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## Policy Responses to Modern Economic Crises

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In March 2020, Jay Powell, Federal Reserve (Fed) chair, faced a daunting prospect that only a few months prior seemed like a remote possibility: massive expansion of the Fed's balance sheet. Over the past five years, the economy had experienced steady economic growth, permitting the Fed to reduce its balance sheet (see **Exhibit 1** for the monetary base). The Fed's economists expected the trend to continue.<sup>1</sup> But the rapidly spreading global coronavirus pandemic (known as COVID-19) had rendered moot all prior forecasts. In addition to the health crisis, the United States—and the world—faced the prospect of another economic crisis—just over 10 years after emerging from the largest recession since the Great Depression. How should Powell and his counterparts who ran fiscal policy respond to the crisis? And to what extent could the policy experiments implemented in response to the Great Recession of 2008 guide the monetary and fiscal policy interventions in response to the pandemic crisis?

### Global Financial Crisis

As is characteristic of economic crises, the global financial crisis of 2008 came as a surprise that forced policymakers to adapt to evolving events. Mortgage delinquencies accelerated, and indices of national home prices started to decline in early 2007 (**Exhibit 2**). Lenders such as HSBC experienced large losses, and some filed for bankruptcy. Despite the issues in the housing market, policymakers at first maintained an optimistic outlook. On March 17, Fed Chairman Ben Bernanke stated: “We believe the effect of the troubles in the subprime sector on the broader housing market will likely be limited, and we do not expect significant spillovers from the subprime market to the rest of the economy or to the financial system.”<sup>2</sup>

Yet by August 7, signs of a wider credit crunch were emerging, and Bernanke's Fed began to cut the federal funds rate. Losses continued to pile up in the financial sector, and as credit seized up, the Fed continued to cut interest rates into 2008 (**Exhibit 3**).

The interest rate cuts were not sufficient to stem the tide of a financial crisis. Many lenders held mortgage-backed securities on their balance sheets, and declines in the values of these assets led to the collapse of three of the five big investment banks by the end of 2008. Other lenders grew increasingly worried that borrowers would not be able to repay their loans and slowed new loan issuance, which reinforced the effects of falling asset prices. As a consequence, borrowing and lending declined sharply (see **Exhibit 4** for the money multiplier), leading to the largest recession since the Great Depression.

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<sup>1</sup> “Monetary Policy Report – February 2020,” Board of Governors of the Federal Reserve System, February 2020, <https://www.federalreserve.gov/monetarypolicy/2020-02-mp-report-summary.htm> (accessed Sept. 15, 2020).

<sup>2</sup> Ben S. Bernanke, “The Subprime Mortgage Market,” Board of Governors of the Federal Reserve System, May 17, 2007, <https://www.federalreserve.gov/newsevents/speech/bernanke20070517a.htm> (accessed Sept. 15, 2020).

Policymakers were faced with a dilemma. A massive program of monetary and fiscal stimulus would be necessary to mitigate the crisis. But the scale of stimulus that was needed would undoubtedly end up helping many of the actors—banks and insurance companies—that had underestimated risk in the housing market in the first place and in doing so contributed to the evolving crisis. If the government let large banks and insurance companies fail, it would send a signal that firms would be accountable (now and in the future) for the downside of risks they took. But in the absence of wide-scale government intervention, many Americans who had not engaged in excessive risk-taking would suffer the consequences. Should the government bail out those that contributed to the crisis in hopes of saving the economy, or should it avoid large-scale interventions?

### Policy Response<sup>3</sup>

Memories of the Great Depression were influential in determining the ultimate policy path. Bernanke had studied the Great Depression in detail, and was acutely aware of how severe the crisis could become if the government failed to act. On March 16, 2008, the Federal Open Market Committee (FOMC) held an emergency meeting regarding the imminent collapse of Bear Stearns, a large investment bank. The FOMC pushed the limits of its legal authority by agreeing to finance the purchase of Bear Stearns by JPMorgan Chase & Co. Six months later, another investment bank, Lehman Brothers, likewise faced imminent collapse, but this time the Fed was unable or unwilling to provide a bailout. Stock markets reeled (**Exhibit 5**) and unemployment continued to skyrocket (**Exhibit 6**).

In response, Bernanke spearheaded an unprecedented expansion of the monetary base (**Exhibit 1**). In November, the Fed announced plans to purchase up to \$600 billion in financial assets. The program—referred to as quantitative easing (QE) by market participants—was unprecedented in its scale and its scope. Prior to the financial crises, the Fed had held primarily short-term Treasury debt. But under QE, the Fed would purchase mortgage-related assets (e.g., mortgage-backed securities and the debt of mortgage lenders) in addition to Treasury debt. In early 2009, the Fed would expand QE to include over \$1 trillion in mortgage-related assets and over \$300 billion in longer-term Treasury debt.

While many viewed the unprecedented monetary expansion as necessary, others worried that it would lead to excessive inflation (see **Exhibit 7** for various inflation measures). Jeffrey Lacker, president of the Federal Reserve Bank of Richmond, summarized these concerns in a speech to the Charlotte Chamber of Commerce:<sup>4</sup>

The perception of inflation risk could be particularly pertinent to the current recovery, given the massive and unprecedented expansion in bank reserves that has occurred, and the widespread market commentary expressing uncertainty over whether the Federal Reserve is willing and able to promptly reverse that expansion...If we hope to keep inflation in check, we cannot be paralyzed by patches of lingering weakness, which could persist well into the recovery.

Meanwhile, the US Treasury administered the Troubled Asset Relief Program (TARP). Created by the Emergency Economic Stabilization Act of 2008, TARP authorized the Treasury to purchase up to \$700 billion of “troubled assets,” which were defined to include “financial instrument that the Secretary, after consultation with the Chairman of the Board of Governors of the Federal Reserve System, determines the purchase of which is necessary to promote financial market stability.”<sup>5</sup> TARP did not involve the direct purchase of goods or services—and therefore did not directly increase GDP—but its objective was to indirectly increase GDP by stabilizing asset markets and easing the flow of credit.

<sup>3</sup> This section includes excerpts from Daniel Murphy, “Jerome Powell: Navigating a New Course?,” UVA-GEM-0165 (Charlottesville, VA: Darden Business Publishing, 2018).

<sup>4</sup> “Uh-Oh: One by One, The Fed’s Inflation Hawks Are Speaking Up,” *Business Insider*, December 2, 2009, <https://www.businessinsider.com/feds-lacker-joins-philadelphias-plossner-in-fed-excess-liquidity-dissent-panel-2009-12> (accessed Sept. 15, 2020).

<sup>5</sup> “The Troubled Asset Relief Program: Report on Transactions through December 31, 2008,” Congressional Budget Office, January 16, 2009, <https://www.cbo.gov/publication/41754> (accessed Sept. 15, 2020).

In addition to programs directed at credit markets, the government also engaged in direct fiscal stimulus. A month after taking office in January 2009, newly elected US president Barack Obama signed the American Recovery and Reinvestment Act (ARRA), a stimulus package of approximately \$800 billion that included a combination of tax cuts and direct spending. The ARRA, which was among the largest stimulus packages in American history, was highly controversial. Some prominent economists, including Paul Krugman, argued that the stimulus measure was too small relative to the \$2.9 trillion output gap.<sup>6</sup> Meanwhile, around 200 economists, including Nobel laureates, signed a full-page advertisement in the *Wall Street Journal* and *New York Times* opposing the stimulus measure.<sup>7</sup> One subsequent study of ARRA estimated that it saved over two million jobs between 2009 and 2010, or approximately 1.6% of pre-ARRA nonfarm employment.<sup>8</sup> Another study estimated that the ARRA prevented a further 2% decline in GDP growth in 2009, but that its effects could have been larger had the bill focused more on direct spending.<sup>9</sup>

By 2010, the economy had emerged from the recession, perhaps due to the monetary and fiscal stimulus measures. But the recovery was tepid, and in 2011, the economy hit a soft patch. Had prior stimulus measures been counterproductive? Or would things have been much worse without them? In either case, by 2011, the ARRA stimulus was wearing off, and government spending stopped growing for the first time in decades, due primarily to the decline in defense spending associated with demilitarization in Iraq and Afghanistan (see **Exhibit 8** for direct measures of government spending and the overall US budget balance).

In response to slowing growth, Bernanke announced a second round of QE—QE2—in which the Fed would become the proud owner of another \$600 billion in Treasury securities by the second quarter of 2011. By some estimates, the Fed had surpassed the People’s Bank of China as the single largest holder of US Treasury securities. Then in September 2012, the Fed announced QE3: the Fed would increase its holdings of longer-term securities by about \$85 billion per month.

The effect of these policies on the Fed’s balance sheet was striking. In August 2008, the Fed’s entire balance sheet totaled \$895 billion. By mid-March 2015, the Fed owned almost double that in mortgage-backed securities alone (\$1.74 trillion), as well as \$2.46 trillion in Treasury bonds and notes, and it had a bloated balance sheet that approached \$4.5 trillion.<sup>10</sup> Some were less than enamored with the Bernanke Fed’s policies. Campbell Harvey, a leading finance professor, summarized results from a survey of CFOs:

This is stark evidence that QE3 would be a wasted effort...The CFOs are saying that it is naïve for the Fed to think that dropping interest rates will spur investment in current economic conditions...The survey’s bottom line is that the Fed has run out of bullets. The best thing they can do is to foster stability.<sup>11</sup>

Others, such as Eric Rosengren of the Federal Reserve Bank of Boston, wanted the Fed to do more to support the struggling US economy:

Mr. Rosengren likened the economy to a swimmer treading water and getting nowhere. “That calls for a more substantive action than we’ve taken to date,” he said. “We need a pro-growth monetary policy.” Treading water, he added, was “not sufficient.” Mr. Rosengren said the Fed should buy more mortgage-

<sup>6</sup> “Nobel Laureate Paul Krugman: Too Little Stimulus in Stimulus Plan,” Knowledge @ Wharton, February 19, 2009, <https://knowledge.wharton.upenn.edu/article/nobel-laureate-paul-krugman-too-little-stimulus-in-stimulus-plan/> (accessed Jun. 3, 2019).

<sup>7</sup> “With All Due Respect Mr. President, That Is Not True,” Cato Institute, [https://web.archive.org/web/20090203170743/http://cato.org/special/stimulus09/cato\\_stimulus.pdf](https://web.archive.org/web/20090203170743/http://cato.org/special/stimulus09/cato_stimulus.pdf) (accessed Jun. 3, 2019).

<sup>8</sup> Daniel J. Wilson, “Fiscal Spending Jobs Multipliers: Evidence from the 2009 American Recovery and Reinvestment Act,” *American Economic Journal: Economic Policy* 4, no. 3 (2012): 251–82.

<sup>9</sup> Gerald A. Carlino, “Did the Fiscal Stimulus Work?,” Federal Reserve Bank of Philadelphia, Q1 2017, [https://www.philadelphiafed.org/-/media/research-and-data/publications/economic-insights/2017/q1/eiq117\\_did-the-fiscal-stimulus-work.pdf?pla=en](https://www.philadelphiafed.org/-/media/research-and-data/publications/economic-insights/2017/q1/eiq117_did-the-fiscal-stimulus-work.pdf?pla=en) (accessed Jun. 3, 2019).

<sup>10</sup> The size of composition of the Fed’s balance sheet is readily available at <http://www.federalreserve.gov/releases/h41/Current> (accessed Mar. 23, 2015). Data for any week back to June 1996 are also available from that site.

<sup>11</sup> “CFOs: Hiring and Spending Plans Weaken, Fed Policy Viewed as Ineffective,” Duke University Office of News & Communications news release, September 11, 2012, <http://www.cfosurvey.org/12q4/PressRelease.pdf> (accessed Apr. 3, 2015).

backed securities and possibly U.S. Treasury securities in an open-ended program, and stated that it will continue to buy bonds “until we start seeing some pretty significant improvements in growth and income.”<sup>12</sup>

Despite Bernanke’s aggressive expansion of the monetary base, some of its new policies were not gaining traction. As a result, money growth was not increasing as much as the Fed had hoped because banks were hoarding excess reserves (or were potential borrowers just disinterested in loans?), which kept the money multiplier from increasing (see **Exhibit 4**). The traction Bernanke had hoped for was not materializing—in large part, according to Bernanke, because increasing the base had a very limited effect when households and firms would not spend (and/or when banks were unwilling to lend).

Bernanke had argued many times during his tenure that expansionary fiscal policy was necessary, but he had no control over Congress or fiscal policy. And while there was some fiscal stimulus in the form of the ARRA during Bernanke’s tenure, it did not appear to be sufficient to bring output back to potential (**Exhibit 9**).

One of the primary impediments to additional fiscal stimulus was concerns about ballooning public debt (**Exhibit 10**). Economist Marty Feldstein captured these concerns in a 2010 paper, claiming, “The U.S. national debt is the major challenge facing American economic policy.”<sup>13</sup> Echoing these sentiments from across the Atlantic, UK Chancellor of the Exchequer George Osborne asserted, “[w]e have to move away from an economic model that was based on unsustainable private and public debt... There is no choice between going for growth today and dealing with our debts tomorrow. Indeed we will not have meaningful growth unless we show we can deal with our debts.”<sup>14</sup>

In response to concerns about rising public debt, Congress had tied its own hands with the Budget Control Act of 2011, which imposed a debt ceiling that would go into effect in 2013, in the absence of bipartisan legislation to reduce the budget deficit. The budget cuts that ultimately went into effect in March 2013 applied broadly to defense and nondefense categories of the budget. Along with balanced-budget requirements among US states, the budget cuts were later estimated to have reduced GDP growth by 1.5 percentage points in 2013.<sup>15</sup>

## The Pandemic Crisis

Economic growth hovered around 2% for the remainder of the decade. While growth was lower than average during the boom decade of the 1990s, it was at least consistently positive. The steady trajectory of GDP and mild inflation hinted that Powell’s Fed could focus on nuanced adjustments to maintain its objectives rather than the large-scale interventions that had characterized the early part of the decade. But what was otherwise a rather sanguine economic environment would soon be thrown asunder.

On January 15, 2020, the World Health Organization was tracking over 200 cases of pneumonia that were clustered in Wuhan, China, and had caused 6 fatalities.<sup>16</sup> The cause of the respiratory illness soon became known as COVID-19, a novel coronavirus. The severity of symptoms varied across individuals, with the elderly and those with preexisting medical conditions the most likely to die from the virus. The virus was highly contagious,

<sup>12</sup> John Hilsenrath, “Fed Official Calls for Bond Buying,” *Wall Street Journal*, August 7, 2012.

<sup>13</sup> Martin S. Feldstein, “Preventing a National Debt Explosion” (working paper no. 16451, National Bureau of Economic Research, Cambridge, MA, October 2010).

<sup>14</sup> George Osborne, “Mais Lecture – A New Economic Model,” SayIt: Conservative Party Speeches, February 24, 2010.

<sup>15</sup> David Cashin, Jamie Lenney, Byron Lutz, and William Peterman, “Fiscal Policy and Aggregate Demand in the U.S. Before, During, and Following the Great Recession,” Finance and Economics Discussion Series 2017-061, Washington: Board of Governors of the Federal Reserve System, 2017.

<sup>16</sup> Steve Chaplin, “COVID-19: A Brief History and Treatments in Development,” Wiley Online Library, May 21, 2020, <https://onlinelibrary.wiley.com/doi/10.1002/psb.1843> (accessed Sept. 15, 2020).

causing a proliferation of victims. Later in the month, cases of the virus were reported in Italy; by late February, the virus had spread globally, with over 83,000 confirmed cases.<sup>17</sup>

The virus caught many global leaders by surprise. While countries such as Korea and Singapore reacted with swift measures to restrict activity that could spread the virus, others took a more lax approach. On February 24, US president Donald Trump tweeted: “The Coronavirus is very much under control in the USA. We are in contact with everyone and all relevant countries. CDC & World Health have been working hard and very smart. Stock Market starting to look very good to me!”<sup>18</sup> And four days later, Trump predicted that the virus would disappear. Perhaps due to this optimism, the United States lagged in taking preventive measures, and by late March, stood out as the country with the largest number of confirmed cases (see **Exhibit 11** for COVID-19 cases in the United States).<sup>19</sup>

On March 13, Trump declared a national emergency, and three days later he announced social distancing guidelines, recommending that Americans avoid travel, bars and restaurants, and gatherings of more than 10 people. The guidelines were not legal mandates, leaving it up to local governments to decide whether to impose lockdown measures. Following the example of countries such as Italy, Spain, and France, some local governments in the United States imposed shelter-at-home orders and other restrictions on social and economic activity.<sup>20</sup>

Many of the restrictions were motivated by a concern that hospital capacity would otherwise be overwhelmed by the surge in patients. Epidemiological models predicted that in the absence of social distancing and other restrictions, by mid-summer the number of critically ill patients would have been over 30 times the number of available hospital beds.<sup>21</sup> The goal of the restrictions was to “flatten the curve” of critical illness. Preventing a surge in critically ill patients would—it was hoped—spread the need for hospital services over time so demand for critical care would not exceed hospital capacity at any point in time.

## Policy Response to the Pandemic

Restrictions on travel and other services had severe economic consequences, with drastic declines in employment, especially in the hospitality industry. Total employment in April was over 12% lower than it had been during that month in the prior year and remained low for the subsequent months (**Exhibit 12**). Employment in the hospitality industry plummeted by over 50% in some parts of the country (**Exhibit 13** shows hospitality employment declines across the United States), and GDP plummeted (**Exhibit 14**).

The cause of the ensuing recession was unlike any of the causes of other recessions in recent decades. Whereas other recent US recessions reflected households’ and firms’ lack of desire to spend, in this case Americans would have spent on services had health concerns and associated restrictions not prevented them from doing so. In this sense, the recession reflected a medical—rather than economic—crisis.

Despite the medical origin of the crisis, economic forces had the potential to exacerbate the recession. Firms and workers in affected industries faced the risk of losing their revenues and incomes. As firms’ revenues

<sup>17</sup> “Coronavirus Disease 2019 (COVID-19): Situation Report – 39,” World Health Organization, February 28, 2020, [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200228-sitrep-39-covid-19.pdf?sfvrsn=5bbf3e7d\\_4](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200228-sitrep-39-covid-19.pdf?sfvrsn=5bbf3e7d_4) (accessed Sept. 15, 2020).

<sup>18</sup> Donald J. Trump (@realDonaldTrump), “The Coronavirus is very much under control in the USA...,” Twitter, February 24, 2020, 4:42 p.m., <https://twitter.com/realdonaldtrump/status/1232058127740174339?lang=en> (accessed Sept. 15, 2020).

<sup>19</sup> Donald G. McNeil Jr., “The U.S. Now Leads the World in Confirmed Coronavirus Cases,” *New York Times*, March 28, 2020, <https://www.nytimes.com/2020/03/26/health/usa-coronavirus-cases.html> (accessed Mar. 27, 2020).

<sup>20</sup> Katie Rogers and Emily Cochrane, “Trump Urges Limits amid Pandemic, but Stops Short of National Mandates,” *New York Times*, March 16, 2020, <https://www.nytimes.com/2020/03/16/us/politics/trump-coronavirus-guidelines.html> (accessed Sept. 15, 2020).

<sup>21</sup> See Figure 2 in “Report 9: Impact of Non-Pharmaceutical Interventions (NPIs) to Reduce COVID-19 Mortality and Healthcare Demand,” Imperial College COVID-19 Response Team, March 16, 2020, <https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf> (accessed Oct. 15, 2020).

decreased, many would be unable to service their debt and lease payments. And as households' incomes fell, many would be forced to miss rental and mortgage payments. As some households and firms missed rental and debt payments, others to whom the payments were owed would also lose their income. In the absence of massive social assistance, sharp declines in income had the potential to prolong the recession and push many households to the brink of hunger and homelessness.

Indeed, early evidence in the pandemic depicted large employment and income losses, especially for low-income households. The effects of the restrictions on low-income households were exacerbated by voluntary reductions in spending at service establishments by high-income households.<sup>22</sup> While higher-income workers maintained their jobs (many of which could be performed in a socially distanced setting), they also cut their spending, which led to large income losses among low-income households. And while low-income workers were more likely to lose their jobs due to spending cuts, they also were the most vulnerable to catching COVID-19. African American, Hispanic, and Latino COVID-19 cases and deaths far exceeded their share of the US population.<sup>23</sup> Disparities in the effects of the virus mirrored broader socioeconomic disparities, as people in these groups had the fewest economic resources (see **Exhibit 15** for average wealth by racial group) and were more likely to suffer other adverse social outcomes. An extensive body of research had related these adverse outcomes to a long history of discrimination.<sup>24</sup>

With these consequences in mind, policymakers responded with forceful stimulus measures. For the second time in as many decades, the Fed invoked Section 13(3) of the Federal Reserve Act, which authorized the extension of credit to nonbank firms.<sup>25</sup> The ensuing expansion of the monetary base overshadowed even the prior rounds of QE, which were unprecedented actions at the time. The expansion consisted of various programs directed at easing credit in various sectors of the economy:<sup>26</sup>

- Through the Primary Dealer Credit Facility, the Fed offered loans of up to 90 days maturity to large financial institutions.
- Through various Corporate Credit Facilities, the Fed lent directly to corporations and purchased corporate debt.
- The Main Street Lending Program, announced in April, permitted the Fed to directly lend to a broader range of businesses.
- The Fed supported lending to households, consumers, and small businesses through the Term Asset-Backed Securities Loan Facility.
- Through the Municipal Liquidity Facility, the Fed offered loans to cities and US states.

<sup>22</sup> See, for example, Tomaz Cajner et al., "The U.S. Labor Market during the Beginning of the Pandemic Recession" (working paper no. 27159, National Bureau of Economic Research, Cambridge, MA, May 2020). For evidence on the economic effects of COVID-19, see Raj Chetty, John N. Friedman, Nathaniel Hendren, and Michael Stepner, "How Did COVID-19 and Stabilization Policies Affect Spending and Employment? A New Real-Time Economic Tracker Based on Private Sector Data" (working paper no. 27431, National Bureau of Economic Research, Cambridge, MA, June 2020). For a formal economic model that captures prominent features of the crisis, including effects on low-income households, see Alan J. Auerbach, Yuriy Gorodnichenko, and Daniel Murphy, "Inequality, Fiscal Policy and COVID19 Restrictions in a Demand-Determined Economy" (working paper no. 27366, National Bureau of Economic Research, Cambridge, MA, June 2020).

<sup>23</sup> Daniel Wood, "As Pandemic Deaths Add Up, Racial Disparities Persist—And in Some Cases Worsen," NPR, September 23, 2020, <https://www.npr.org/sections/health-shots/2020/09/23/914427907/as-pandemic-deaths-add-up-racial-disparities-persist-and-in-some-cases-worsen> (accessed Oct. 15, 2020).

<sup>24</sup> For discussion and review, see Bradley L. Hardy, Trevon D. Logan, and John Parman, "The Historical Role of Race and Policy for Regional Inequality," Hamilton Project, September 28, 2018, [https://www.hamiltonproject.org/papers/the\\_historical\\_role\\_of\\_race\\_and\\_policy\\_for\\_regional\\_inequality? ga=2.137714739.2030506881.166041607-0-328364948.1635881474](https://www.hamiltonproject.org/papers/the_historical_role_of_race_and_policy_for_regional_inequality? ga=2.137714739.2030506881.166041607-0-328364948.1635881474) (accessed Aug. 23, 2022).

<sup>25</sup> "Federal Reserve: Emergency Lending," Congressional Research Service, March 27, 2020, <https://fas.org/sgp/crs/misc/R44185.pdf> (accessed Sept. 15, 2020).

<sup>26</sup> Jeffrey Cheng, David Skidmore, and David Wessel, "What's the Fed Doing in Response to the COVID-19 Crisis? What More Could It Do?," *Brookings*, July 17, 2020, <https://www.brookings.edu/research/fed-response-to-covid19/> (accessed Sept. 15, 2020).

By mid-June, the Fed held over \$6.1 trillion in assets. As a point of comparison, annual GDP in the United States in 2019 was \$21 trillion.

The Fed's actions were met with both criticism and applause. Former US Labor Secretary Robert Reich captured the sentiments of those who felt the Fed was helping corporations at the expense of people:<sup>27</sup> "Big corporations have done very well, and their chief executives and major shareholders have been bailed out, either directly by the Treasury, or indirectly by the Federal Reserve board." Senator Sheldon Whitehouse from Rhode Island echoed these sentiments: "People making \$40,000 a year who are not in a position to pay for lobbyists, lawyers and polling firms [or] contribute to big trade associations and muscle their way around, they get left behind."<sup>28</sup>

Powell responded to such criticism by highlighting the adverse effects a collapse in the financial sector would have for Americans, including those with low income. He stated, "We're not focused on moving asset prices in a particular direction at all. It's just, we want markets to be working and I think partly as a result of what we've done, they are working."

A credit crunch was only one potential economic side effect of the pandemic. Even if financial markets stabilized and credit flowed to those who required it, the social distancing restrictions implied large declines in income, especially for workers in the service sector. To counteract the income loss for households, Congress passed the CARES Act, which authorized over \$2 trillion in fiscal transfers, the largest such program in American history. Among the provisions of the act were:<sup>29</sup>

- rebate payments of up to \$1,200 per adult,
- transfers to small businesses that maintain their payroll (the Paycheck Protection Program),
- expansion of unemployment benefits, and
- transfers to state governments.

These stimulus measures helped many households cover housing payments and other bills. But they were not sufficient to prevent a spike in households relying on assistance from food banks and pantries for meals. Food banks across the country reported surges in visitors, with many people turned away due to lack of supplies.<sup>30</sup>

By many measures, the actions taken by the Central bank prevented an even more catastrophic recession.<sup>31</sup> But as had been the case with the Fed's response to the financial crisis, many worried that the stimulus was setting the stage for a surge in inflation. Morgan Stanley's chief economist Chetan Ahya expressed these sentiments:<sup>32</sup> "Just as the consensus underestimated the disinflationary trends of the past 30 years, it is at risk of underappreciating the inflation threat...I would argue that the driving forces of inflation are already aligned and a regime shift is under way."

<sup>27</sup> James Politi, James Fontanella-Khan, and Ortenca Aliaj, "Why the US Pandemic Response Risks Widening the Economic Divide," *Financial Times*, June 18, 2020.

<sup>28</sup> Politi, Fontanella-Khan, and Aliaj.

<sup>29</sup> Sharon Parrott, Chad Stone, Chye-Ching Huang, Michael Leachman, Peggy Bailey, Aviva Aron-Dine, Stacy Dean, and LaDonna Pavetti, "CARES Act Includes Essential Measures to Respond to Public Health, Economic Crises, but More Will Be Needed," Center on Budget and Policy Priorities, March 27, 2020, <https://www.cbpp.org/research/economy/cares-act-includes-essential-measures-to-respond-to-public-health-economic-crises> (accessed Sept. 15, 2020).

<sup>30</sup> Li Zhou and Kainaz Amaria, "The Current Hunger Crisis in the US, in Photos," *Vox*, May 9, 2020, <https://www.vox.com/2020/5/9/21251895/food-banks-lines-pandemic>; and Tracey Tully, "Food Lines a Mile Long in America's Second-Wealthiest State," *New York Times*, April 30, 2020, <https://www.nytimes.com/2020/04/30/nyregion/coronavirus-nj-hunger.html> (both accessed Sept. 15, 2020).

<sup>31</sup> See the July 2020 Brookings Papers on Economic Activity for estimates of the effects of stimulus measures on credit, household income, consumer spending, and employment.

<sup>32</sup> Tommy Stubbington, "Investors Warn Covid-19 Crisis Is Paving the Way for Inflation," *Financial Times*, May 15, 2020, <https://www.ft.com/content/6394aab8-e8f7-4c20-b563-6683e7505201> (accessed Sept. 15, 2020).

And while inflation had remained subdued over the past decade despite predictions otherwise, the argument for building inflation pressures in the current environment was bolstered by the fact that the pandemic shock—unlike the financial crisis—represented an adverse supply shock as workers in many industries could not work—either because they were sick or because they worked in sectors affected by social distancing restrictions. Some economists suggested that while the Global Financial Crisis of 2008 was best represented as a pure aggregate demand shock, the pandemic crisis was a combination of adverse aggregate supply and adverse aggregate demand shocks.<sup>33</sup> In that sense, whether inflation spiked in the short term depended on the prevalence of supply shocks relative to demand shocks.

Supply shortages ultimately affected not only the production of medical personal protective equipment, but also the production of other consumer staples. In April, infections at meat processing plants led many to close. In response, Trump signed an executive order compelling meat producers to remain open. Trump invoked the Defense Production Act, arguing that meat plants were an essential part of America's infrastructure.<sup>34</sup>

### The Second Wave and Powell's Fed

As new COVID-19 cases declined into the summer and local governments lifted restrictions on economic activity, employment picked up. Had the trend continued, the hit to public finances might have been confined to the (whopping) \$2 trillion. But in July, as local governments eased restrictions and in some cases encouraged citizens to spend on restaurants and travel, COVID-19 cases in the United States surged again (**Exhibit 11**). And while the initial stimulus package received bipartisan support, there was far less appetite for the massive hole in public finances that would accompany additional fiscal stimulus measures. As of early September, Congress had yet to agree on any new stimulus measures, in spite of the fact that the expansion of unemployment benefits expired over a month prior.

While additional fiscal stimulus stalled in Congress, the Fed issued a statement formalizing what had been a gradual shift in emphasis toward the employment part of its dual mandate. Motivated in large part by the prior decade's average inflation below the Fed's 2% target, Powell stated in an August 27 speech at the Federal Reserve Bank of Kansas City's economic Symposium,

With regard to the employment side of our mandate, our revised statement emphasizes that maximum employment is a broad-based and inclusive goal. This change reflects our appreciation for the benefits of a strong labor market, particularly for many in low- and moderate-income communities. In addition, our revised statement says that our policy decision will be informed by our "assessments of the *shortfalls* of employment from its maximum level" rather than by "*deviations* from its maximum level" as in our previous statement. This change may appear subtle, but it reflects our view that a robust job market can be sustained without causing an outbreak of inflation.<sup>35</sup>

Bernanke expressed his approval: "They believe, and I agree, that there are substantial social benefits from a strong labor market. Under this strategy, they will not take any steps to cool the labor market unless there is clear evidence of inflationary pressure."<sup>36</sup> But others disagreed with this approach to monetary policy. For example, Willem Buiter, a former chief economist at Citigroup, thought the Fed could do more to support the economy during the pandemic without resorting to changes in its monetary policy framework:

<sup>33</sup> David Baqaee and Emmanuel Farhi, "Supply and Demand in Disaggregated Keynesian Economies with an Application to the Covid-19 Crisis" (working paper no. 27152, National Bureau of Economic Research, Cambridge, MA, May 2020).

<sup>34</sup> Taylor Telford, Kimberly Kindy, and Jacob Bogage, "Trump Orders Meat Plants to Stay Open in Pandemic," *Washington Post*, April 29, 2020, <https://www.washingtonpost.com/business/2020/04/28/trump-meat-plants-dpa/> (accessed Sept. 15, 2020).

<sup>35</sup> Jerome H. Powell, "New Economic Challenges and the Fed's Monetary Policy Review," Board of Governors of the Federal Reserve System, August 27, 2020, <https://www.federalreserve.gov/newsevents/speech/powell20200827a.htm> (accessed Sept. 15, 2020).

<sup>36</sup> Nick Timiraos, "Fed Approves Shift on Inflation Goal, Ushering in Long Era of Low Rates," *Wall Street Journal*, August 27, 2020, <https://www.wsj.com/articles/feds-powell-headlines-virtual-jackson-hole-economic-conference-11598486400> (accessed Sept. 15, 2020).

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The Fed has an unequaled ability to enlarge its balance sheet and increase its risk...But it simply has not done enough during the pandemic. The recent changes to the US monetary policy framework are ill-advised and potentially harmful. They also fail to address a number of other crucial problems. The Fed should scrap this new approach, and instead make full and effective use of the policy instruments it has—or could have—at its disposal.

It was unclear whether additional increases in the Fed's (already massive!) balance sheet could further improve the economy in the face of the pandemic. The Fed had already taken massive steps to ease credit markets, and some analyses suggested that what the economy needed more than access to credit was the direct boost to earnings and income that fiscal stimulus would provide.<sup>37</sup> But Congress could not agree on a new fiscal stimulus measure, and it appeared that any agreement could be stalled until at least after the November presidential election. In a speech to the National Association for Business Economics, Powell took the opportunity to emphasize the importance of additional fiscal measures:<sup>38</sup>

Too little support would lead to a weak recovery, creating unnecessary hardship for households and businesses...The recovery will be stronger and move faster if monetary policy and fiscal policy continue to work side by side to provide support to the economy until it is clearly out of the woods...A long period of unnecessarily slow progress could continue to exacerbate existing disparities in our economy. That would be tragic, especially in light of our country's progress on these issues in the years leading up to the pandemic.

While the country waited for additional fiscal stimulus, there remained tremendous uncertainty over the trajectory of the pandemic, as well as whether governments would continue to impose social distancing restrictions. The restrictions imposed at the beginning of the pandemic had helped to “flatten the curve” and generally prevent hospital capacity from being overwhelmed. But they had not succeeded in containing the spread of the virus, perhaps because they were not sufficiently strict, consistent, or well-enforced. By some estimates, imposing strict immediate restrictions could have contained the virus.<sup>39</sup> The economic contraction would have been sharp but short-lived. By failing to impose such measures, governments had accepted a longer-lasting pandemic with more spread-out (and ultimately much larger) economic costs.

But with the economic hardship of the pandemic mounting, it was unlikely that there would be popular support for a new set of strict economic and social restrictions (even if they were short-lived). There was no easy path out of the pandemic, and one could only hope that a vaccine and other medical advancements would arrive to help alleviate the health and economic crises caused by COVID-19.

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<sup>37</sup> For evidence that loans to small businesses had a relatively mild effect on employment, see Chetty et al. For a theoretical assessment of the merits of fiscal stimulus relative to credit expansion, see Auerbach et al.

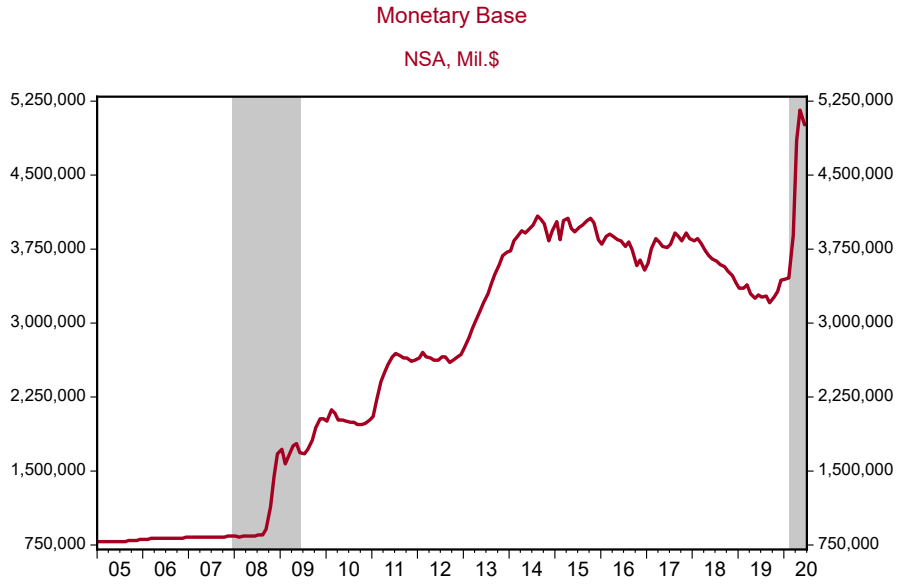
<sup>38</sup> James Politi, “Powell Says Too Little Stimulus Is Worse Than Too Much,” *Financial Times*, October 6, 2020.

<sup>39</sup> Zachary Bethune and Anton Korinek, “COVID-19 Infection Externalities: Pursuing Herd Immunity or Containment?,” UVA Economics and Darden, NBER, and CEPR, May 31, 2020.

Exhibit 1

Policy Responses to Modern Economic Crises

Monetary Base

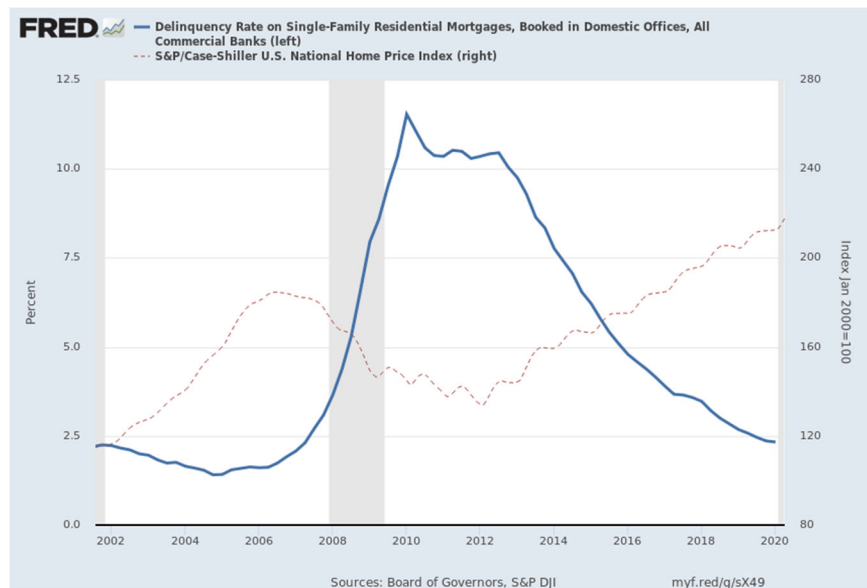


Source: Federal Reserve Board/Haver Analytics

Exhibit 2

Policy Responses to Modern Economic Crises

Housing Market Indicators: Mortgage Delinquency Rates and the Case-Shiller National Home Price Index



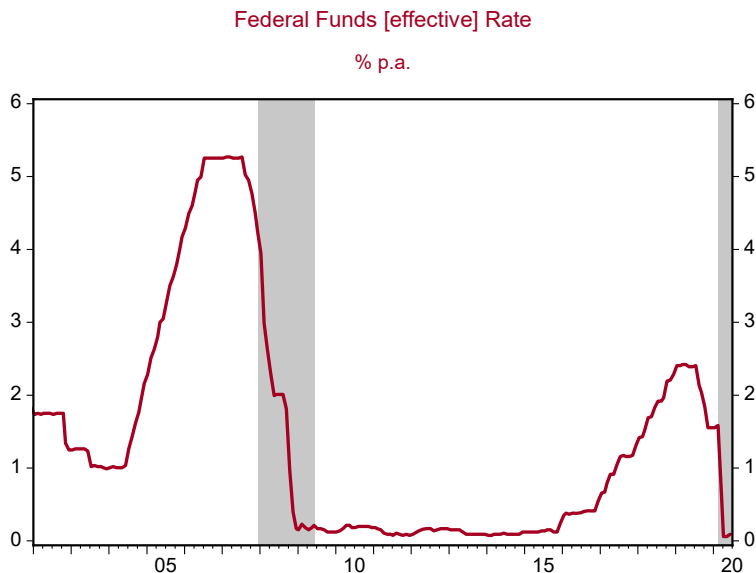
Sources: Board of Governors, S&P DJI

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Exhibit 3

Policy Responses to Modern Economic Crises

Federal Funds Rate



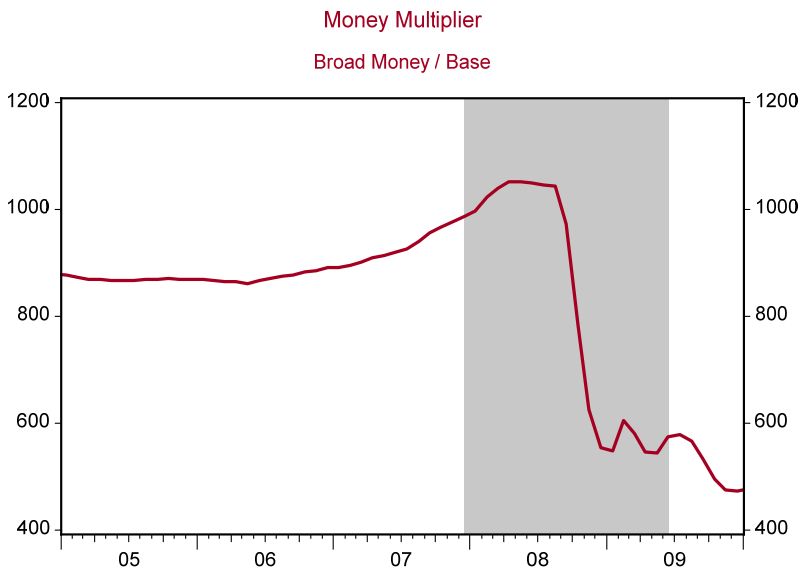
Source: Federal Reserve Board/Haver Analytics

Note: Data through 2020Q1.

Exhibit 4

Policy Responses to Modern Economic Crises

Money Multiplier

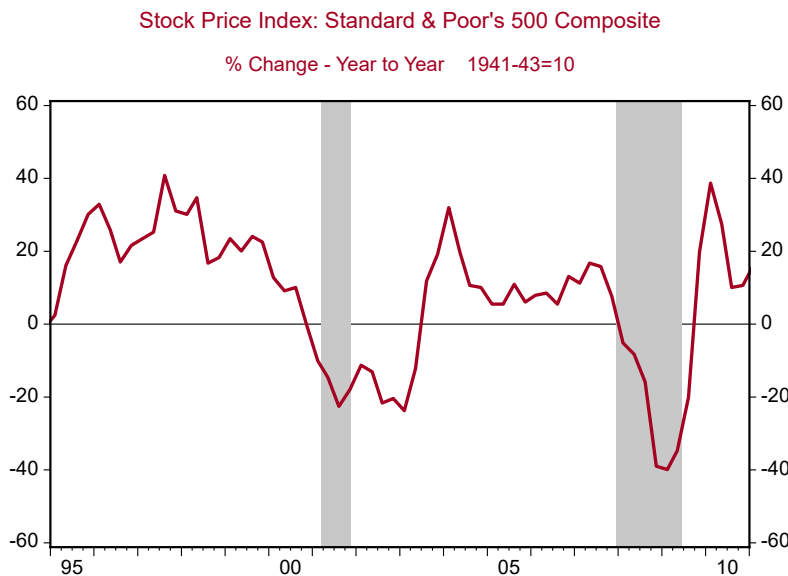


Source: Haver Analytics

Exhibit 5

Policy Responses to Modern Economic Crises

Stock Market Index

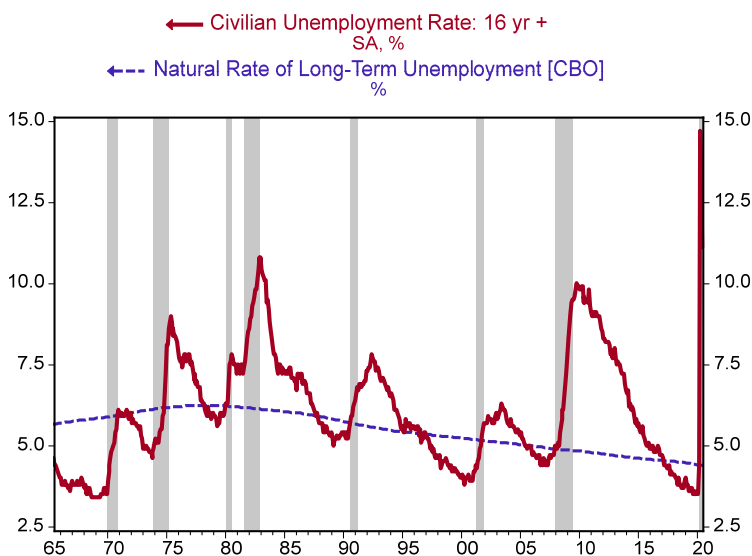


Source: Standard & Poor's/Haver Analytics

Exhibit 6

Policy Responses to Modern Economic Crises

Unemployment

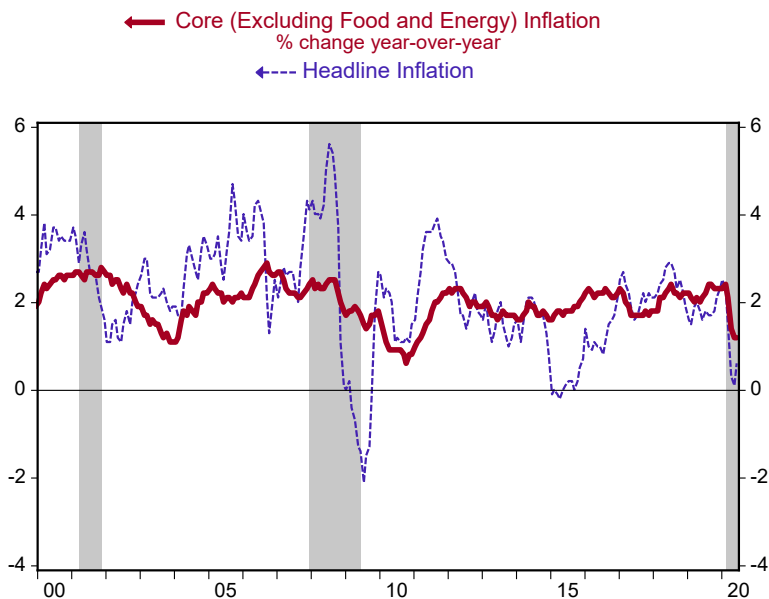


Sources: BLS, CBO/Haver  
 Note: Data through August 2020.

Exhibit 7

Policy Responses to Modern Economic Crises

Inflation



Source: Bureau of Labor Statistics/Haver Analytics

Note: Data through June 2020.

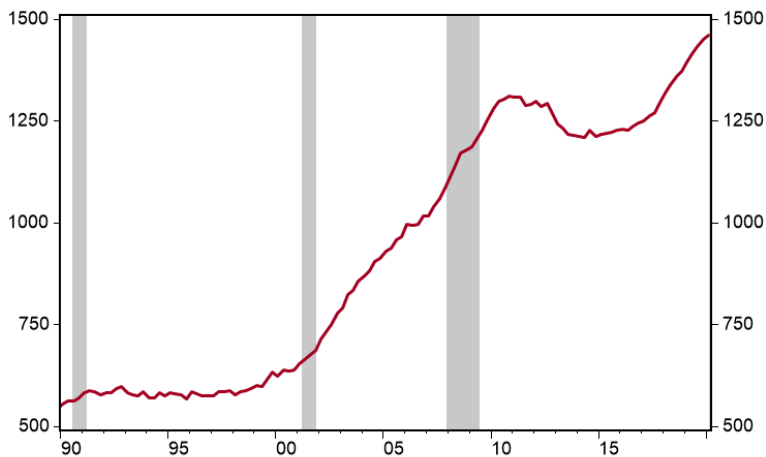
Exhibit 8

Policy Responses to Modern Economic Crises

Federal Government Spending and Public Debt

Federal Government Consumption & Gross Investment

SA SAAR, BIL\$



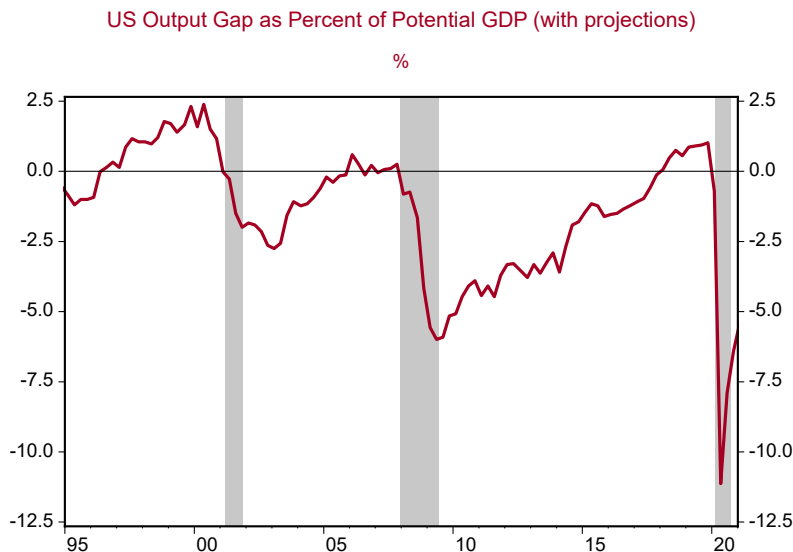
Source: Bureau of Economic Analysis/Haver Analytics

Note: Data are through 2019Q4.

Exhibit 9

**Policy Responses to Modern Economic Crises**

Output Gap



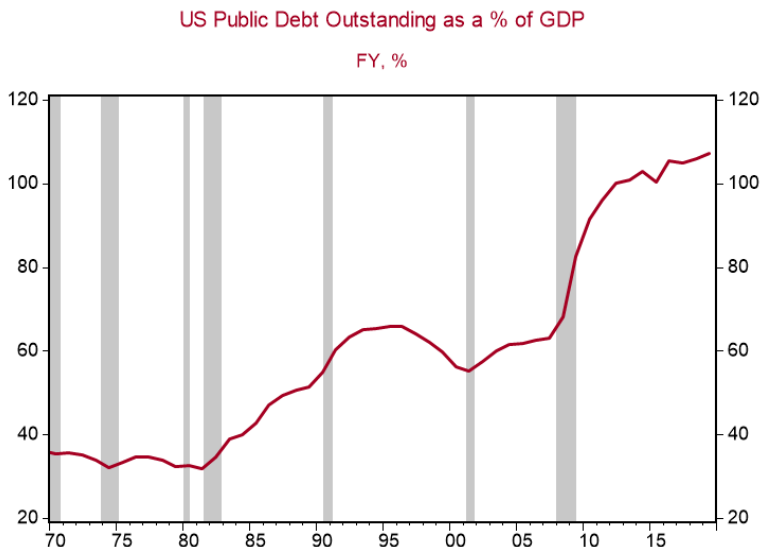
Source: Congressional Budget Office/Haver Analytics

Note: Data are from 1995Q1 to 2020Q4 (projected).

Exhibit 10

**Policy Responses to Modern Economic Crises**

US Public Debt Outstanding as a % of GDP



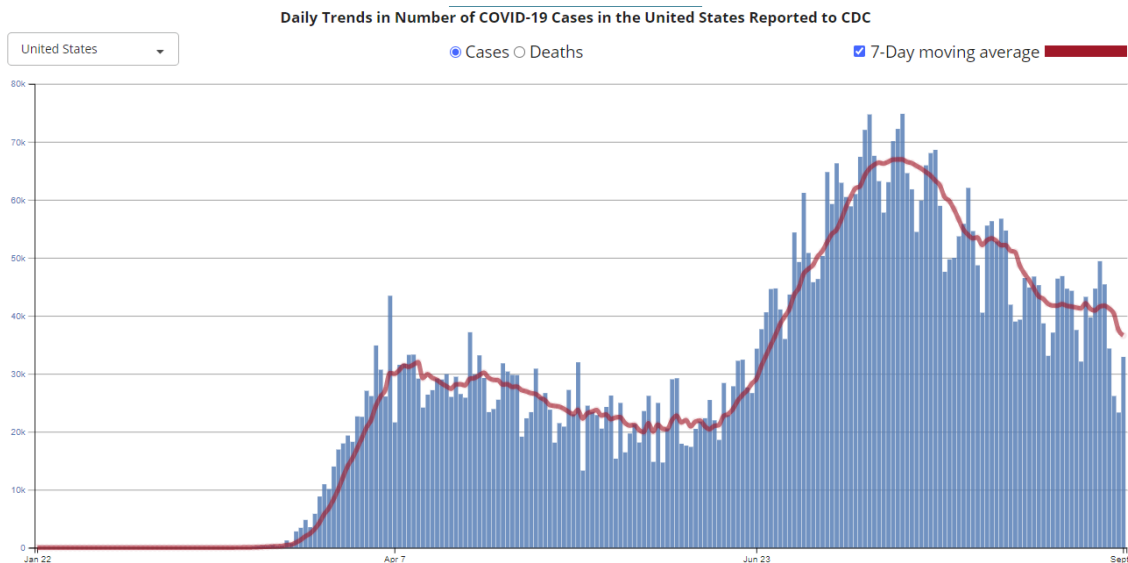
Source: U.S. Treasury/Office of Management and Budget/Haver Analytics

Note: Data are from 1970 to 2019.

Exhibit 11

Policy Responses to Modern Economic Crises

COVID-19 Cases in the United States

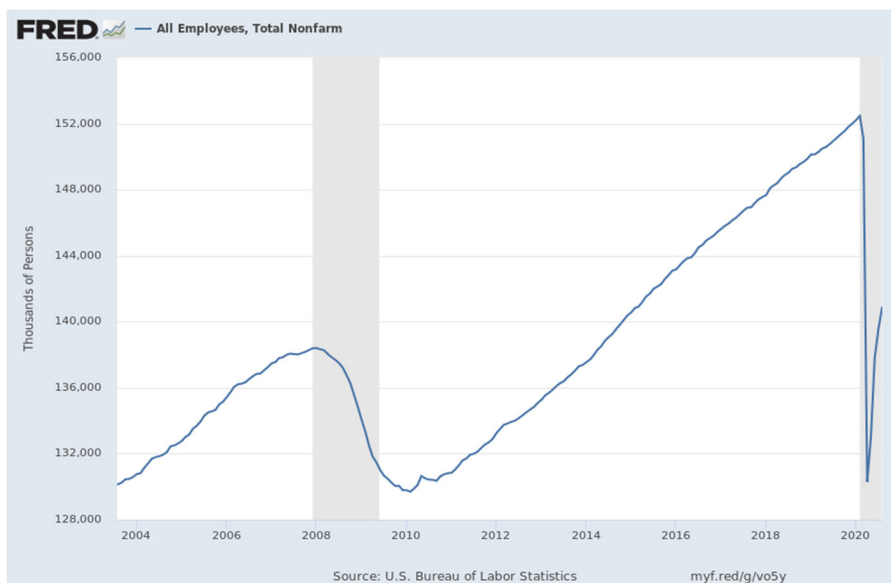


Source: "Trends in Number of COVID-19 Cases in the US Reported to CDC, by State/Territory," Centers for Disease Control and Prevention, <https://covid.cdc.gov/covid-data-tracker/#trends> (accessed Sept. 15, 2020).

Exhibit 12

Policy Responses to Modern Economic Crises

Employment



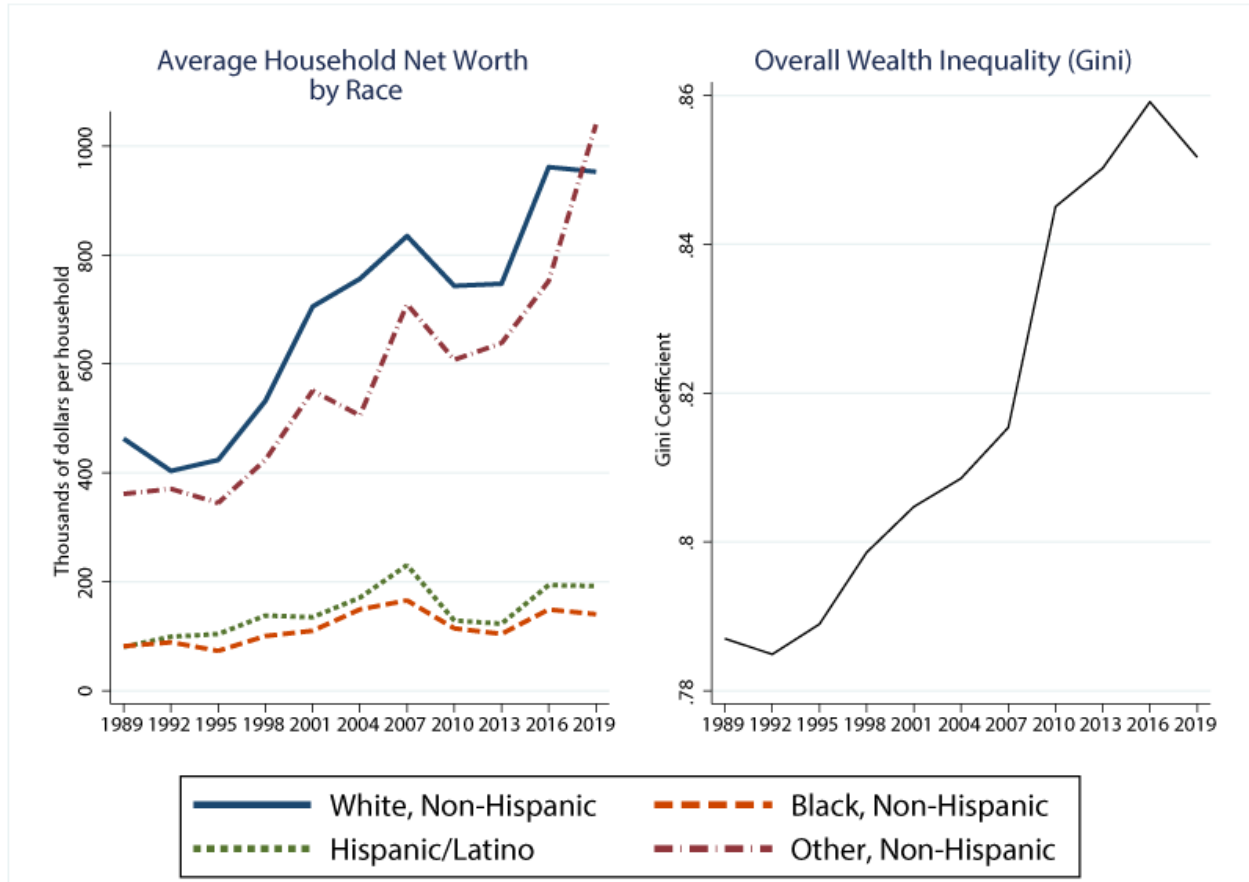
Note: Data through August 2020.



Exhibit 15

Policy Responses to Modern Economic Crises

Household Net Worth and Income, by Race and Ethnicity



Source: Survey of Consumer Finances.