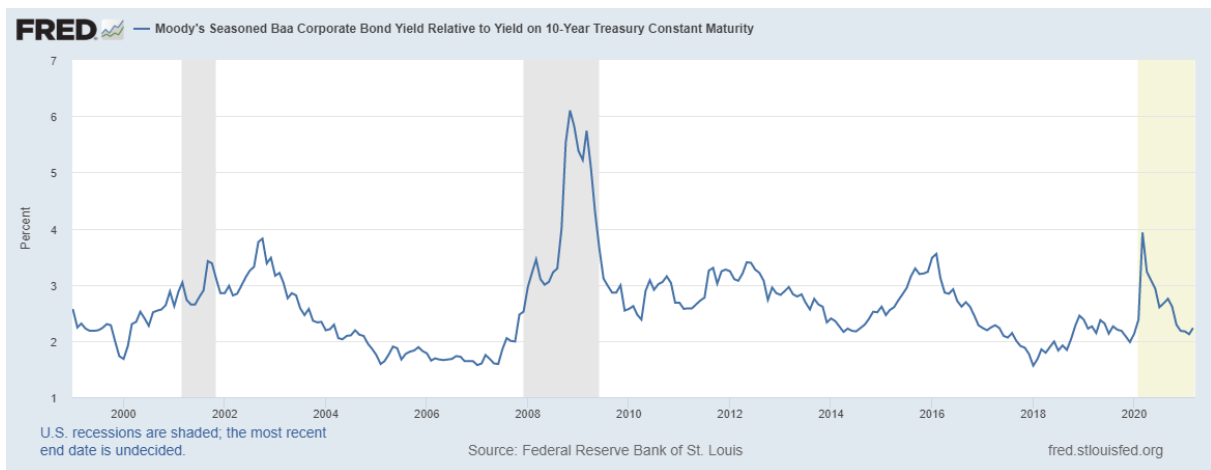
One way to try to test whether supply or demand factors were more significant is to look at the behavior of inflation. A supply shock should boost inflation while a demand shock should reduce inflation. This is suggestive, not definitive. For most of the pandemic (until the Spring of 2021 in the U.S.), inflation has been highly subdued, suggesting that aggregate demand was more significant.

Propagation

The pandemic hit sectors of the economy, such as recreation, leisure, and hospitality, that require significant interpersonal contact and which do not adapt well to social distancing requirements. The focus of policy makers was mostly to support these sectors through relief programs. One major risk, however, was that the economic crisis could spread from these sectors to others that are more adaptable. There are several potential channels for such propagation:

i. Financial effects. During recessions, firms and households tend to become much more risk averse. This can lead to a reduction in credit which could both harm investment, but also make it harder for closed businesses and underemployed households to get loans. In March 2020, there were some signs of financial distress which caused the Federal Reserve to act aggressively.

Figure 2: Moody's Baa-Treasury 10-year Spread



ii. Unnecessary business closures. The pandemic threatened many firms with closures. If these firms were successful prior to the pandemic, and would likely be successful once things were back to normal, then these failures are likely inefficient and could extend the length of the downturn far beyond that of the pandemic.

iii. State and local fiscal transactions. State and local governments have limited ability to borrow. The pandemic stressed their budgets through reduced tax revenue and automatic increases in some spending programs, including unemployment benefits. Fiscal contractions would further reduce aggregate demand, making the downturn even worse.

iv. Propagation into adaptable sectors. Consider a sector such as finance that is well positioned to withstand the limitations imposed by the pandemic. If the demand for this sector's output is reduced because its customers are in more sensitive sectors, then these firms can also be at risk due to the pandemic.

The U.S. Policy Response

1. Emergency lending. The Federal Reserve Act requires the Fed to act as a lender of last resort. During the pandemic, it used these powers aggressively, making loans to firms facing a lack of liquidity. It also employed new forms of lending, including buying corporate bonds and lending to smaller firms through its (not very successful) "Main Street Lending" program.

By law, the Fed can only make loan to firms that are solvent, but illiquid. It cannot give grants. A major problem during the pandemic was that many firms, especially small businesses, needed grants in order to survive. Congress thus authorized the *Paycheck Protection Program*, which made forgivable loans to firms on the condition that continue to pay their employees.

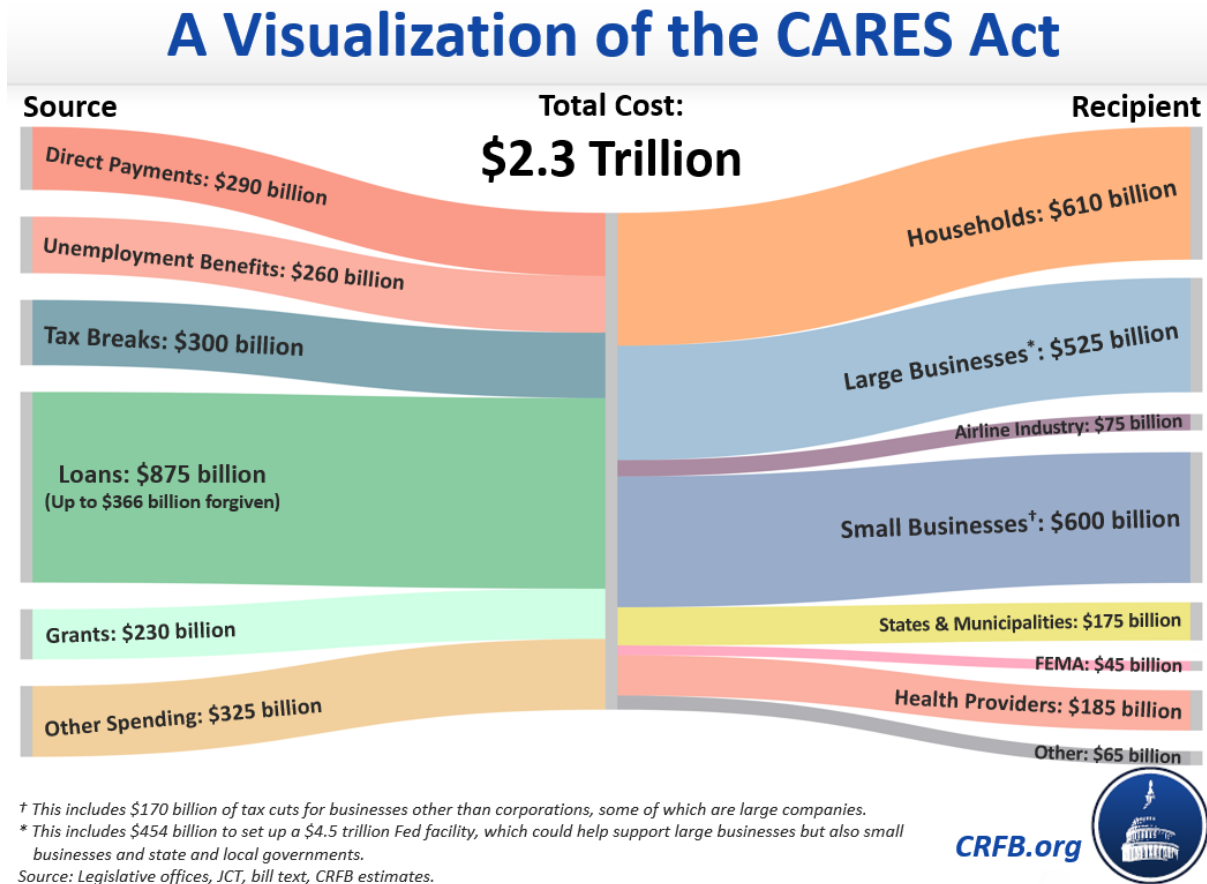
2. Expansionary monetary policy. Early in the pandemic, the FOMC had an emergency meeting where it abruptly cut its Federal Funds rate target to near zero. It also resumed quantitative easing and issued forward guidance making it clear that loose monetary policy would continue far into the future. It is not surprising that the Fed employed these tools. It is also unsurprising that, by themselves, they were inadequate to address the crisis.

3. Fiscal stimulus. This overlaps with #1. Congress has now enacted two major fiscal stimulus packages. The first, known as CARES, was a \$2.2 trillion package enacted in March 2020. It included funding for the PPP program, more generous and longer-lasting unemployment benefits, and direct payments to households. It was financed through deficit spending. Among its most controversial omissions was a lack of aid to state and local governments. Figure 3 provides a breakdown of CARES from the Committee for a Responsible Federal Budget.

In March 2021, Congress passed \$1.9 trillion in additional stimulus. It included many similar provisions as the CARES act (direct payments, extended unemployment, etc.), but also included \$350 billion in aid to state and local governments.

Fiscal support throughout the pandemic has had multiple purposes. It has acted partly as disaster relief, providing aid to households to get through the pandemic. It has acted as traditional stimulus, seeking to boost overall economic performance by increasing aggregate

Figure 3: CARES Breakdown



demand. It has also sought to directly combat the pandemic by funding vaccinations and other health measures.

4. Non-Pharmaceutical Interventions (NPIs): Unlike #1-3, these are not measures to address the economic harm of covid-19. Rather these are public health measures such as business closures, school closures, and social distancing that are designed to reduce the public health harm from the pandemic.

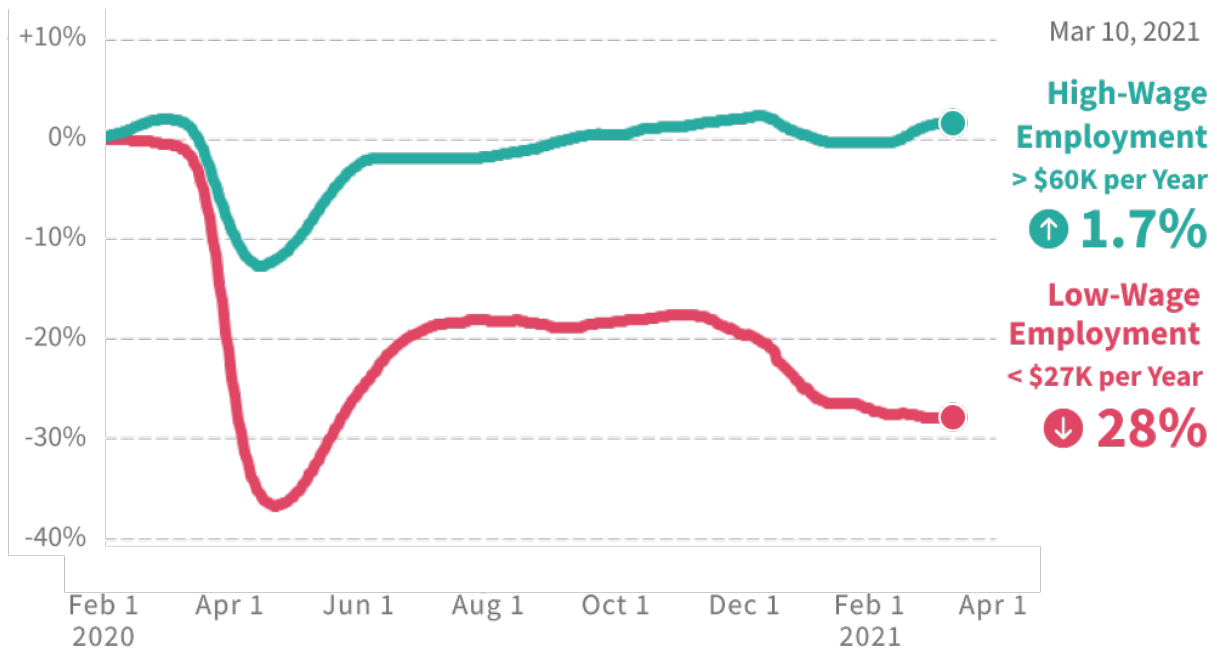
Many of these policies create a trade-off between public health and economic performance. School closures might reduce covid-19 cases. But they create short-term economic damage by suppressing labor force participation and long-term economic damage by reduced educational outcomes. Deciding whether school closures are good policy generally entails estimating both the public health and economic impacts. This remains controversial.

Business closures produce a similar trade-off. As of May 2021, it is still far from clear how much of the covid-19 recession was due to people choosing to restrict their economic activity in order to avoid getting ill or spreading illness versus how much of it was due to the policy response which mandated business closures or capacity restrictions. It also remains unclear how effective many NPIs were at limiting covid-19 cases, deaths, and hospitalizations.

Distributional Impact:

The sectors most impacted by covid-19 are generally lower income. As a result, the recession has hit low-income groups especially hard. The following data from *Opportunity Insights* shows the gap in employment between low and high income zip codes:¹

Figure 4: Employment Lags in Low Income Zip Codes



Why Has the U.S. Recovery Been Faster than Expected?

Since unemployment peaked at 14.7% in April 2020, the U.S. economy has recovered much faster than expected. Many variables, including retail sales and housing measures, are back at or above their pre-pandemic trends as of May 2021. Others, including measures from the labor market, still have further to go but are still ahead of schedule compared to mid-2020

¹<https://tracktherecovery.org/>

expectations. This raises the question of why the U.S. recovery is going faster than expected. here are a few reasons:

i. Many recessions occur because of pre-existing imbalances, such as excessive levels of debt in parts of the economy. It may take a while for these to work themselves out resulting in longer recessions or disappointing recoveries. The covid-19 recession was different. There were no obvious imbalances that needed to be worked through making it more akin to a natural disaster than a classic recession. Household debt is often the fuel that sustains a recessions as households de-leverage. But household debt was very low prior to the pandemic. This has made it easier for households to resume their economic activity as covid-19 restrictions have abated:

Figure 5: U.S. Household Debt to GDP

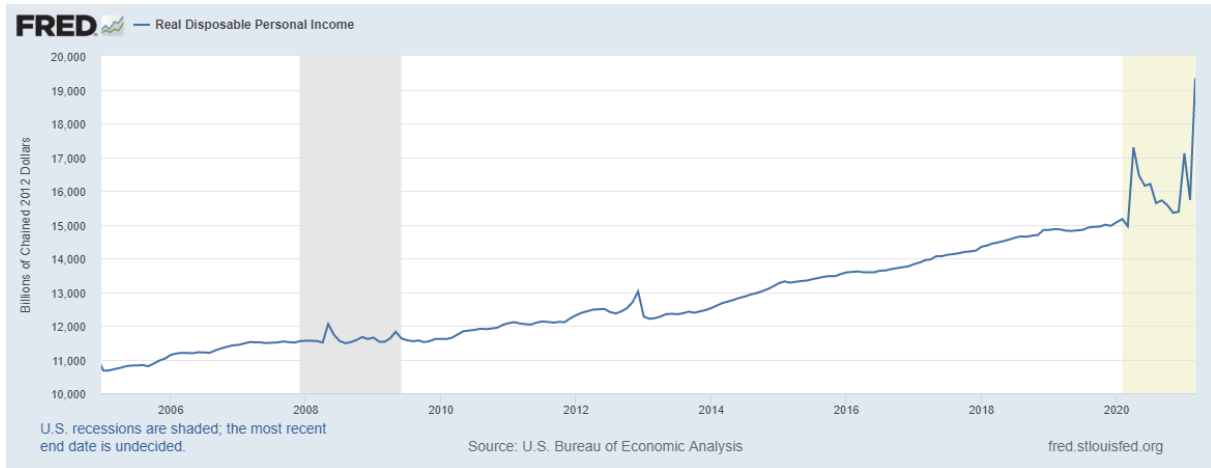


ii. Both fiscal and monetary policy were very fast to respond to the crisis, especially compared to the Great Recession. Fiscal stimulus was so large, for example, that household disposable income actually rose during the pandemic despite the dramatic rise in unemployment.

The Fed also acted aggressively to prevent financial distress early in the pandemic. It could be argued that this limited business closures that could have extended the economic downturn.

iii. The U.S. recovery has also been faster than in many other advanced economics, most notably Europe. This may reflect weaker public health measures throughout the pandemic in the U.S. that reduced the pandemic's economic impact, as well as faster vaccination efforts in the U.S. It may also reflect more decisive policy measures adopted in the U.S.

Figure 6: U.S. Household Disposable Income



The Outlook

As of May 2021, most economic forecasters expect strong U.S. GDP growth in 2021-22. The FOMC, for example, predicts 6.5% and 3.3% GDP growth in 2021 and 2022 respectively, along with unemployment rates of 4.5% and 3.9%. This would return the U.S. to its pre-pandemic trends faster than expected. There will, however, be long-term costs not captured in these datapoints. First, the pandemic will increase the U.S. national debt by about 20% of GDP, mostly due to relief spending. A year of lower quality schooling could also be a drag on growth in the long-term. Finally, there is some speculation that the pandemic could accelerate structural change in the economy. While likely beneficial, this could boost structural unemployment in the near-term.