UC Berkeley

California Journal of Politics and Policy

Title

The Unprecedented Federal Fiscal Policy Response to the COVID-19 Pandemic and Its Impact on State Budgets

Permalink

https://escholarship.org/uc/item/9df708cc

Journal

California Journal of Politics and Policy, 14(1)

Author

Dean, Phil

Publication Date

2022

DOI

10.5070/P2cjpp14157320

Copyright Information

Copyright 2022 by the author(s). All rights reserved unless otherwise indicated. Contact the author(s) for any necessary permissions. Learn more at https://escholarship.org/terms

Peer reviewed

The Unprecedented Federal Fiscal Policy Response to the COVID-19 Pandemic and Its Impact on State Budgets

Phil Dean University of Utah phil.dean@utah.edu

Abstract

In response to the COVID-19 pandemic, within a year's time span, the federal government enacted unprecedented fiscal response bills totaling over \$5 trillion. This response amount equates to about 25% of U.S. GDP in 2020. These massive allocations funded direct pandemic public health responses, along with vast fiscal support for households, firms, and state and local governments. This enormous response supported state and local government budgets both indirectly and directly, resulting in a marked budgetary shift from anticipated shortfalls to significant revenue growth and inflationary budget pressures.

Introduction

This article focuses on (a) the federal government's 2020 and 2021 fiscal policy (spending and taxing) responses to the COVID-19 pandemic and (b) the initial impacts of these fiscal responses, particularly on western states. While the Federal Reserve's expansionary monetary policy (money supply increase and corresponding interest rate reductions) also played a significant role in stabilizing the U.S. economy through the pandemic, the massive scale of the federal government's fiscal response to the COVID-19 pandemic (about 25% of 2020 GDP) far exceeded its fiscal response to other economic downturns.

This massive and rapid federal fiscal response stabilized household and company budgets, which in turn indirectly firmed up state budgets as income taxes and sales taxes stabilized and grew. In addition, the federal government provided direct aid to states and their local governments to help navigate the pandemic. At the same time, the massive fiscal stimulus contributed to current economic and budget challenges, such as goods shortages and inflation.

Dealing with an Unknown Virus

COVID-19 is a respiratory disease caused by the SARS-CoV-2 virus, a new (or novel) coronavirus strain not previously seen in humans. The rapid spread of this contagious new virus throughout the world from the end of 2019 through early 2022 caused massive economic disruption, as people and organizations grappled with an initially-unpredictable virus that threatened to overrun health systems. Heated debates about the appropriate role of public policy

and private decisions in response to the pandemic continue today, including the role of fiscal policy.

The pandemic's economic consequences differed from previous recessions in recent history because governments required certain businesses to either suspend or dramatically alter operations, such as by mandating physical distancing requirements or prohibiting or limiting facility use or capacity. Unlike other recessions where a market-driven shock drove economic declines, the government's direct actions contributed to and even mandated a portion of the precipitous drop in economic activity. That is, people voluntarily determining economic engagement levels did not account for all of the economic activity decline.

Although beyond this paper's scope, significant questions remain about how much economic activity would have dropped absent these government mandates to suspend or dramatically alter basic societal operations. However, it seems clear that some sizable level of market-driven economic shock would have occurred in response to the pandemic absent government mandates, but that government responses also restricted voluntary activity that would have otherwise occurred even with the virus' prevalence.

Pandemic Declared and Massive Economic Disruption Begins

On March 11, 2020, the World Health Organization declared a global pandemic. That night in the United States, the National Basketball Association, which held games that evening, suspended all future games after several players tested positive for the virus. Beginning the following day, in quick succession, collegiate and professional sports leagues, arts organizations, and educational institutions suspended games, shows, and classes involving large gatherings of people. In the following weeks, states issued stay-at-home orders or advisory guidance, and travel bans and other restrictions were enacted (Centers for Disease Control and Prevention 2020, and Moreland, Herlihy, and Tynan 2020). Suddenly, what had for many been a noteworthy but somewhat obscure world news item took center stage in U.S. daily life.

Business revenues quickly plummeted when firms and governments could not conduct normal operations and, in some cases, had to completely close. In response, firms immediately began laying off employees at a massive scale, dramatically increasing weekly unemployment insurance claims to unprecedented levels. As Figure 1 shows, the staggering immediate layoff levels dwarfed previous unemployment insurance initial claim activity, including claims during the devastating Great Recession (2007-2009).

7 6 5 4 3 2 1 0 1970 1980 1990 2000 2010 2020

Figure 1 U.S. Initial Unemployment Insurance Claims, 1970-2022

Shaded areas indicate U.S. recessions

Source: U.S. Employment and Training Administration, accessed via fred.stlouisfed.org (FRED)

Seeing this massive increase in unemployment, states anticipated revenue drops closely tied to declining household and firm income (reducing income taxes) and private sector spending declines (reducing sales and fuel taxes), coupled with anticipated state spending increases for social support programs, such as Medicaid.

In the following weeks and months, states and local governments identified and began closing anticipated budget gaps.¹ According to the National Association of State Budget Officers (NASBO), state executive budget recommendations released in December 2019 and January 2020 initially projected average FY 2021 General Fund increases of nearly 3.5%. Actual enacted FY 2021 budget averages in the following months dropped by about 5.5% from these initial recommendations. However, because budget timelines vary (including some states that budget biennially), states enacted budgets at different time points during the pandemic. Some states enacting budgets in May and June 2020 projected severe year-over revenue declines of 20% or more (NASBO 2020).

¹ See, for example, Wall Street Journal, "Recession Forces Spending Cuts on States, Cities Hit by Coronavirus,"

(https://www.wsj.com/articles/u-s-states-face-biggest-cash-crisis-since-the-great-depression-11603910750).

⁽https://www.wsj.com/articles/recession-forces-spending-cuts-on-states-cities-hit-by-coronavirus-11594200600?mod=article_inline),
"Coronavirus-Hit State Budgets Create a Drag on U.S. Recovery," (https://www.wsj.com/articles/coronavirus-hit-state-budgets-create-a-drag-on-u-s-recovery-11597224600?mod=article_inline), and "U.S. States Face Biggest Cash Crisis Since the Great Depression,"

Massive Federal Fiscal Response

In the chaotic early pandemic environment, when many predicted a Great-Depression-like economic calamity,² the federal government initiated its major fiscal response. Congress acted remarkably quickly, enacting a massive initial federal fiscal response in March and April 2020, followed by additional massive supports in late 2020 and early 2021 (see Figure 2 and Table 1).

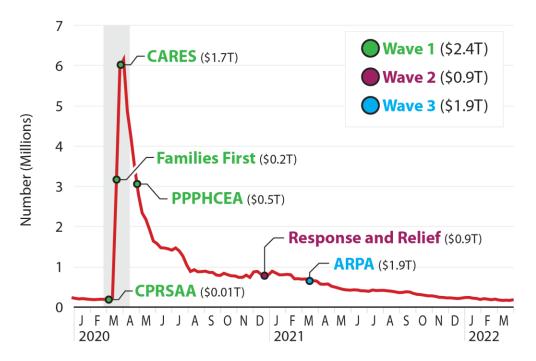


Figure 2 – U.S. Initial Unemployment Insurance Claims and Major Fiscal Response Bills, 2020 – 2022

Source: Congress.gov and U.S. Employment and Training Administration, accessed via fred.stlouisfed.org (FRED)

As context for the over \$5 trillion in federal fiscal supports enacted within a one-year period but flowing over several years, this total amount equates to nearly 25% of 2020 U.S. Gross Domestic Product (GDP) of about \$21 trillion (U.S. Bureau of Economic Analysis). As additional context, federal spending in the fiscal year prior to the pandemic (2019) totaled \$4.4 trillion (Congressional Budget Office 2020). That is, pandemic federal fiscal responses exceeded by a fair margin a full year's worth of regular federal spending.

This massive federal fiscal response can be thought of as coming in three distinct funding waves, including (1) an initial Wave 1 in March and April 2020 in the very early stages the U.S. pandemic, (2) a year-end Wave 2 in December 2020 under the Trump administration, and (3) a 2021 response Wave 3 under the Biden administration. Later sections highlight major provisions of each funding wave that directly and indirectly supported state budgets.

² See, for example, Bloomberg, "Mnuchin Warns Virus Could Yield 20% Jobless Rate Without Action," (https://www.bloomberg.com/news/articles/2020-03-17/mnuchin-warns-virus-could-yield-20-jobless-rate-without-action-k7wheob8?srnd=markets-vp) and International Monetary Fund blog, "The Great Lockdown: Worst Economic Downturn Since the Great Depression," (https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/)

Table 1 – Major Federal Fiscal Response Bills During COVID-19 Pandemic

Timing	Bill – Enactment Date	Amount (% of 2020 GDP)
Wave 1 Early Pandemic Response (March – April 2020) Trump Administration	 Coronavirus Preparedness and Response Supplemental Appropriations Act (CPRSAA) – March 6, 2020 (\$0.01 trillion) Vote – House: 415-2 Senate: 96-1 Families First Coronavirus Response Act (Families First, or FFCRA) – March 18, 2020 (\$0.2 trillion) Vote – House: 363-40 Senate: 90-8 Coronavirus Aid, Relief, and Economic Security Act (CARES) – March 27, 2020 (\$1.7 trillion)³ Vote – House: Voice vote Senate: 96-0 Paycheck Protection Program and Health Care Enhancement Act (PPPHCEA) – April 24, 2020 (\$0.5 trillion) Vote – House: 388-5 Senate: Voice vote 	\$2.4 trillion (11.5%)
Wave 2 2020 Year-End Response (December 2020) Trump Administration	Coronavirus Response and Relief Supplemental Appropriations Act (Response and Relief, or CRRSAA), a component of the Consolidated Appropriations Act, 2021 – December 27, 2020 Vote – House: 359-53 Senate: 92-6	\$0.9 trillion (4.2%)
Wave 3 2021 Response (March 2021) Biden Administration	American Rescue Plan Act (ARPA) – March 11, 2021 Vote – House: 220-211 Senate: 50-49	\$1.9 trillion (8.9%)
TOTAL		\$5.1 trillion (24.5%)

^{*}numbers may not sum precisely due to rounding

Source: Congress.gov and U.S. Bureau of Economic Analysis

Comparison with Recent Recessions

While the Federal Reserve's monetary policy served as the most-used economic stabilization tool in prior recent recessions, expansionary federal fiscal policy (along with expansionary monetary policy) served as a major contributor to the United States' stabilization and recovery from major economic disruptions of the COVID-19 pandemic. As explained later, this massive fiscal and monetary response also contributed to the U.S.'s current elevated inflation level.

Figure 3 compares federal fiscal responses to recent recessions as a percentage of U.S. GDP. Although pandemic funding amounts, particularly from the Wave 3 American Rescue Plan Act (ARPA), will be spent over the span of several years, the largest funding bills were all enacted within a single year of each other, between March 2020 and March 2021.

³ The CARES Act authorized over \$450 billion in U.S. Treasury-backed Federal Reserve lending facilities, including a Municipal Liquidity Facility for state and local governments, which are excluded from these figures because they were offset with assets, align more with monetary policy, and were barely used.

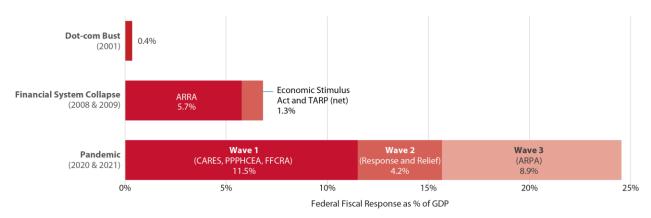


Figure 3 – Federal Fiscal Response to Recent Recessions as % of U.S. GDP

Source: Congressional Budget Office and U.S. Bureau of Economic Analysis

By way of comparison, in response to the financial collapse leading to the Great Recession, the Economic Stimulus Act enacted in February 2008, the net fiscal impact of the Troubled Asset Relief Program (TARP)⁴ enacted in October 2008, and the American Recovery and Reinvestment Act (ARRA) enacted in February 2009 altogether provided federal economic stimulus amounts totaling about \$1 trillion (Congressional Budget Office 2008, 2015, 2021). While ARRA's nearly \$840 billion price tag in particular was considered very large compared to previous fiscal stimulus amounts, that amount relative to GDP pales in comparison to the pandemic fiscal response. For example, just the pandemic-specific unemployment insurance benefit increases (above traditional benefit amounts) alone total over \$670 billion (U.S. Department of Labor 2022).

Similarly, the fiscal policy response to the 2001 dot-com recession included nearly \$40 billion in taxpayer rebate checks sent as a short-term economic stimulus effort that was part of a broader long-term tax cut package in the Economic Growth and Tax Relief Reconciliation Act (Shapiro and Slemrod 2003). As shown, these stimulus rebates also appear miniscule compared to the pandemic response.

Major Federal Funding Waves

The following sections address the three major federal fiscal response waves for the COVID-19 pandemic. The large expansionary federal fiscal policy response included direct aid to households and firms, which supported state and local government revenue streams, as well as providing funds that directly flowed to states and local governments.

While the largest Wave 1 bills (CARES and PPPHCEA) had broad bipartisan support in Congress, support for major fiscal stimulus waned with each successive wave. The Wave 3 American Rescue Plan Act passed over a major partisan divide, with the sole vote across party lines cast against the bill.

⁴ Although initially authorized at \$700 billion, this full TARP amount was never allocated and later statutorily reduced. Allocation amounts were offset by assets sold later to help cover initial outlays. The Congressional Budget Office now estimates the net impact of TARP at just \$31 billion.

Wave 1 – Early Pandemic Response (March and April 2020)

The \$2.4 trillion Wave 1 of the federal fiscal response consisted of four bills passed early in the pandemic months when the most severe negative economic impacts occurred. The first two smaller bills focused much more on federal agencies and direct pandemic responses, while the third and fourth Wave 1 bills, including the enormous \$1.7 trillion CARES Act, had a much broader scope that included major economic responses.

Unlike many previous federal actions passed well into economic downturns, these bills passed within days and weeks of the March 11, 2020 pandemic declaration. While that funding did not all necessarily hit the economy instantaneously, much of it did arrive within the first weeks and months. This early response gave households, firms, and governments better ability to plan their way through the pandemic, and helped to avert some of the initially-anticipated disastrous state and local government budget impacts.

First Wave 1 Bill - Coronavirus Preparedness and Response (\$0.01 trillion)

The Coronavirus Preparedness and Response Supplemental Appropriations Act, enacted on March 6, 2020 (several days prior to the official pandemic declaration), provided a comparatively small \$8 billion amount (Congressional Budget Office 2020). This bill funded federal agencies for direct public health responses, such as research, review, and purchase of tests, vaccines, medical devices, and therapeutics; telehealth funding for Medicaid providers; Small Business Association (SBA) economic disaster loans; and various international efforts. Notably, as the pandemic's enormous scope became clearer in the following weeks, the two following major bills grew by orders of magnitude, with the CARES Act passed several weeks later measuring in the trillions rather than single-digit billions.

Second Wave 1 Bill - Families First Coronavirus Response Act (\$0.2 trillion) and IRS Income Tax Filing Deadline Shift

The Families First Coronavirus Response Act (FFCRA), enacted on March 18, 2020, was a much larger bill, costing an estimated \$192 billion, split roughly evenly between spending increases and tax reductions (Congressional Budget Office 2020). Major provisions include additional public health funding for testing and other public health response items; extended unemployment insurance benefits for laid-off workers; enhanced Supplemental Nutritional Assistance Program (SNAP), Women's Infants and Children (WIC), and other food and nutritional benefits; and tax credits to offset a new mandatory paid sick leave policy applicable to most employers when an employee or close family member required quarantine. This bill largely targeted allocations to offset anticipated direct pandemic impacts, but went beyond the CPRSAA enacted 12 days earlier by allocating funds to not only federal agencies, but also to households, firms, and governments.

State FMAP Increase. Importantly for states, the bill also increased states' traditional Medicaid federal medical assistance percentages (FMAP) by 6.2 percentage points, along with other Medicaid changes. By reducing states' share of Medicaid costs and temporarily shifting that cost

to the federal government, this provision provided immediate budget relief to states expecting a pending increase in Medicaid costs for new enrollees along with dramatic state revenue declines corresponding to dramatic economic activity declines. However, this provision did limit states' ability to disenroll Medicaid recipients through the end of the declared pandemic, which increased future costs.

Income Tax Filing Deadline Delay. Although done administratively rather than by an act of Congress, on March 20, 2020 U.S. Treasury Secretary Mnuchin also shifted the Internal Revenue Service (IRS) income tax filing deadline from April 15, 2020 to July 15, 2020 (IRS 2020). While providing cash flow assistance to the households and firms remitting taxes, this action created fiscal challenges for states that impose income taxes because as a practical administrative matter, states conformed to this timing shift. For many states, this timing shift moved a sizable amount of income tax revenue from Fiscal Year 2020 into Fiscal Year 2021. Given the short time period remaining in Fiscal Year 2020, the timing shift left states scrambling to cut budgets or reallocate funds temporarily between fiscal years. Notably, the impacts of this income tax timing shift make year-over comparisons challenging for annual budget states with income taxes.

Third Wave 1 Bill – CARES Act (\$1.7 trillion)

The \$1.7 trillion CARES Act, by far the largest and most impactful Wave 1 bill, provided massive fiscal stimulus through a wide array of programs and particularly began to help panicked businesses in freefall survive the pandemic without continued massive layoffs. Enacted on March 27, 2020 (just 16 days after the pandemic declaration), the CARES Act includes too many provisions to cover in depth here, so only the largest and most impactful will be addressed.

State budgets benefitted from both direct and indirect impacts of CARES Act allocations. Direct state and local government aid came through a wide array of existing and new programs. In particular, state and local governments benefited from the flexible new Coronavirus Relief Fund, allocable by state and local policymakers, but subject to some limitations (Congressional Budget Office 2020).

Probably more importantly, providing large funding amounts to firms and households broadly supported economic activity, leading state and local revenues to detach, to some extent, from certain economic indicators such as the unemployment rate. In other words, state and local revenues did not decline as dramatically as unemployment increased. This is because federal aid indirectly benefited state budgets through secondary impacts from major economic programs such as the Paycheck Protection Program and Economic Injury Disaster Loans for businesses, direct household economic impact payments to most households from the Internal Revenue Service (IRS), and increased benefits for the unemployed through enhanced unemployment insurance benefits. As these programs broadly supported economic activity, state revenues quickly recovered.

State and Local Government Coronavirus Relief Funds

Providing flexible state and local government funding created significant controversy during all three waves of the federal fiscal response and was a major sticking point in bill negotiations.

Those supporting flexible funding highlighted significant state and local government direct pandemic responses and other growing costs such as Medicaid, as well as anticipated revenue losses stemming from declining economic activity and avoiding employee layoffs that would slow economic recovery. Those opposed voiced concerns about inappropriately taking advantage of the pandemic crisis to bail out state and local government spending mismanagement over decades, including not fully funding promised pension benefits.⁵

In addition to broad-based firm and household allocations detailed later that supported state General Fund revenues, the CARES Act allocated \$150 billion to the U.S. Treasury for Coronavirus Relief Fund (CRF) direct flexible allocations to states, local, tribal, and territorial governments based on population, subject to a \$1.25 billion combined state and local minimum allocation per state. Of the \$139 billion allocated to states, cities, and counties after \$11 billion in tribal and territorial allocations (see Table 2), 55% of the CRF funds were intended for states and 45% for cities and counties (U.S. Treasury 2022).

However, the U.S. Treasury only directly allocated funds to cities and counties with a population size over 500,000, with the remaining "local" funds allocated to states. The CARES Act did not explicitly require states to allocate to cities and counties the remaining "local" 45% funding share sent directly to states. However, many states did so (National Conference of State Legislatures 2022 and Paul G. Peterson Foundation 2022). CARES Act local government funding allocations also eased significant pressure on state budgets that would have otherwise occurred.

While states and local governments welcomed flexible CRF funds in the chaotic and uncertain environment of the early pandemic, funding requirements also created some challenges. One challenge related to fund use restrictions. Per specific statutory language, funds explicitly could not be used to offset government revenue declines and had to tie to a "necessary" response to the pandemic. U.S. Treasury guidance on "necessary" expenditures was not clear in the beginning and evolved over time, with the final formal guidance promulgated after the original due date for spending funds (U.S. Treasury 2021). Given the ongoing pandemic's enormous public health uncertainty, it was also unclear how much funding should be reserved specifically for direct public health response, such as disease treatment, testing, and contact tracing, and what portion should be allocated to economic or other responses, such as offsetting business impacts or providing housing assistance.

⁵ See, for example, media articles at https://www.vox.com/policy-and-politics/2020/3/23/21190764/senate-cloture-vote-coronavirus-fails, $\underline{https://www.nytimes.com/2020/03/25/us/politics/coronavirus-senate-deal.html, \underline{https://www.brookings.edu/blog/up-front/2020/03/23/how-front/2020/03/25/us/politics/coronavirus-senate-deal.html, \underline{https://www.brookings.edu/blog/up-front/2020/03/23/how-front/2020/03/25/us/politics/coronavirus-senate-deal.html, \underline{https://www.brookings.edu/blog/up-front/2020/03/23/how-front/2020/03/25/us/politics/coronavirus-senate-deal.html, \underline{https://www.brookings.edu/blog/up-front/2020/03/23/how-front/2020/03/25/us/politics/coronavirus-senate-deal.html, \underline{https://www.brookings.edu/blog/up-front/2020/03/23/how-front/2020/03/how-front/2020/03/how-front/2020/03/how-front/2020/03/how-front/2020/03/how-front/2020$ will-the-coronavirus-affect-state-and-local-government-budgets/, https://www.npr.org/sections/coronavirus-liveupdates/2020/12/08/944199072/democrats-and-some-republicans-push-to-add-stimulus-checks-to-covid-19-relief-bi, and https://www.marketplace.org/2020/10/06/aid-for-state-local-governments-sticking-point-federal-covid-19-stimulus/

Table 2 – Combined State, County, and City CARES Act Coronavirus Relief Fund (CRF) Allocations in Western States (\$\\$ in billions)

State and Local CRF	
Allocations, by State	Amount
Alaska	\$1.25
Arizona	\$2.82
California	\$15.32
Colorado	\$2.23
Hawaii	\$1.25
Idaho	\$1.25
Montana	\$1.25
Nevada	\$1.25
New Mexico	\$1.25
Oregon	\$1.64
Utah	\$1.25
Washington	\$2.95
Wyoming	\$1.25
U.S. Total	\$139

Source: U.S. Treasury

The originally-enacted December 30 spending deadline also created challenges. By the time CRF funds arrived beginning in April 2020, governments had about eight months to actually spend funds by constructively receiving goods and services. Although some government procurement provisions worked through expedited procurement processes, this was a very short time frame to (a) decide how to allocate funds to different purposes, (b) procure goods and services in an environment of supply chain disruptions and constrained labor availability, and (c) receive delivery of those goods and services prior to the statutory deadline.

Yet another challenge for CARES Act CRF and other one-time state and local funding streams relates to limitations the non-recurring nature of the funds put on potential fund uses. Many proposed uses would establish permanent programs with ongoing costs, such as funding permanent employees, whereas the federal revenues were only one-time. That is, because this funding was not expected to be permanently available, states and local governments that set up permanent programs using this one-time funding would face future structural budget deficits. This limited the scope of the types of budget items the funds could cover (such as pilot programs, equipment, buildings, and technology acquisition) for those intent on avoiding future budget problems.

Education Funding. Beyond the mostly-flexible state and local CRF allocations, the CARES Act specifically allocated funds to K-12 and higher education agencies, thereby reducing pressure on state budgets. Major programs included the Governor's Emergency Education Relief Fund (GEER), Elementary and Secondary School Emergency Relief Fund (ESSER), and Higher Education Emergency Relief Fund. Table 3 shows K-12 allocations for western states for all rounds of GEER and ESSER allocations, including later bills (U.S. Department of Education 2022). Separate higher education allocations through the Higher Education Emergency Relief Fund total \$76 billion.

Table 3 - K-12 Education GEER and ESSER Allocations to Western States (\$ in billions)

State	GEER (CARES)	ESSER (CARES)	ESSER (Response & Relief)	ESSER (ARPA)
Alaska	\$0.01	\$0.04	\$0.16	\$0.36
Arizona	\$0.07	\$0.28	\$1.15	\$2.58
California	\$0.36	\$1.65	\$6.71	\$15.07
Colorado	\$0.04	\$0.12	\$0.52	\$1.17
Hawaii	\$0.01	\$0.04	\$0.18	\$0.41
Idaho	\$0.02	\$0.05	\$0.20	\$0.44
Montana	\$0.01	\$0.04	\$0.17	\$0.38
Nevada	\$0.03	\$0.12	\$0.48	\$1.07
New Mexico	\$0.02	\$0.11	\$0.44	\$0.98
Oregon	\$0.03	\$0.12	\$0.50	\$1.12
Utah	\$0.03	\$0.07	\$0.27	\$0.62
Washington	\$0.06	\$0.21	\$0.82	\$1.85
Wyoming	\$0.005	\$0.03	\$0.14	\$0.30
U.S. Total	\$3	\$13	\$54	\$122

Source: U.S. Department of Education

Paycheck Protection Program (PPP) and Economic Injury Disaster Loans (EIDL). The Paycheck Protection Program provided a lifeline to businesses by making forgivable loans to firms that retained employees through the early pandemic. Spending funds on specific eligible expenses, particularly employee payroll, allowed the loan to become a grant. While operating more like a typical loan to be repaid, Economic Injury Disaster Loans provided low-interest working capital loans to pay business operating expenses and debt.

Including later allocations in other bills, these two business-oriented programs ultimately totaled \$1.1 trillion, including about \$800 billion in PPP loans (about \$700 billion of which has been forgiven), and over \$300 billion in EIDL loans. Table 4 shows PPP and EIDL loan amounts for western states allocated from the major fiscal response bills (U.S. Small Business Administration 2020, 2021, and 2022).

These two programs allowed employers to retain employees, particularly supporting state individual and corporate income tax revenue streams, as well as sales taxes relying on that income.

Table 4 – Paycheck Protection Program and Economic Injury Disaster Loans in Western States (\$ in billions)

State	2020 PPP	2021 PPP	EIDL	TOTAL
Alaska	\$1.3	\$0.7	\$0.7	\$2.7
Arizona	\$8.7	\$3.9	\$4.8	\$17.4
California	\$68.6	\$35.9	\$54.6	\$159.1
Colorado	\$10.4	\$4.7	\$4.8	\$19.9
Hawaii	\$2.5	\$1.4	\$1.5	\$5.4
Idaho	\$2.6	\$0.9	\$1.0	\$4.5
Montana	\$1.8	\$0.8	\$0.8	\$3.4
Nevada	\$4.2	\$2.8	\$3.3	\$10.3
New Mexico	\$2.3	\$1.1	\$1.2	\$4.6
Oregon	\$7.1	\$3.1	\$3.2	\$13.4
Utah	\$5.2	\$1.8	\$2.1	\$9.1
Washington	\$12.5	\$5.9	\$5.8	\$24.2
Wyoming	\$1.1	\$0.6	\$0.5	\$2.2
U.S. Total	\$525	\$278	\$305	\$1,108

*numbers may not sum precisely due to rounding

Source: U.S. Small Business Administration

Unemployment Insurance Benefit Expansions

Most employers are required to pay unemployment insurance taxes, which fund unemployment insurance benefits that are distributed to laid off employees who meet certain conditions. During the pandemic, the federal government, through the CARES Act and other fiscal response bills, augmented traditional unemployment insurance benefits.

These augmented benefits included an extended time period to claim benefits, allowing previously-ineligible gig workers to receive benefits, and providing a \$600 (and later \$300) weekly benefit increase—all above the traditional benefit, which on average replaces roughly half of wages. The over \$670 billion in increased allocations (see Table 5) stabilized household income streams and increased consumer purchasing power for those who lost their jobs or gig work, all of which improved state tax collections (U.S. Department of Labor 2022).

The initial \$600 weekly enhancement (which equates to a \$15 hourly increase on top of the traditional benefit for a forty-hour work week) in particular received widespread attention because of concerns about economic disincentives to work. For example, in the early months of the pandemic, Ganong, Noel, and Vavra (2020) estimated that 76% of workers were eligible for income replacement rates at or above 100% (meaning full income replacement or greater), with a median income replacement rate of 145% and those in the bottom two deciles of the income distribution eligible for an income replacement rate of over 200%.

In other words, rather than layoffs substantially decreasing incomes, layoffs actually increased incomes, particularly for those with lower pre-pandemic wages. After expiration of the initial \$600 weekly enhancement at the end of July 2020, the Trump administration supported a continued \$300 weekly benefit using workaround authority through the Federal Emergency Management Agency (FEMA). The later Response and Relief Act and ARPA bills statutorily

renewed the \$300 weekly benefit. Over half of the states opted to end the benefit toward the middle of 2021 prior to official program expiration, due to labor shortage concerns.⁶

Table 5 Unemployment Insurance Increases Above Traditional Unemployment Insurance in Western States (\$ in billions)

State	\$600 / \$300 weekly add-on benefit Federal Pandemic Unemployment Assistance (FPUC)	Self-employed independent contractors Pandemic Unemployment Assistance (PUA)	Extended benefit time period Pandemic Emergency Unemployment Compensation (PEUC)	Other	Total
Alaska	\$0.7	\$0.1	\$0.1	\$0.02	\$1.0
Arizona	\$8.6	\$2.7	\$0.8	\$0.1	\$12.2
California	\$87.3	\$32.1	\$12.1	\$3.0	\$134.5
Colorado	\$4.6	\$2.6	\$1.5	\$0.4	\$9.1
Hawaii	\$2.6	\$0.7	\$1.0	\$0.1	\$4.4
Idaho	\$0.7	\$0.1	\$0.1	\$0.02	\$1.0
Montana	\$0.8	\$0.2	\$0.1	\$0.03	\$1.1
Nevada	\$6.1	\$1.3	\$1.4	\$0.3	\$9.2
New Mexico	\$2.2	\$0.5	\$0.5	\$0.1	\$3.3
Oregon	\$5.2	\$1.1	\$1.4	\$0.2	\$7.9
Utah	\$1.4	\$0.1	\$0.2	\$0.05	\$1.4
Washington	\$9.5	\$2.5	\$2.7	\$0.6	\$15.3
Wyoming	\$0.2	\$0.03	\$0.05	\$0.01	\$0.3
U.S. Total	\$442	\$131	\$84	\$15	\$672

^{*}numbers may not sum precisely due to rounding

Source: U.S. Department of Labor

Household Economic Impact Payments. Another major CARES Act economic stabilization program administered by the IRS provided Economic Impact payments up to \$1,200 per adult and \$500 per child, for households below certain income levels. To exclude the highest income households, the bill reduced payments for individuals with adjusted gross income (AGI) greater than \$75,000 (\$150,000 for married couples filing a joint return). While not included in taxable income directly impacting income taxes, the economic impacts of these payments supported state revenues as they facilitated increased sales taxable spending and the incomes of businesses making those sales.

This CARES Act provision, which provided over \$270 billion directly to most U.S. households, represents the first of three rounds of direct broad-based pandemic economic impact payments to most U.S. households. Each round included different amounts for filers and their children, and different phaseout ranges for those with higher incomes. Although average payments varied slightly based on income and age mix in different states, on average, the three rounds of IRS economic impact payments provided about \$2,400 per person (or about \$6,300 per household).

⁶ See USA Today, "What states are ending federal unemployment benefits early? See who has cut the extra \$300 a week." (https://www.usatoday.com/story/money/2021/07/01/unemployment-benefits-covid-federal-aid-ending-early-many-states/7815341002/).

Table 6 shows the combined amounts of all three rounds of household economic impact payments in western states, totaling over \$800 billion nationally. As explained later, these amounts supported, and continue to support, consumer spending, saving, and debt reduction.

Table 6 – IRS Economic Impact Payments to Households in Western States (\$ in billions)

	2020 Census Population (millions)	Round 1 (CARES) \$1,200 per filer, \$500 per child	Round 2 (Response & Relief) \$600 per filer, \$600 per child	Round 3 (ARPA) \$1,400 per filer and dependent	TOTAL - Economic Impact Payments
Alaska	0.74	\$0.6	\$0.3	\$0.9	\$1.8
Arizona	7.16	\$5.9	\$3.1	\$8.7	\$17.7
California	39.58	\$29.6	\$15.4	\$43.5	\$88.5
Colorado	5.78	\$4.6	\$2.4	\$6.4	\$13.4
Hawaii	1.46	\$1.2	\$0.6	\$1.7	\$3.5
Idaho	1.84	\$1.6	\$0.9	\$2.3	\$4.8
Montana	1.09	\$1.0	\$0.5	\$1.4	\$2.9
Nevada	3.11	\$2.6	\$1.4	\$3.9	\$7.9
New Mexico	2.12	\$1.8	\$0.9	\$2.6	\$5.3
Oregon	4.24	\$3.6	\$1.8	\$5.0	\$10.4
Utah	3.28	\$2.6	\$1.4	\$3.9	\$7.9
Washington	7.72	\$6.1	\$3.2	\$8.6	\$17.9
Wyoming	0.58	\$0.5	\$0.3	\$0.7	\$1.5
US Total	331	\$271	\$141	\$390	\$802

Note: Additional amounts may be claimed through income tax credits if qualifying individuals did not receive direct payments

Source: Internal Revenue Service

Other Programs. The CARES Act made other significant allocations through a large number of new and existing programs, including \$150 billion set aside for health care providers, \$25 billion for transit agencies, and \$160 billion for tax changes related to income loss limitations, among many other provisions.

In addition to the \$1.7 trillion in spending and tax changes, the CARES Act authorized over \$450 billion in U.S. Treasury financial support for various Federal Reserve lending facilities to ensure liquidity for various large companies, smaller companies, nonprofits, and state and local governments. Ultimately, the vast majority of these lending authorizations went unused. This includes the Municipal Liquidity Facility for state and local governments that only transacted two loans with a value of \$1.7 billion, compared to the \$500 billion authorized by the Federal Reserve using both the CARES Act \$450 billion authorization and the Federal Reserve's own discretionary authority. Among all of the CARES-authorized lending facilities, only about 1% of capacity was utilized (U.S. Government Accountabilty Office 2022).

Fourth Wave 1 Bill - Paycheck Protection Program and Health Care Enhancement Act (PPPHCEA) - April 24, 2020 (\$0.5 trillion)

Following enactment of the CARES ACT, the Paycheck Protection Program quickly became oversubscribed, with some business applicants shut out of funds. About a month after passing the CARES Act, Congress passed the PPPHCEA, which increased business PPP funding allocations by about \$320 billion. In addition to other provisions, the bill also funded continued public health response efforts, providing \$75 billion in additional hospital funding and \$25 billion for COVID-19 testing (Congressional Budget Office 2020).

Wave 2 – Response and Relief Act (December 2020)

Building on the funding structure created in the CARES Act and other previous funding bills, the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) enacted on December 27, 2020 as part of the Consolidated Appropriations Act of 2021 allocated more fiscal support funds, largely through previously-created funding channels. By this time, significant economic recovery had occurred, but a COVID-19 surge dampened the economic outlook.

This bill allocated nearly \$870 billion (Congressional Budget Office 2021), including for the following programs:

- Over \$300 billion for business supports through PPP, EIDL, and similar programs (see Table 4 for major allocation amounts)
- Nearly \$120 billion to extend enhanced unemployment insurance benefits, at a weekly \$300 increase above the traditional benefit (see Table 5 for overall unemployment insurance summary)
- Nearly \$165 billion for additional direct IRS economic impact payments to households, including \$600 payments per filer and dependent child, with allocation amounts phasing out at incomes similar to those in the CARES Act (see Table 6 for allocation payment amounts)
- Over \$80 billion for K-12 and higher education (see Table 3 for K-12 allocations)
- Nearly \$80 billion for public health responses, including funds for vaccine purchase and mitigation, testing, contact tracing, and mitigation measures
- Over \$120 billion for other measures, including transportation, SNAP benefits, child care, rental assistance, and other programs.

Although passed very close to the CARES Act's previous December 30, 2020 deadline, the bill also extended for one year (until December 31, 2021) the deadline for state and local governments to spend CARES Act Coronavirus Relief Fund allocations.

Notably, the bill excluded new flexible aid for states and local governments. Over the previous months as the economy recovered, a partisan divide emerged regarding funding levels actually needed given strengthening state revenues. As early as April 2020, the National Governors Association had requested \$500 billion in addition to the CARES Act's \$150 billion allocation for state and local government aid (National Governors Association 2020). But many questioned the request level, particularly as state revenues recovered strongly, which was assisted in large part by massive federal fiscal stimulus.

Wave 3 – American Rescue Plan Act (March 2021)

After the change from the Trump administration to the Biden administration, the American Rescue Plan Act allocated an estimated \$1.9 trillion in spending and tax changes, making it the single largest fiscal response bill (Congressional Budget Office 2021). The bill passed on a nearly party line vote in both Houses of Congress, with the only member breaking ranks (Rep. Golden - D, Maine) voting against the bill (U.S. Congress 2021). As detailed later, by March 2021, significant economic recovery had occurred, prompting many to raise concerns about the magnitude of the bill and its various broad-based elements that were not focused specifically on those still in need. As discussed later, this included not only Republicans who opposed the bill, but some fellow Democrats.

Major allocations include the following:

- Over \$410 billion in economic impact payments to individuals (\$1,400 per filer and dependent), with steeper income phaseouts (see Table 6 for allocation payment amounts)
- \$350 billion in aid to state, local, territorial, and tribal governments (see Table 7)
- Over \$200 billion to further extend unemployment insurance benefits, at the weekly \$300 increase level in addition to traditional unemployment insurance benefits (see Table 5)
- Over \$175 billion for tax provisions (U.S Treasury 2021), including:
 - Expansions of the child tax credit, including increasing the credit amount from \$2,000 to \$3,000 per qualifying child, adding an additional \$600 for children under age 6 (for a total credit of \$3,600), allowing the credit for 17-year-old children, making the credit fully refundable, and providing advance payments on the credit from July to December 2021;
 - o Expanding the child and dependent care tax credit; and
 - o Expanding the earned income tax credit.
- Nearly \$175 billion for health-specific measures
- About \$170 billion in educational support (see Table 3 for K-12 education portion)
- Funding for a wide array of other programs, including targeted small business, rental, and mortgage assistance.

Coronavirus State and Local Fiscal Recovery Funds (SLFRF)

As mentioned above, the American Rescue Plan Act includes \$350 billion in aid to state, local, territorial, and tribal governments, which includes \$195 billion to states and the District of Columbia and \$130 billion to local governments.

Table 7 shows SLFRF allocations to the western states. Unlike the much shorter spending time period for CARES Act allocations, these funds are available for obligation through 2024 (final spending by 2026), with half of the funds distributed to state and local governments in May 2021 and the remainder to be sent in May 2022 (U.S. Treasury 2022).

Eligible funding uses include public health expenditures, addressing negative economic impacts from COVID-19 (such as impacts to households and businesses), replacing lost public sector revenue, providing premium pay to essential workers in critical infrastructure sectors, and investing in water, sewer, and broadband infrastructure. NASBO (2021) indicates that of the roughly 40% of funds initially allocated by states to different purposes as of the fall 2021 study

date, intended uses are as follows: revenue replacement (32%), negative economic impacts (27%), infrastructure (16%), services to disproportionately impacted communities (15%), public health (9%), and other uses (1%).

Table 7 – American Rescue Plan Act Coronavirus State and Local Fiscal Recovery Fund (SLFRF) Allocations to Western States and Local Governments (\$ in billions)

State	State	County	Metropolitan Cities	Other
Alaska	\$1.0	\$0.1	\$0.05	\$0.04
Arizona	\$4.2	\$1.4	\$1.0	\$0.2
California	\$27.0	\$7.7	\$7.0	\$1.2
Colorado	\$3.8	\$1.1	\$0.6	\$0.3
Hawaii	\$1.6	\$0.3	\$0.2	\$0.05
Idaho	\$1.1	\$0.3	\$0.1	\$0.1
Montana	\$0.9	\$0.2	\$0.05	\$0.1
Nevada	\$2.7	\$0.6	\$0.3	\$0.2
New Mexico	\$1.8	\$0.4	\$0.2	\$0.2
Oregon	\$2.6	\$0.8	\$0.4	\$0.2
Utah	\$1.4	\$0.6	\$0.3	\$0.2
Washington	\$4.4	\$1.5	\$0.8	\$0.4
Wyoming	\$1.1	\$0.1	\$0.02	\$0.05
U.S. Total	\$195	\$65	\$46	\$20

Source: U.S. Treasury

Of the estimated \$5.1 billion total federal fiscal response, discretionary aid to states, local, tribal, and territorial governments totals \$500 billion (about 10% of total federal fiscal response), including ARPA's \$350 billion for the Coronavirus State and Local Fiscal Recovery Fund and the CARES Act's \$150 billion for the Coronavirus Relief Fund. The federal government also provided additional program-specific grants to states and their local governments.

Strong Economic Recovery

As Figure 4 shows, the combined effect of people returning to more normal economic activity, governments easing restrictions, and expansionary fiscal and monetary policy helped the United States return to and now exceed pre-pandemic GDP per capita levels. However, these benefits are not evenly spread throughout society and have contributed to other economic challenges. This rapid economic recovery stabilized state budgets, leading to sizable revenue increases, even though revenue drops were initially anticipated given widespread layoffs.

60,000 56,000 52,000 Chained 2012 Dollars 48,000 44,000 40,000 36,000 32,000 28,000 24,000 20,000 1980 1990 2000 2010 2020 1970

Figure 4 - U.S. Real GDP Per Capita, 1970-2021

Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Economic Analysis, accessed via fred.stlouisfed.org (FRED)

For example, driven by indirect state budget fiscal stimulus impacts in the form of increased tax collections as economic activity quickly recovered, NASBO (2021) indicates that 47 states saw General Fund revenue collections exceed projections in FY 2021. By spurring additional demand for goods while supply chains remained constrained, the federal fiscal response also contributed to shortages of goods and inflation.

Incomes Increased During Pandemic

As businesses, particularly many goods-producing firms, received fiscal stabilization funds such as the Paycheck Protection Program, the firms not only received support to keep existing employees on the job, but began searching for additional employees as demand, spurred by consumers flush with cash, dramatically increased. This economic activity initially stabilized, then increased, state income tax revenues.

As households received unemployment insurance compensation and economic stimulus payments, this **increased** personal income in the second quarter of 2020 by 8% over the prior quarter and by nearly 11% over the prior year (U.S. Bureau of Economic Analysis 2022).

Households Using Stimulus Funds for Saving, Debt Reduction, and Spending

With these sizable income increases, households saved sizable amounts, paid down debt, and increased spending.

Belsie (2020) and Armantier et al. (2020) initially estimate that for Wave 1 direct stimulus allocations, households spent about 30-40%, saved about 30-35%, and paid down debt with about 30-35%. Armantier et al. (2021) further indicate that households planned to spend even less of Wave 2 and Wave 3 direct fiscal stimulus payments, instead focusing even more on saving and debt reduction. Although personal saving rates from current income have returned to more normal levels (see Figure 5), sizable amounts of accumulated savings remain available to consumers (see Figure 6). The timing of households spending these sizable savings remains uncertain, increasing uncertainty about the economic outlook and contributing to inflationary pressures.

Household debt service levels as a percentage of GDP dropped to multi-generational lows (see Figure 7), due in part to households using stimulus payments to pay down debt and to monetary policy allowing households to refinance into lower interest rate loans, particularly for mortgages. While savings are a one-time funding source, these debt reductions create future ongoing spending capacity likely to prop up future sales tax collections.

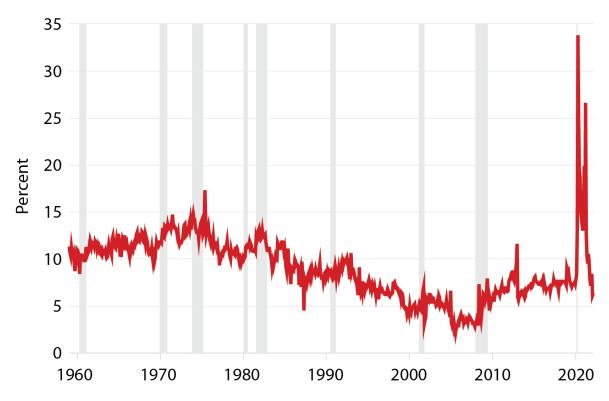


Figure 5 – U.S. Personal Saving Rate, 1959-2022

Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Economic Analysis, accessed via fred.stlouisfed.org (FRED)

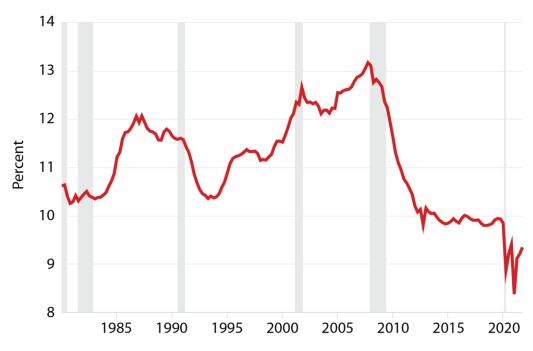
Figure 6 – Checkable Deposits and Currency for Households and Nonprofits, 1946-2021 (\$ billions)



Shaded areas indicate U.S. recessions

Source: Board of Governors of the Federal Reserve System, accessed via fred.stlouisfed.org (FRED)

Figure 7 – U.S. Household Debt Service Payments as Percent of Disposable Personal Income, 1959-2021



Shaded areas indicate U.S. recessions

Source: Board of Governors of the Federal Reserve System, accessed via fred.stlouisfed.org (FRED)

Flush with cash, household spending re-focused on goods because many services remained heavily restricted. This renewed goods focus, including on remote sales on which many states began collecting sales and use tax in the aftermath of a landmark 2018 Supreme Court decision, increased sales tax revenues in many states.

As shown in Figure 8, this goods re-focusing caused a large retail sales increase, which supported very strong sales tax revenue collections.

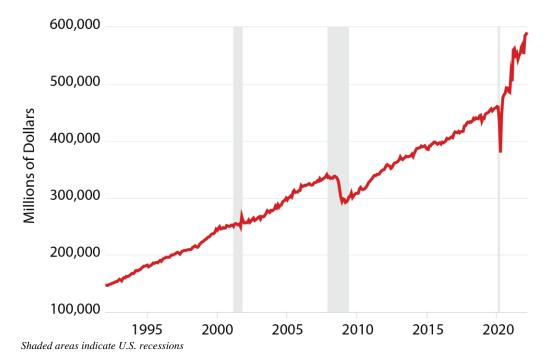


Figure 8 – U.S. Retail Sales, 1992-2021

Source: U.S. Census Bureau, accessed via fred.stlouisfed.org (FRED)

Economic Challenges from Federal Fiscal Response

However, along with the benefits of a strong economic recovery, the federal fiscal response also sowed seeds of future economic and state budget challenges, including inflation and increased debt.

Inflation. The most prominent short-term impact is that the fiscal stimulus has contributed to current inflationary challenges, with U.S. consumer inflation spiking to levels not seen in over forty years (see Figure 9). While many factors likely contribute to the price spike, including pandemic-specific impacts and expansionary monetary policy, large-scale fiscal stimulus is a major contributing factor. Initially projected to be transitory and closely related to pandemic-specific factors, sustained and accelerating consumer price inflation has raised significant concerns about long-term inflationary pressures if a wage-price spiral occurs, in which workers demand higher wages, which firms then pass on to consumers through higher prices.

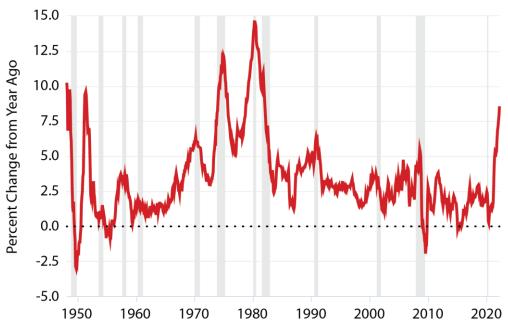


Figure 9 – Year-Over Change U.S. Consumer Price Index (CPI), 1947-2022

Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Labor Statistics, accessed via fred.stlouisfed.org (FRED)

Especially notable because a prominent critic belonged to the same political party as the new president, in early 2021, while debates occurred on the Wave 3 American Rescue Plan Act, Larry Summers, former U.S. Treasury Secretary in the Clinton administration and director of the National Economic Council under the Obama administration, very publicly raised concerns that the bill was over three times as large as the pandemic's economic output shortfall and could set off "set off inflationary pressures of a kind we have not seen in a generation."

Federal Reserve economists Jordà, Liu, Nechio, and Rivera-Reyes (2022) recently indicated that "since the first half of 2021, U.S. inflation has increasingly outpaced inflation in other developed countries. Estimates suggest that fiscal support measures designed to counteract the severity of the pandemic's economic effect may have contributed to this divergence by raising inflation about 3 percentage points by the end of 2021." In other words, federal fiscal stimulus is a major contributing factor to current inflation, although not the only factor.

States have not had to manage budgets in a high inflation environment for many decades, so ongoing future inflation could create future budget challenges. Nominally-increasing revenue growth may at first seem like a revenue windfall. But inflation creates higher costs on the spending side just to keep pace. Said differently, in such a rapidly changing environment it is not entirely clear what portion of current state revenue increases are primarily driven by overall

⁷ See, for example, https://www.bloomberg.com/opinions/2021/02/04/larry-summers-biden-covid-stimulus/ and https://www.bloomberg.com/news/videos/2021-02-27/we-are-heading-for-the-worst-inflation-risk-in-40-years-summers-video

inflation, as opposed to real net revenue increases that will not need to be offset with higher spending just to pace with price increases.

Federal Government Debt. Increased federal borrowing financed the federal fiscal response's deficit spending. Figure 10 shows that the federal fiscal response's immediate societal benefits came at the expense of increasing federal government debt, which has declined moderately relative to GDP as economic activity rebounded.

But as interest rates rise coming out of the pandemic, increasing federal debt service payments may create federal fiscal pressures that could negatively impact states as the higher interest payments eventually crowd out other federal spending, including federal aid to states and local governments, or lead to federal tax increases.

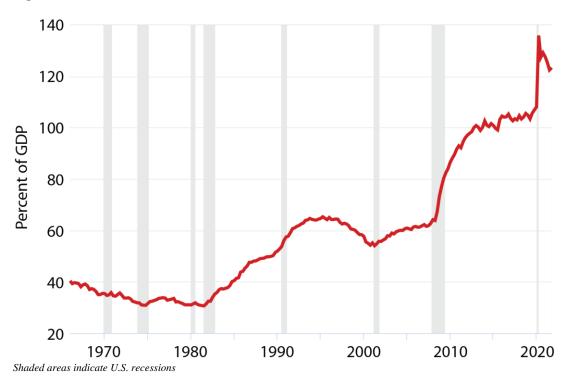


Figure 10 - National Debt as a Percent of GDP, 1966-2021

Source: U.S. Office of Management and Budget and Federal Reserve Bank of St. Louis, accessed via fred.stlouisfed.org (FRED)

Conclusion

The COVID-19 pandemic initially brought severe economic impacts, as households, businesses, and governments responded to an unknown virus. Federal fiscal support in excess of \$5 trillion (about 25% of 2020 GDP) propped up an ailing economy during the most severe economic impacts and helped with the economic recovery after that.

This massive federal fiscal support, along with other factors, stabilized state and local budgets. This stabilization occurred through primary federal aid allocated directly to states and through the larger secondary effects supporting state General Fund revenues by increasing economic activity that increased tax revenues. As with states throughout the nation, western states received significant benefits from the federal fiscal response, unexpectedly maintaining and increasing budgets as revenues increased. At the same time, the federal fiscal response is contributing to some current economic challenges such as inflation and goods shortages, as well as long-term debt challenges.

References

- Armantier, Olivier, Leo Goldman, Gizem Koşar, and Wilbert van der Klaauw. "An Update on How Households Are Using Stimulus Checks." Federal Reserve Bank of New York Liberty Street Economics. April 7, 2021. https://libertystreeteconomics.newyorkfed.org/2021/04/an-update-on-how-households-are-using-stimulus-checks.html
- Armantier, Olivier, Leo Goldman, Gizem Koşar, Jessica Lu, Rachel Pomerantz, and Wilbert van der Klaauw. "How Have Households Used Their Stimulus Payments and How Would They Spend the Next?" Federal Reserve Bank of New York Liberty Street Economics. October 13, 2020. https://libertystreeteconomics.newyorkfed.org/2020/10/how-have-households-used-their-stimulus-payments-and-how-would-they-spend-the-next.html
- Belsie, Laurent. "Most Stimulus Payments Were Saved or Applied to Debt." National Bureau of Economic Research. October 2020. https://www.nber.org/digest/oct20/most-stimulus-payments-were-saved-or-applied-debt
- Board of Governors of the Federal Reserve System. *Asset, Level [CDCABSHNO]*. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- Board of Governors of the Federal Reserve System. *Household Debt Service Payments as a Percent of Disposable Personal Income [TDSP]*. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- Centers for Disease Control and Prevention. "Order Under Sections 362 and 365 of the Public Health Service Act." March 2020. https://www.cdc.gov/quarantine/pdf/CDC-Order-Prohibiting-Introduction-of-Persons_Final_3-20-20_3-p.pdf
- Congressional Budget Office. "CBO Estimate for H.R. 266, the Paycheck Protection Program and Health Care Enhancement Act" April 21, 2020. https://www.cbo.gov/system/files/2020-04/hr266.pdf
- Congressional Budget Office. "CBO Estimate for H.R. 6074, the Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020". March 4, 2020. https://www.cbo.gov/system/files/2020-03/hr6074.pdf
- Congressional Budget Office. "Cost Estimate Economic Stimulus Act of 2008." February 6, 2008. https://www.cbo.gov/sites/default/files/110th-congress-2007-2008/costestimate/senatefiscalstimulus0.pdf
- Congressional Budget Office. "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output in 2014." February 2015. https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49958-ARRA.pdf
- Congressional Budget Office. "Preliminary Estimate of the Effects of H.R. 6201, the Families First Coronavirus Response Act." April 2, 2020. https://www.cbo.gov/system/files/2020-04/HR6201.pdf

- Congressional Budget Office. "Preliminary Estimate of the Effects of H.R. 748, the CARES Act, Public Law 116-136, Revised." April 27, 2020. https://www.cbo.gov/system/files/2020-04/hr748.pdf
- Congressional Budget Office. "Report on the Troubled Asset Relief Program July 2021." July 2021. https://www.cbo.gov/publication/57341#_idTextAnchor003
- Congressional Budget Office. "The Budgetary Effects of Major Laws Enacted in Response to the 2020–2021 Coronavirus Pandemic, December 2020 and March 2021." September 2021. https://www.cbo.gov/system/files/2021-09/57343-Pandemic.pdf
- Congressional Budget Office. "The Federal Budget in 2019: An Infographic." April 15, 2020. https://www.cbo.gov/publication/56324
- Ganong, Peter, Pascal Noel, and Joseph Vavra. "US Unemployment Insurance Replacement Rates During the Pandemic." National Bureau of Economic Research Working Paper 27216. May 2020. https://www.nber.org/system/files/working_papers/w27216/w27216.pdf
- Internal Revenue Service. "Filing and Payment Deadline Extended to July 15, 2020." March 21, 2020. https://www.irs.gov/newsroom/payment-deadline-extended-to-july-15-2020.
- Internal Revenue Service. "SOI Tax Stats Coronavirus Aid, Relief, and Economic Security Act (CARES Act) Statistics." 2022. https://www.irs.gov/statistics/soi-tax-stats-coronavirus-aid-relief-and-economic-security-act-cares-act-statistics
- Jordà, Òscar, Celeste Liu, Fernanda Nechio, and Fabián Rivera-Reyes. "Why Is U.S. Inflation Higher than in Other Countries?" Federal Reserve Bank of San Francisco Economic Letter. March 28, 2022. https://www.frbsf.org/wp-content/uploads/sites/4/e12022-07.pdf
- Moreland A, Herlihy C, Tynan MA, et al. "Timing of State and Territorial COVID-19 Stay-at-Home Orders and Changes in Population Movement United States, March 1–May 31, 2020." MMWR Morb Mortal Wkly Rep 2020; 69:1198–1203. http://dx.doi.org/10.15585/mmwr.mm6935a2
- National Association of State Budget Officers. "Fiscal Survey of the States Summary Spring and Fall 2020." https://www.nasbo.org/mainsite/reports-data/fiscal-survey-of-states/fiscal-survey-archives
- National Association of State Budget Officers. "Planned Uses of Fiscal Recovery Funds as Reported by States to U.S. Treasury." October 18, 2021.

 https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/Issue%20Briefs%20/Planned_Uses_of_Fiscal_Recovery_Funds_as_Reported_by_States_to_U_S_Treasury_.pdf

- National Association of State Budget Officers. "Summary: Fall 2021 Fiscal Survey of States."

 December 17, 2021. https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750

 Ofca152d64c2/UploadedImages/Issue%20Briefs%20/Fall_2021_Fiscal_Survey_Summary.pd

 f
- National Conference of State Legislatures. "How States Are Spending Their Stimulus Funds." 2022. https://www.ncsl.org/research/fiscal-policy/how-states-are-spending-their-stimulus-funds.aspx
- National Governors Association. "National Governors Association Outlines Need For 'Additional And Immediate' Fiscal Assistance To States." April 11, 2020. https://www.nga.org/news/press-releases/national-governors-association-outlines-need-for-additional-and-immediate-fiscal-assistance-to-states/
- National Governors Association. "National Governors Association Leadership Statement On Congressional Coronavirus Relief Negotiations." July 29, 2020. https://www.nga.org/news/press-releases/national-governors-association-leadership-statement-on-congressional-coronavirus-relief-negotiations/
- Paul G. Peterson Foundation. "How Have States Used Their Direct COVID Relief Funds?" January 14, 2022. https://www.pgpf.org/blog/2022/01/how-have-states-used-their-direct-covid-relief-funds
- Shapiro, Matthew D and Joel Slemrod, 2003. "Consumer Response to Tax Rebates." American Economic Review Vol. 93 (1), pages 381-396.
- U.S. Bureau of Economic Analysis. *National Income and Product Accounts*. https://apps.bea.gov/iTable/index_nipa.cfm
- U.S. Bureau of Economic Analysis. *Real Gross Domestic Product per Capita* [A939RX0Q048SBEA]. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Bureau of Economic Analysis. *Personal Saving Rate [PSAVERT]*. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Bureau of Labor Statistics. Consumer Price Index for All Urban Consumers: All Items in U.S. City Average [CPIAUCSL]. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Census Bureau. *Advance Retail Sales: Retail Trade [RSXFS]*. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Congress. Congress.gov

- U.S. Department of Education. "American Rescue Plan Elementary and Secondary School Emergency Relief Fund." 2022. https://oese.ed.gov/files/2021/03/FINAL_ARP-ESSER-Methodology-and-Table.pdf
- U.S. Department of Education. "ARP: American Rescue Plan." 2022. https://www2.ed.gov/about/offices/list/ope/arp.html
- U.S. Department of Education. "Governor's Emergency Education Relief Fund." 2022. https://oese.ed.gov/files/2020/04/GEER-Fund-State-Allocations-Table.pdf
- U.S. Department of Education. "Elementary and Secondary School Emergency Relief Fund." 2022. https://oese.ed.gov/files/2020/04/ESSER-Fund-State-Allocations-Table.pdf
- U.S. Department of Education. "Elementary and Secondary School Emergency Relief Fund (ESSER II)." 2022. https://oese.ed.gov/files/2021/01/Final_ESSERII_Methodology_Table_1.5.21.pdf
- U.S. Department of Labor. "Families First Coronavirus Response Act and Coronavirus Aid, Relief, and Economic Security (CARES) Act Funding to States." April 2022. https://oui.doleta.gov/unemploy/docs/cares_act_funding_state.html
- U.S. Employment and Training Administration. *Initial Claims [ICSA]*. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Government Accountability Office. "Federal Reserve Lending Programs, Use of CARES Act-Supported Programs Has Been Limited and Flow of Credit Has Generally Improved." December 2020. https://www.gao.gov/assets/gao-21-180.pdf
- U.S. Office of Management and Budget. Federal Debt: Total Public Debt as Percent of Gross Domestic Product [GFDEGDQ188S]. Retrieved from FRED, Federal Reserve Bank of St. Louis.
- U.S. Small Business Administration. "Disaster Assistance Update Nationwide COVID EIDL, Targeted EIDL Advances, Supplemental Targeted Advances." December 2, 2021. https://www.sba.gov/sites/default/files/2021-12/COVID-19%20EIDL%20TA%20STA_12022021_Public-508.pdf
- U.S. Small Business Administration. "PPP Data." February 20, 2022. https://www.sba.gov/funding-programs/loans/covid-19-relief-options/paycheck-protection-program/ppp-data
- U.S. Small Business Administration. "Paycheck Protection Program." May 24, 2021. https://www.sba.gov/sites/default/files/2021-05/2021.05.24%20-%20vFINALSHARE-508.pdf

- U.S. Small Business Administration. "Paycheck Protection Program (PPP) Report." August 8, 2020. https://www.sba.gov/sites/default/files/2021-09/PPP_Report%20-%202020-08-10-508.pdf
- U.S. Treasury. "Coronavirus Relief Fund for States, Tribal Governments, and Certain Eligible Local Governments." January 15, 2021. https://home.treasury.gov/system/files/136/CRF-Guidance-Federal-Register_2021-00827.pdf
- U.S. Treasury. "Coronavirus State and Local Fiscal Recovery Fund." January 27, 2022. https://www.govinfo.gov/content/pkg/FR-2022-01-27/pdf/2022-00292.pdf
- U.S. Treasury. "Coronavirus State and Local Fiscal Recovery Funds." 2022. https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds
- U.S. Treasury. "Fact Sheet: The American Rescue Plan Will Deliver Immediate Economic Relief to Families." March 18, 2021. https://home.treasury.gov/news/featured-stories/fact-sheet-the-american-rescue-plan-will-deliver-immediate-economic-relief-to-families
- U.S. Treasury. "Payments to States and Eligible Units of Local Government." 2022. https://home.treasury.gov/system/files/136/Payments-to-States-and-Units-of-Local-Government.pdf