

Economic Downturns: Effects of Automatic Spending Programs and Taxes

GAO-24-106056

Report to Congressional Requesters

November 16, 2023

Why This Matters

During economic downturns, the federal government can use tax and spending policies to support economic growth and limit the detrimental effects on individuals and families. The federal budget contains mechanisms—known as automatic stabilizers—that alter tax and spending levels in response to changes in economic conditions without direct intervention by policymakers. For example, in an economic downturn—when incomes and the employment level fall—tax liabilities may decrease, and more people may become eligible for certain government benefits, such as unemployment insurance and food assistance. Conversely, when incomes and the employment level rise, tax liabilities may rise, and fewer people may be eligible for government benefits.

Given the key role that automatic stabilizers can play in supporting the economy and the well-being of individuals and families, it is important to understand how effectively they are operating. It is also important to understand their impact on the broader federal budget. We have previously reported that the federal government faces an unsustainable long-term fiscal future. Debt held by the public is projected to exceed its historical high of 106 percent of gross domestic product (GDP) within the next 10 years. Well-designed automatic stabilizers could help the federal government balance the short-term need to promote growth during an economic downturn with longer term concerns about fiscal sustainability.

You asked us to review several issues related to automatic stabilizers. This report examines the effects of automatic stabilizers on the economy, the well-being of individuals and families, and the federal government's fiscal condition, based on an extensive review of academic and government literature.

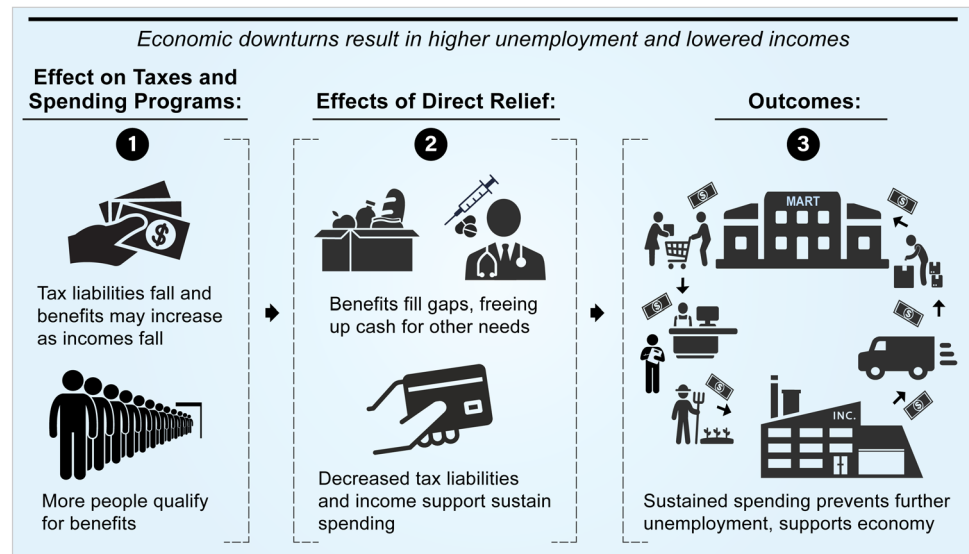
Key Takeaways

- Studies we reviewed showed that automatic stabilizers reduced the detrimental effects of recent economic downturns. They prevented the economy from getting worse by generating additional economic activity.
- Studies showed that during economic downturns, programs with an automatic stabilizer component had various positive effects on the well-being of individuals and families, such as alleviating poverty and supporting positive health outcomes including improved nutrition and healthy birth weights. However, it is difficult to isolate the effects of automatic stabilizers, because studies frequently did not separately analyze the automatic portions of these programs and discretionary changes made by policymakers to address economic downturns.
- Automatic stabilizers contributed to federal deficits in the wake of recent economic downturns, according to Congressional Budget Office (CBO) analysis. However, they are not the key driver of debt over the long-term.

How do automatic stabilizers work?

Automatic stabilizers can be taxes or spending programs that automatically adjust based on economic conditions. Figure 1 provides examples of how tax provisions and spending programs work as automatic stabilizers and affect the economy.

Figure 1: Effects of Automatic Stabilizers during Economic Downturns



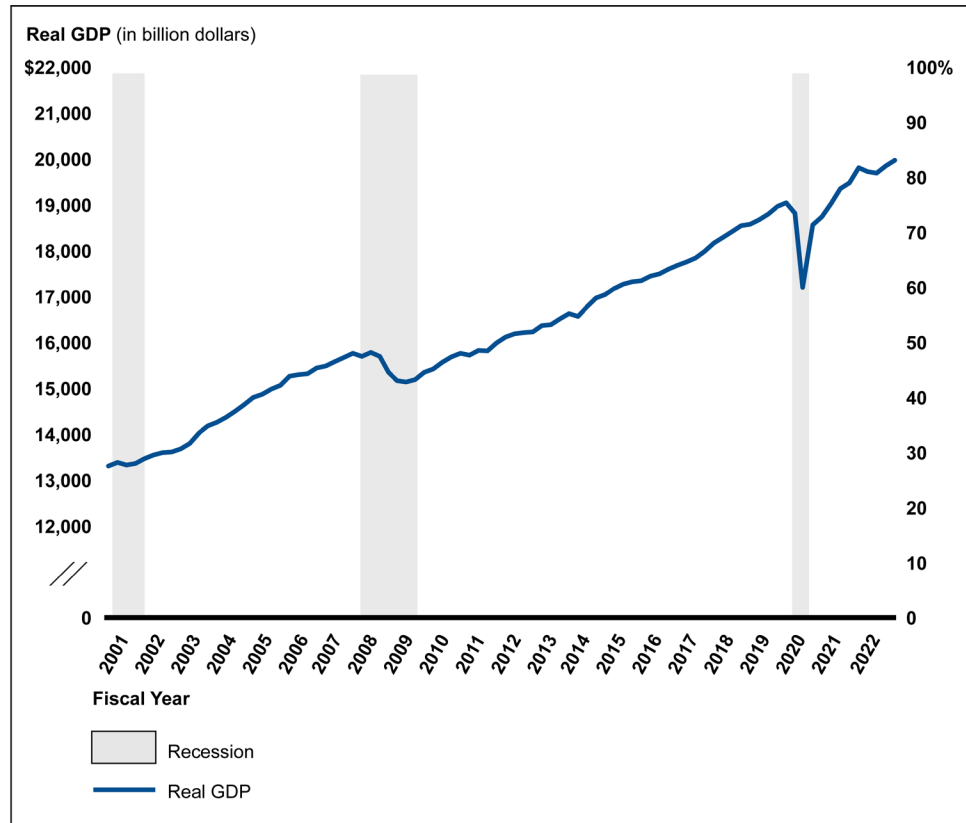
Source: GAO analysis, see additional source information on graphics. | GAO-24-106056

When is an economic downturn categorized as a recession?

In general, the economy goes through alternating periods of upswings—or expansions—and downturns—or contractions. This pattern is commonly referred to as the business cycle.¹ A recession is a specific type of economic downturn. The National Bureau of Economic Research (NBER) defines a recession as a significant decline in economic activity that is spread across the economy and that lasts more than a few months.² According to NBER, while all criteria need to be met to some degree, extreme conditions in any one criterion may offset another. For example, in the case of the most recent recession in March and April 2020, driven by the COVID-19 pandemic, NBER concluded that the drop in economic activity had been so great and so widely diffused that the downturn should be classified as a recession despite its brevity. NBER defines an economic expansion as occurring after the economy reaches its lowest point and economic activity begins to increase.

Since 2000, the U.S. economy has experienced three recessions. Figure 2 shows changes in GDP since 2001, as well as the dates of recessions as determined by NBER. After a recession officially ends, it may take time for the economy to return to its pre-recession level of activity. For example, after the Great Recession ended in June 2009, the economy, as measured by GDP, did not return to its pre-recession level until late 2010.

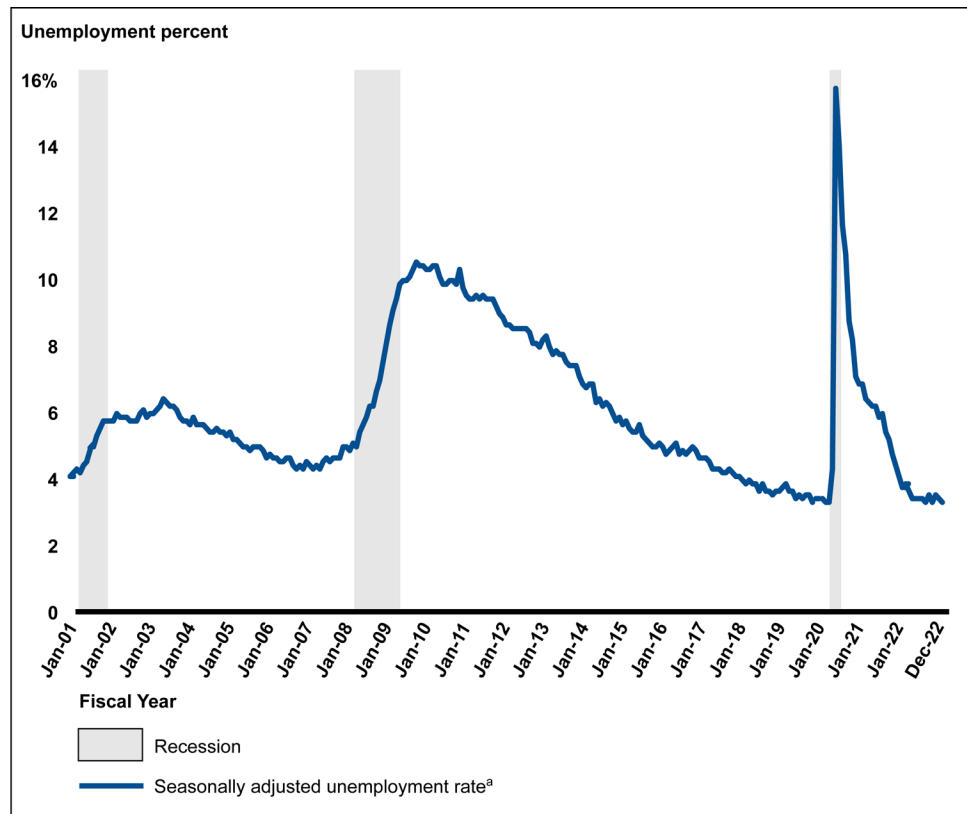
Figure 2: Gross Domestic Product (GDP), Fiscal Years 2001–2022



Source: GAO presentation of Bureau of Economic Analysis and National Bureau of Economic Research data. | GAO-24-106056

The effects of a recession on unemployment and wages can also extend beyond the official recession dates as determined by NBER. For example, the unemployment rate continued to increase for 5 months after NBER determined the 2001 recession had ended, as shown in figure 3.

Figure 3: Seasonally Adjusted Unemployment Rate, Fiscal Year 2001–2022



Source: GAO presentation of Bureau of Labor Statistics and National Bureau of Economic Research data. | GAO-24-106056

^aSeasonal adjustment removes seasonal patterns to compare data across months. Monthly unemployment is generally reported as seasonally adjusted data.

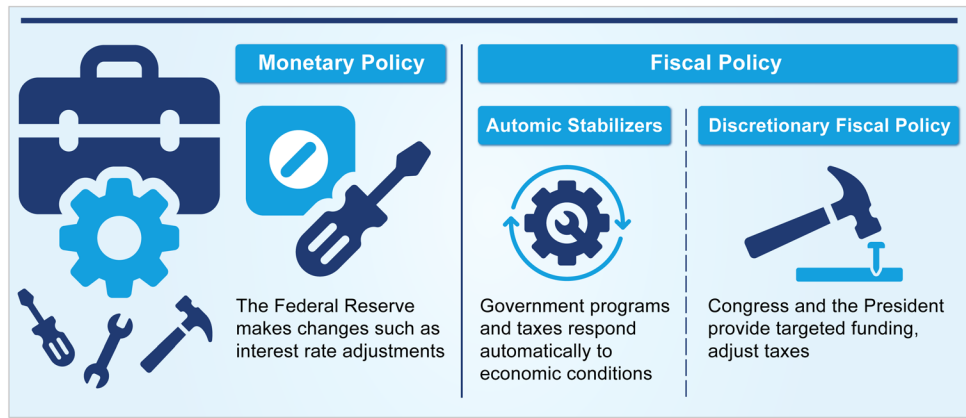
What tools does the federal government have to respond to economic downturns?

The federal government has two broad sets of tools that it can use to mitigate the effects of economic downturns and promote growth.

- **Monetary policy**, such as lowering interest rates, can encourage economic activity. Monetary policy is directed by the Federal Reserve and includes policies that affect the money supply, interest rates, and credit availability.
- **Fiscal policy**, such as increasing government spending, lowering tax revenue, or some combination of both, can also encourage economic activity. In addition to automatic stabilizers, Congress and the President can make temporary changes to taxes or spending programs—referred to as discretionary fiscal policy. For example, the federal government provided over \$4.6 trillion in response to COVID-19, including for programs aimed at addressing the rapid and severe economic downturn caused by the pandemic.

Figure 4 summarizes how these tools are used to promote growth during economic downturns.

Figure 4: Tools to Counter Economic Downturns



Source: GAO analysis; iconstudio/Stock.Adobe.com. | GAO-24-106056

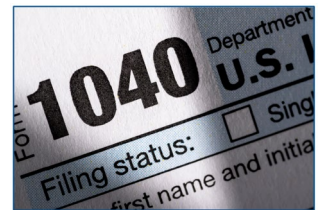
The relative effectiveness of automatic stabilizers in promoting economic growth depends, in part, on prevailing interest rates in the economy. During economic downturns, the Federal Reserve can take actions to lower the federal funds rate, which influences other interest rates in the economy, thereby promoting lending and economic growth.³ During the Great Recession and the onset of the COVID-19 pandemic, the federal funds rate was consistently near zero. This limited the Federal Reserve’s ability to use one of its key monetary policy tools to lower interest rates to promote growth. In such cases, fiscal policy, including automatic stabilizers, tends to have a comparatively larger impact on economic activity.

Studies we reviewed noted that automatic stabilizers likely played an especially important role in supporting the economy during periods where the federal funds rate was consistently near zero, such as during the Great Recession and the COVID-19 pandemic recession.⁴ Once the economy begins to recover, policymakers may choose to increase interest rates, decrease spending, or increase tax revenue to prevent the economy from growing too quickly and causing inflation.

What are the main tax-related automatic stabilizers?

Automatic Tax-Related Functions in Economic Downturns

- Individual income tax: As taxpayers’ income declines, they owe less in taxes. Additionally, the tax rates applied to their income can drop due to the progressive tax rate structure, further lowering the amount they owe.
- Payroll tax: As employment and wages fall, workers and employers pay less in payroll taxes.
- Corporate income tax: As profits decrease, corporations owe less taxes.
- Production and import taxes: As consumption of goods declines, production and import taxes may decrease.



Source: GAO analysis of Congressional Budget Office, Congressional Research Service, and Internal Revenue Service information (text); Michael Flippo/stock.adobe.com (photo). | GAO-24-106056

Multiple taxes act as automatic stabilizers by lowering taxes when incomes fall and raising taxes when incomes rise. According to CBO, the major types of taxes that act as automatic stabilizers are (1) individual income tax, (2) payroll taxes (taxes that pay for Medicare, Social Security, and unemployment insurance), (3) corporate income tax, and (4) taxes on production and imports. CBO data shows that these taxes account for nearly all federal revenue.

The individual income tax is the largest automatic stabilizer in the federal budget. The U.S. has a generally progressive rate structure for its income tax, meaning that it applies lower tax rates at lower income levels and higher tax rates at higher income levels. Progressive income tax systems, which have higher tax rates for higher levels of income, act as automatic stabilizers because they moderate fluctuations in after-tax income. When a taxpayer's income declines in an economic downturn, the top tax rate applied to their income may be reduced. As a result, they experience less change to after-tax income, which reduces the effect of income loss on spending.

Social Security and Medicare payroll tax amounts are based on the taxable earnings of workers. These taxes are paid by employers, employees, and the self-employed and are generally a percentage of earnings. Unemployment insurance taxes are paid by employers to states based on worker earnings. When earnings decline in an economic downturn, the amount of tax paid on those earnings also declines.

What are the main spending-related automatic stabilizers?

There are three major spending programs in the U.S. that act as automatic stabilizers, according to CBO analysis:

- Unemployment Insurance (UI),
- Supplemental Nutrition Assistance Program (SNAP), and
- Medicaid.⁵

Unemployment Insurance

Automatic Unemployment Insurance Functions in Economic Downturns

- Enrollment increases as more individuals lose jobs and become eligible for UI.
- Eligibility period lengthens when state unemployment rate meets the trigger for Extended Benefits.



Source: GAO analysis of Congressional Research Service and Department of Labor information (text); Lane Erickson/stock.adobe.com (photo). | GAO-24-106056

UI is a joint federal-state program that provides temporary financial assistance to eligible workers who have become unemployed through no fault of their own. UI benefits are funded primarily through taxes that states levy on employers. According to the Department of Labor, UI program administration is financed through a federal tax on employers, and the benefits replace a portion of a claimant's previous employment earnings.⁶ UI use surged at the onset of the COVID-19 pandemic, as initial UI claims rose nearly 3,000 percent from about 200,000 per week to more than 6 million per week during late-March and early-April 2020.⁷

The UI program also includes an Extended Benefits program where states extend unemployment insurance benefits for up to an additional 13 weeks when their unemployment rates meet a certain threshold.⁸ The federal government funds 50 percent of payments under the Extended Benefits program as part of normal UI operation. However, federal funding for UI claims and Extended Benefits can vary depending on temporary changes in law enacted in response to economic downturns.⁹

Supplemental Nutrition Assistance Program

Automatic Supplemental Nutrition Assistance Program Functions in Economic Downturns

- Enrollment increases as incomes fall and more people become eligible and apply for SNAP.
- Benefits are calibrated to income, so as incomes fall, benefit amounts can increase (up to maximum threshold).



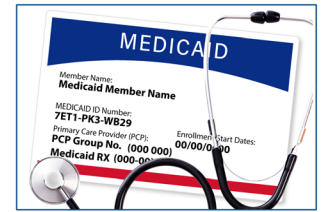
Source: GAO analysis of U.S. Department of Agriculture information (text); <https://www.fns.usda.gov/snap/logo-guidance> (image). | GAO-24-106056

SNAP provides food benefits to low-income families to supplement income and benefits so they can afford nutritious food. The benefit is funded by the federal government, with administrative costs shared by states.¹⁰ Average participation in SNAP rose by 16.6 percent during the economic downturn caused by the COVID-19 pandemic, from 35.7 million for fiscal year 2019 to 41.6 million for fiscal year 2021.¹¹ SNAP benefit eligibility and amounts are determined by a household's income and assets.

Medicaid

Automatic Medicaid Functions in Economic Downturns

- Enrollment increases as incomes fall and more people become eligible.
- Enrollment may increase as people become unemployed and lose employer-provided health insurance.



Source: GAO analysis of Congressional Research Service and Health and Human Services information (text); WDnet Studio/stock.adobe.com (photo). | GAO-24-106056

Medicaid finances health care coverage for millions of low-income and medically needy people.¹² Medicaid is jointly funded by the federal government and states, with the federal government matching state expenditures based on a statutory formula that covers at least half of states' expenditures. Enrollment for Medicaid rose by 15.7 percent from before the economic downturn caused by the COVID-19 pandemic, from nearly 64.1 million in February 2020 to more than 74.1 million, in the aftermath of this economic downturn, in February 2021.¹³

Temporary Changes to Automatic Stabilizer Programs

Discretionary fiscal policy during recent economic downturns included temporary changes to automatic stabilizer programs.¹⁴ For example, during the Great Recession and the COVID-19 pandemic, Congress and the president made the following temporary changes:

- **UI.** Increased benefit amounts, expanded benefits to new groups, and extended the length of time a person could receive benefits.¹⁵
- **Medicaid.** Increased federal share of funding. To receive the increased funding, states and territories were required to meet certain conditions, such as maintaining Medicaid enrollment during the COVID-19 public health emergency.
- **SNAP.** Suspended certain eligibility and state recertification requirements and increased benefit amounts.¹⁶

How have automatic stabilizers affected the economy during recent economic downturns?

Preventing Further Economic Decline

Studies we reviewed found that, overall, automatic stabilizers limited the depth of economic downturns.¹⁷

- One such study found that between 1970 and 2015, automatic stabilizers helped smooth fluctuations in economic activity.¹⁸ Specifically, annual GDP growth would have been 0.82 percentage points lower during recessions without automatic stabilizers.¹⁹ Conversely, during periods of economic expansion, annual GDP growth would have been 0.13 percentage points higher without automatic stabilizers.²⁰
- Another study found that over 2008–2009, U.S. GDP would have been 0.75 percent lower without automatic stabilizers.²¹
- Both studies considered the total effect of automatic stabilizers at the federal, state, and local levels of government, which exceeds the effect of federal automatic stabilizers alone. Moreover, their findings are sensitive to assumptions regarding the spending and saving behavior of households and businesses affected by automatic stabilizers.

Generated Additional Economic Activity

There is some evidence that automatic stabilizers can generate a larger economic effect than the amount initially spent—known as a multiplier effect. The multiplier is the ratio of the resulting economic activity to the change in program spending. For example, as program enrollees spend SNAP and UI benefits, additional income is generated for individuals and business involved in the production and distribution of goods and services. This dynamic can create a cycle of increased spending in the economy, particularly when the economy is not operating at full capacity.

One study we reviewed estimated the one-year multiplier of SNAP spending during economic downturns to be 1.5.²² In other words, every \$1 spent on SNAP during the year would generate \$1.50 in economic activity. Another study—focused on the Great Recession—estimated a slightly larger SNAP multiplier early in the recession. The study pointed out that multipliers tend to be larger when the economy is operating far below its potential.

Other studies we reviewed found UI multipliers between 1 and 1.9.²³ Multiplier estimates vary, in part, because the studies all relied on different economic models and assumptions. Moreover, some of the studies made no distinction between automatic and discretionary SNAP or UI spending and others focused exclusively on discretionary increases.

How has unemployment insurance affected the unemployment rate?

The effects of UI on unemployment rates are influenced by multiple factors. For example, UI benefits can potentially create a disincentive for individuals to seek employment, which could increase the unemployment rate. However, by sustaining consumption by households that suffered job loss, UI benefits can also increase demand for goods and services, thus bolstering economic activity and reducing the unemployment rate. At the same time, UI tax penalties levied on employers that have laid off workers in the past can help prevent additional layoffs. We reviewed a number of studies that measured how changes to UI benefits affected the unemployment rate during the Great Recession, but we did not find any focused on the more recent COVID-19 pandemic recession at the time of our review.

UI benefits had mixed but generally limited effects on the unemployment rate, based on studies that we reviewed. One study used labor market data to compare adjacent counties in neighboring states and found no evidence that state-level UI benefit extensions substantially affected employment during the Great Recession.²⁴ This study estimated that UI benefit extensions did not change the county-level employment to population ratio by more than 0.35 percentage points. We also reviewed studies that were more dependent on assumptions about economic behavior to estimate these effects; the results were mixed, ranging from reducing unemployment by 0.4 percentage points to increasing the unemployment rate by 1.4 percentage points.²⁵ These estimates vary in part due to differences in the assumptions applied.

Unemployment Insurance Taxes

Employers' state UI tax rates can vary depending in part on their past experience laying off workers who subsequently receive UI benefits, commonly called their experience rating. A higher experience rating leads to higher UI tax rates.

Source: GAO analysis. | GAO-24-106056

One study found that UI taxes may also affect the unemployment rate.²⁶ The study showed that states where firms faced higher UI tax penalties for dismissing workers saw smaller employment responses to national economic shocks between 2001 and 2019. The study estimated that, because tax increases associated with higher experience ratings create a disincentive for firms to lay off workers, experience ratings prevented an additional rise in unemployment during the Great Recession.²⁷

Do adjustments to unemployment insurance during economic downturns affect individuals' unemployment outcomes?

Studies we reviewed found that expansions to UI benefits during the early 2000s recession and Great Recession, including increases to benefit amounts and duration, had limited to modest effects on the length of unemployment spells and could lead to better job matches. For example, studies:

- found that a 10-week extension in UI benefits increased average periods of unemployment for eligible workers by 1.5 weeks, with little variation between the Great Recession and the early 2000s recession;²⁸
- estimated that increasing the UI maximum duration by 20 weeks lead to a 2.5-week increase in unemployment duration;²⁹ and
- estimated that a 10 percentage point increase in the share of workers' income replaced by UI benefits increased unemployment duration by 0.5 weeks.³⁰

Two studies we reviewed developed models that assessed how changes to UI benefit amounts and duration potentially affect unemployment duration.³¹ Namely, as UI generosity (maximum benefit and duration) increases, eligible, unemployed workers have reduced incentives to search for jobs, which may increase their duration of unemployment. However, these models rely on a set of simplifying assumptions that may not completely capture all the impacts of increased UI generosity. For example, as UI recipients spend benefits and stimulate the local economy, individuals not eligible for UI may be more likely to find employment than if UI had not been expanded.

Another study noted that UI extensions that took place from 2000-2013 allowed individuals to search longer, eventually leading to job matches of better quality.³² This study's estimates suggest that UI benefit extensions increased earnings for workers transitioning out of unemployment. This outcome was especially true for

workers with less access to credit, who saw an even higher match quality and an increased probability of staying at their eventual job following reemployment.

These findings are consistent with our June 2022 report, which examined studies that analyzed the relationship between expanded UI benefits and workers' incentives to return to work.³³ We found that expanded UI benefits had limited disincentive effects on workers' decisions to return to work. Specifically, the studies we reviewed for that report either found that expanded UI had no disincentive effects or, if they found some effect, it was limited to a small group of workers.

How have automatic stabilizer programs affected income, poverty, and wealth?

Researchers found that UI, SNAP, and other social safety net programs helped prevent rises in poverty and declines in income during recent economic downturns.³⁴ However, these studies typically did not separate discretionary changes in program benefits from regular benefits. The studies also did not typically account for behavioral responses from benefit recipients, such as decisions about spending versus saving or the number of hours worked, in evaluating what outcomes would have occurred in the absence of these programs.³⁵

Social Safety Net. Programs that assist low-income individuals and families with cash aid, food, shelter, health care, and other supports. While studies we reviewed varied in the set of programs considered as part of the social safety net, they all included SNAP, UI, and the Earned Income Tax Credit (EITC).

Source: GAO analysis of relevant literature. | GAO-24-106056

Alleviated Poverty

Studies we reviewed found that SNAP and UI—both regular benefits and discretionary changes—helped prevent rises in poverty and helped moderate income fluctuations during recent recessions.

- **SNAP** helped the poorest households moderate income fluctuations and, during the Great Recession, was particularly effective in reducing deep poverty (an income at or below 50 percent of the poverty line) as well as poverty among households with children.³⁶
- **UI** also helped keep people out of poverty. One study looking at the poverty rate during the COVID-19 pandemic found this rate declined by 1.5 percentage points between January and June 2020.³⁷ The study found that, without regular and expanded UI benefits, poverty would have instead risen by 0.8 percentage points. Another study found that, across the 2001 recession and the Great Recession, workers who exhausted UI benefits saw family poverty rates rise substantially and other social safety net programs only made up for a small fraction of lost UI income.³⁸

One study we reviewed found that UI replaced earnings during economic downturns, but the effect varied over time.³⁹ Specifically, a study found that in 2020, during the COVID-19 pandemic, UI payments replaced all the earnings lost for over half of UI beneficiaries. In comparison, in 2009, amid the Great Recession, UI payments replaced all the earnings lost for 19 percent of UI beneficiaries.⁴⁰

Effects Varied Across Demographic Groups

Studies we reviewed found that the effects of social safety net programs varied more broadly across demographic groups and income levels.⁴¹ For example, studies found

- the reduction in household income variability after receiving benefits was the largest among the following types of families: low-income, female-headed, Black, and those with less education; and⁴²
- the social safety net reduced the extent to which income in households with children changed as the unemployment rate changed.⁴³

However, the social safety net seemed to have had no mitigating effect on poverty for children in households with immigrant heads.⁴⁴

Sustained Home Values

Studies we reviewed found that more generous UI benefits during the Great Recession reduced mortgage delinquency and foreclosures.⁴⁵ These studies compared housing market outcomes across states with varying UI generosity. One study found that longer extended UI duration reduced mortgage delinquent balances as long as homes had not lost value.⁴⁶

Another study found that higher maximum extended UI benefits reduced mortgage delinquency and foreclosures among displaced workers.⁴⁷ Consequently, the expansion of UI benefits during the Great Recession stabilized the housing market by moderating the decline in home values in areas with rising unemployment. Specifically, while states with the least generous UI benefits saw home values decline with rising county-level unemployment rates, this did not occur in states with the most generous UI benefits.

How have automatic stabilizer programs affected food insecurity?

Automatic stabilizer programs generally limited the rise of food insecurity (lack of access to enough food for an active, healthy life) during economic downturns but did not fully address increased need.⁴⁸ Studies we reviewed suggested that SNAP helped protect against food insecurity during the Great Recession and COVID-19 pandemic.⁴⁹ For example, one study estimated that if SNAP were not available, self-reported food hardship would have increased by as much as 8.4 percentage points during the Great Recession, relative to the observed increase of 2.6 percentage points.⁵⁰ In addition, another study showed that, during the COVID-19 pandemic, self-reported food insufficiency rates declined following a discretionary 15 percent increase to SNAP benefits in January 2021.⁵¹

Medicaid expansion—as authorized by the Patient Protection and Affordable Care Act—was also associated with a reduced risk of food insecurity during the pandemic.⁵² Specifically, one study found that newly unemployed workers in states that expanded Medicaid were less likely to experience moderate or severe food insecurity following job loss relative to unemployed workers in states that did not expand Medicaid.⁵³ However, it is unclear whether Medicaid expansion caused lower rates of food insecurity, in part because other social safety net programs may be present in states that expanded Medicaid.

Social safety net programs did not fully address food insecurity during the COVID-19 pandemic. For example, in October 2021, following the September 2021 expiration of more generous UI payments, the number of households that reported not having enough to eat began to rise steadily.⁵⁴ One study found three explanations of why social safety net programs did not fully address food insecurity and other measures of economic hardship during the pandemic:⁵⁵

- Barriers to early financial relief, such as delays resulting from overwhelmed state UI systems, slow implementation of discretionary changes in programs by the states, and application requirements.⁵⁶
- The relatively small magnitude of SNAP spending compared to UI spending. For example, the study identified that UI payments had increased to an average of \$23.5 billion per week from May through July 2020. During the same time frame, SNAP payments increased to an average of about \$1 billion per week.
- Coverage gaps for some groups that were excluded from social safety net programs, including unemployed workers who did not receive UI.

How have automatic stabilizer programs affected people's health?

Provided Health Insurance

Studies consistently found higher rates of health insurance coverage following job loss in states with expanded or more generous Medicaid benefits.⁵⁷ Specifically, studies found

- during the COVID-19 pandemic, the rate of increase in the number of people without health insurance due to job loss was lower in states that expanded Medicaid (2.9 percent increase in uninsurance) than in states that did not expand Medicaid (10.7 increase in uninsurance).⁵⁸
- during the Great Recession, as unemployment rates increased, individuals in states with less generous Medicaid eligibility guidelines were more likely to become uninsured.⁵⁹

Comparing insurance outcomes across states may partially reflect systematic differences across states that are not directly related to Medicaid generosity, such as state-level differences in the administration of other safety net programs.

Supported Positive Health Outcomes

Studies found more generous Medicaid, UI, and SNAP benefits to be associated with better health outcomes.

Medicaid. In one study, during the COVID-19 pandemic, individuals who recently lost jobs and lived in states that expanded Medicaid were more likely to be covered by Medicaid and less likely to suffer from severe mental distress relative to those living in states that did not expand Medicaid.⁶⁰ One study examined the role of Medicaid in mitigating the association between unemployment and adverse birth outcomes during the 2001 recession and Great Recession.⁶¹ This study found that Medicaid generosity reduced the degree to which unemployment was associated with adverse birth outcomes, and this reduction was strongest among Black mothers.⁶²

UI. Another study found that higher discretionary UI generosity was associated with better birth outcomes, especially among less educated and unmarried mothers.⁶³ This study, using data from 1970–2019, estimated that a one standard deviation increase in benefit caps was associated with a 3.4 percent increase in average birth weight.⁶⁴ A separate study found that when UI replaces a greater share of recipients' former income, recipients are more likely to have health insurance coverage and use health care.⁶⁵ During economic downturns, these effects were stronger and accompanied by improvements in self-reported health status.

SNAP. Two studies we reviewed explored the benefits of SNAP in improving health outcomes. In one study, individuals living in states where SNAP was more generous and easier to access were more likely to be in better overall self-reported health.⁶⁶ Another study summarized a round table discussion of federal, think tank, and academic researchers.⁶⁷ Round table participants discussed findings from their research that linked SNAP to improved health outcomes, such as a reduction in childhood obesity, through better nutrition and reduced stress.

To what extent does the EITC act as a stabilizer during economic downturns?

Earned Income Tax Credit (EITC)

The EITC supplements earnings for low- to moderate-income workers and working families by providing a tax credit based on earnings from work. The amount of the credit grows with additional earnings up to a maximum threshold, plateaus, and then decreases with earnings beyond that threshold. The EITC is neither available for families that did not earn any income in a given tax year, nor for high-income workers.

Source: GAO analysis of Internal Revenue Service information. | GAO-24-106056

Studies we reviewed found that the EITC has a mixed record as an automatic stabilizer.⁶⁸ Specifically, two studies found that overall, more low-income workers became eligible for the EITC during economic downturns.⁶⁹ However, these studies also found that certain types of families and individuals, such as highly educated individuals, were more likely to become eligible for the credit, while others lost eligibility.

One study used tax and census data from 2005 to 2011 and found that workers with reduced income from employment may gain eligibility for the credit or qualify for a larger tax credit than they would have received otherwise.⁷⁰ The study also found that unmarried women with less education were less likely than those with more education to become eligible due to a decrease in earnings. The study also found that married taxpayers where one working spouse lost employment could become eligible. On average, less educated single mothers with children were more likely to lose employment for an entire tax year and therefore lose eligibility for the credit.

The other study analyzed state and federal data from 1996 to 2008 and found that, overall, more taxpayers claim the EITC during economic downturns.⁷¹ This study found that married taxpayers who may have seen reduced earnings for one spouse may become eligible for the EITC. The study also found that highly skilled individual taxpayers with reduced earnings may become eligible for the EITC during economic downturns.

How do automatic stabilizers affect the federal budget?

As with most federal programs, automatic stabilizer programs operate throughout the business cycle. They represent expenditures in the federal budget even when the economy is doing well. When the economy is not operating at its full potential, more people become eligible for UI, SNAP, and Medicaid, and the government spends more on these programs.

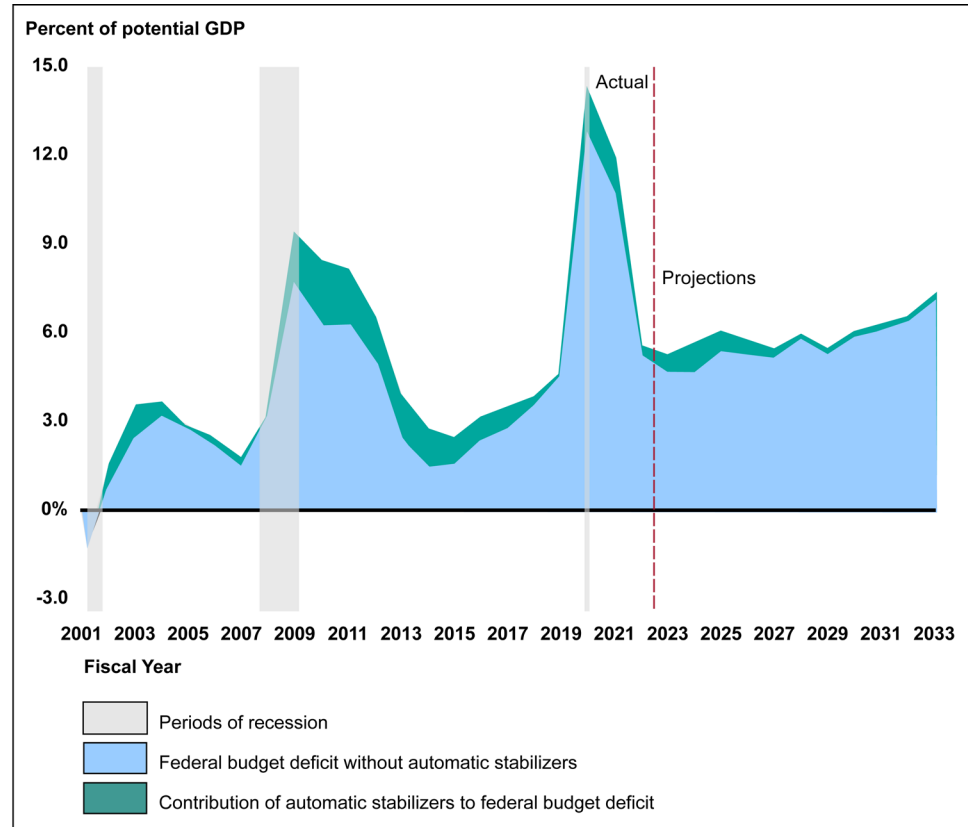
Similarly, federal tax revenues are higher when the economy is operating at its full potential and lower when it is not. For example, revenues from individual income taxes dropped 22 percent amid the Great Recession and its aftermath, from \$1.1 trillion in 2008 to \$899 billion in 2010.⁷²

Automatic stabilizers increased the federal budget deficit in all but 5 years between 2001 and 2022, in amounts ranging from 0.1 to 2.2 percent of GDP (see fig. 5.) Automatic stabilizers helped increase the budget surplus in 2001 and reduced the deficit in 2006 and 2007 by amounts ranging from 0.1 to 0.3 percent

of GDP. In 2005 and 2008, automatic stabilizers did not significantly increase or decrease the deficit.

CBO projects that automatic stabilizers will continue to increase federal deficits through 2033, though their effects will be strongest in the first half of that period. In the second half of that period, CBO projects that economic conditions will reach their long-run historical average values, which will reduce the effects of automatic stabilizers on the federal budget deficit.

Figure 5: Contribution of Automatic Stabilizers to the Federal Budget Deficit as a Share of Potential Gross Domestic Product (GDP), Fiscal Years 2001–2033



Source: GAO presentation of Congressional Budget Office and National Bureau of Economic Research data. | GAO-24-106056

The full effect of automatic stabilizers on the federal budget is not known because the studies we reviewed do not capture all ways in which the economic changes that result from automatic stabilizers may affect federal spending and revenues. As noted above, studies find that during economic downturns, automatic stabilizers support income, employment, and economic output. These effects can then lead to improved budgetary conditions as revenue increases and the need for spending is reduced. Therefore, there may be fiscal effects of automatic stabilizers that have not been precisely measured.⁷³

To what extent do automatic stabilizers contribute to federal debt over the long term?

While automatic stabilizers have contributed to budget deficits in recent years, they are not the key driver of federal debt over the long term. In May 2023, we reported that increasingly large budget deficits were driving unsustainable debt levels.⁷⁴ Large annual budget deficits occur because spending is increasing more than revenue and the government is spending more on interest to service its growing debt.

In fiscal year 2022, automatic stabilizers contributed \$67 billion to the federal budget deficit, according to CBO. However, the federal budget deficit was almost \$1.4 trillion that year, the fourth-largest recorded nominal federal deficit in history

behind the budget deficits in fiscal years 2021, 2020, and 2009, all periods of economic distress.

The gap between revenue and spending is expected to increase in the coming years, in large part because of the projected increases in Medicare, other federal health care, and Social Security program spending, and net interest spending compared to relatively lower projected increases in revenue.⁷⁵ Federal health care and Social Security spending are rising because the population is aging and health care is getting more expensive. As a result of these factors, debt held by the public is expected to exceed its historical high of 106 percent of GDP within the next 10 years. We have previously suggested that Congress develop a plan to address the government's fiscal outlook and promote fiscal sustainability.⁷⁶

Agency Comments and Third-Party Views

We provided excerpts of a draft of this report to CBO for review and comment. CBO staff provided technical comments, which we incorporated as appropriate. We also provided informational copies of a draft of this report to the Department of the Treasury and the Office of Management and Budget.

How GAO Did This Study

This report examines the effects of automatic stabilizers on the economy, the well-being of individuals and families, and the federal government's fiscal condition.

To describe automatic stabilizers, relevant federal programs, and economic concepts, we reviewed our prior reports, federal agency information, and CBO and Congressional Research Service publications.

To identify the economic and well-being effects of automatic stabilizers, we conducted a literature review, beginning with a literature search for studies that analyzed the relationship between automatic stabilizer programs and the economy or well-being. We focused our search on articles that analyzed the effects of automatic stabilizers during recent economic downturns or intervening periods of economic growth, from 2001 to 2022.

We also used keyword searches to identify well-being outcomes associated with key automatic stabilizer programs. Key words included wealth, poverty, employment, health insurance, hunger, and food security. We searched multiple databases to identify relevant articles, including Scopus, EconLit, Proquest Sociology Collection, Proquest SciTech Premium Collection, Proquest Policy File Index, Proquest Dialog Social SciSearch and the U.S. Department of Commerce National Technical Reports Library. Our searches identified 319 documents from peer reviewed journals, government-issued reports, working papers, and publications from nongovernmental organizations.

We also identified 69 documents based on expert recommendations, searches for related CBO, Congressional Research Service, and inspector general work; relevant article citations; and our own prior work. Overall, our literature search contained 388 documents. To assess the relevance of these documents, a policy analyst and an economist or methodologist separately reviewed each article to agree on relevance. We considered articles relevant if the articles (1) described automatic stabilizers' effect on the U.S. economy or the well-being of individuals or families in the U.S., or (2) described how automatic stabilizers have affected the federal government's fiscal condition from 2001 through 2020.

To assess methodological quality and determine whether an article was appropriate to include in the literature review, two economists independently conducted in-depth reviews. These in-depth reviews entailed an assessment of each study's research methodology, including its data quality (when applicable), research design, and analytic techniques, as well as a summary of each study's

major findings and conclusions. We also assessed the extent to which each study's data and methods supported its findings and conclusions. We prioritized studies based on their methodological soundness and use of empirical data analysis. We determined that 41 articles were relevant and appropriate for our analysis. See the bibliography for a full list of relevant articles.

Our report presents findings from the body of knowledge included in these articles. To the extent that findings from these articles vary, we mention the differences in our report. All studies have limitations and to varying extents make assumptions about behaviors and how the economy works. Despite these limitations, we determined that the studies we included provide reliable information about the effects of automatic stabilizers.

To describe changes in economic conditions over time and periods of economic downturn, we reviewed data on the business cycle, GDP, and unemployment rate. Specifically, we used data from 2001 to 2022 from the National Bureau of Economic Research, Bureau of Economic Analysis, and Bureau of Labor Statistics.

To describe the extent to which automatic stabilizers have affected the federal government's fiscal condition since 2001, we reviewed data and analysis published by CBO, reviewed research from the Federal Reserve System, and spoke with CBO and Federal Reserve System staff.

We assessed the reliability of all sources of data and found them to be sufficiently reliable for the purposes of this report.

We conducted this performance audit from May 2022 to November 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

List of Addressees

The Honorable Ron Wyden
Chairman
Committee on Finance
United States Senate

The Honorable Michael F. Bennet
United States Senate

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretary of the Treasury, the Director of the Office of Management and Budget, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

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Appendix I Additional Source Information for Graphics

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Endnotes

¹A business cycle refers to the period where overall economic activity fluctuates between a high point (peak) and a low point (trough). When the economy begins to rise out of a trough, it marks the beginning of a new cycle. Business cycles vary in length and magnitude.

²Recessions are designated by a committee of experts within the NBER, a private nonprofit research organization that focuses on understanding the U.S. economy. The NBER committee uses indicators such as employment, personal income, industrial production, and quarterly GDP growth to calculate monthly data on recessions.

³The federal funds rate is the interest rate at which depository institutions lend federal funds (balances held at Federal Reserve Banks) with each other overnight.

⁴Rohan Kekre, "Unemployment Insurance in Macroeconomic Stabilization," *Review of Economic Studies*, vol. 00 (2023): 2; Glenn Follette and Byron Lutz, "Fiscal Policy in the United States: Automatic Stabilizers, Discretionary Fiscal Policy Actions, and the Economy," *Finance and Economics Discussion Series* No. 43, Federal Reserve Board. (Washington, D.C.: 2010), 16; Alisdair McKay and Ricardo Reis, "The Role of Automatic Stabilizers in the U.S. Business Cycle," *Econometrica*, vol. 84, no. 1 (2016): 1.

⁵According to CBO officials, CBO considers programs automatic stabilizers for the purposes of its budget estimates when the level of spending is most affected by the business cycle. Officials said that CBO excludes programs that are too small to be considered a major program or are not affected by the business cycle. For the purposes of this report, we limited our analysis to the spending programs CBO identified as automatic stabilizers. Frank Russek and Kim Kowalewski, *How CBO Estimates Automatic Stabilizers*, Congressional Budget Office (Washington, D.C.: Nov. 2015).

⁶There are 53 different UI programs operated in the states, the District of Columbia (D.C.), Puerto Rico, and the U.S. Virgin Islands (USVI). UI benefits are based on a percentage of an individual's earnings over a recent 52-week period up to a state maximum amount. See Department of Labor UI Tax Fact Sheet, accessed Oct. 11, 2023; and UI Fact Sheet, accessed June 29, 2023 (<https://oui.doleta.gov/unemploy/aboutui.asp>).

⁷An initial claim is the first claim filed by a person, and is used to determine eligibility for benefits. A state UI office reviews each initial claim and either accepts or rejects it, with benefits paid to those claims that are accepted. Department of Labor, Bureau of Labor Statistics, *Applying for and Receiving Unemployment Insurance Benefits during the Coronavirus Pandemic* (Washington, D.C.: Sept. 2021), <https://www.bls.gov/opub/mlr/2021/article/applying-for-and-receiving-unemployment-insurance-benefits-during-the-coronavirus-pandemic.htm>

⁸All states pay up to 13 weeks of extended benefits if the unemployment rate among those eligible for UI for a specified 13-week period is at least 5 percent and is 120 percent of the average of the rates for the same 13-week period in each of the two previous years. States can also choose to pay an additional 7 weeks of extended benefits if the unemployment rate among those eligible reaches certain thresholds.

⁹For example, the CARES Act temporarily provided an additional \$600 benefit that augmented weekly UI benefits, and the Families First Coronavirus Response Act temporarily provided 100

percent federally financed Extended Benefits for certain states. Pub. L. No. 116-136, § 2104, 134 Stat. 281, 318 (2020); Pub. L. No. 116-127, § 4105, 134 Stat. 178, 195 (2020).

¹⁰SNAP covers the 50 states, D.C., USVI, and Guam. Also, in lieu of SNAP, Nutrition Assistance Program (NAP) block grant funding is provided to Puerto Rico, the Commonwealth of the Northern Marianas Islands, and American Samoa. Additionally, the Food Distribution Program on Indian Reservations provides, in lieu of SNAP benefits, food commodities to low-income households on Indian reservations and to Native American families residing in Oklahoma or in designated areas near Oklahoma.

¹¹According to NBER, the recession driven by the COVID-19 pandemic took place from March to April of 2020. Annual data on SNAP are used to compare pre-recession average participation in 2019 to post-recession average participation in 2021. U.S. Department of Agriculture Food and Nutrition Service, *SNAP Data Tables National Level Annual Summary on Participation and Costs* (data as of June 9, 2023), accessed July 11, 2023, <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>

¹² Mandatory eligibility for Medicaid is extended to certain groups, such as qualified pregnant women and children. States can also develop a “medically needy program” for those with significant health needs who do not meet low-income thresholds. All states, the District of Columbia, and the U.S. territories participate in Medicaid; however, the federal government’s financing of Medicaid in the territories is subject to a capped allotment and coverage requirements vary from those applicable to the states and the District of Columbia.

¹³Health and Human Services, Centers for Medicare and Medicaid Services, March 2023 Medicaid and CHIP Enrollment Trends Snapshot, accessed July 5, 2023, <https://www.medicaid.gov/medicaid/program-information/medicaid-chip-enrollment-data/medicaid-and-chip-enrollment-trend-snapshot/index.html>. According to the National Bureau of Economic Research, the COVID-19 recession took place in March and April of 2020.

¹⁴For the purposes of this report, discretionary fiscal policy refers to actions taken by policymakers to adjust taxes and spending on a short-term basis in response to emerging issues that affect the level, composition, and distribution of national income and output. Discretionary fiscal policy may include actions taken to adjust discretionary spending, mandatory spending (i.e., budget authority generally provided by laws other than appropriations acts), or revenues. The budget process is a major vehicle for determining and implementing federal fiscal policy. Discretionary spending refers to budget authority, outlays, or other budgetary resources that are provided and controlled by appropriations acts.

¹⁵Temporary changes to UI during the COVID-19 pandemic included (1) Pandemic Unemployment Assistance, which authorized UI benefits to individuals not otherwise eligible who could not work for COVID-19 related reasons; (2) Federal Pandemic Unemployment Compensation, which generally authorized additional weekly benefits; (3) Pandemic Emergency Unemployment Compensation, which generally authorized additional weeks of UI benefits for those who had exhausted their regular UI benefits; and (4) the Mixed Earner Unemployment Compensation program, which authorized additional UI benefits for those whose benefits did not account for significant self-employment income and who thus may have received a lower regular UI benefit than they would have received had they been eligible for Pandemic Unemployment Assistance.

¹⁶Temporary changes to SNAP during the COVID-19 pandemic included issuing emergency allotments and allowing the Department of Agriculture to adjust federal requirements for SNAP related to issuing benefits, reviewing applications, and reporting requirements. Pub. L. No. 116-127, § 1101(a)-(i), 134 Stat. 178, 179-80 (2020).

¹⁷These studies first estimate the size of automatic stabilizers as the change of government revenues and expenditures in response to economic shocks. Then, they derive the impact of stabilizers on economic activity either using a macroeconomic model or by applying estimates of the marginal propensity to consume of households and businesses to the revenue and expenditure changes. David Cashin, Jamie Lenney, Byron Lutz, William Peterman, “Fiscal Policy and Aggregate Demand in the USA Before, During, and Following the Great Recession.” *International Tax and Public Finance*, vol. 25 (2018) and Follete and Lutz, “Fiscal Policy in the United States.”

¹⁸Cashin et al., “Fiscal Policy and Aggregate Demand,” 1538.

¹⁹The rate of GDP growth may be positive or negative. In particular, GDP growth may be negative during a recession.

²⁰At the federal level, the stabilizers considered in this study include personal (individual) and corporate income, payroll, production and import taxes, and unemployment insurance taxes on the revenue side, as well as UI, SNAP, and Medicaid on the expenditure side. At the state and local level, stabilizers include cyclical responses for personal and corporate income taxes and sales taxes.

²¹At the federal level, the stabilizers considered in this study include personal (individual) and corporate income taxes, social insurance contributions (such as Social Security and Medicare payroll taxes), excise taxes, and custom duties on the revenue side, as well as UI, SNAP, and Medicaid, and federal welfare payments before 1996 on the expenditure side. The authors also considered federal welfare payments post 1996, which were not cyclically sensitive, as well as Social Security Old Age and Survivors Insurance and Disability Insurance, which had negligible cyclical effects. At the state and local level, stabilizers include cyclical responses for personal and corporate income taxes, federal grants for Medicaid and Assistance for Families with Dependent Children (since replaced by the Temporary Assistance for Needy Families program), and other small transfers. Follette and Lutz, "Fiscal Policy in the United States," 17.

²²Specifically, it found that a \$1 billion increase in SNAP spending due to new enrollment during a downturn would generate \$1.5 billion in GDP. This study used a social accounting matrix multiplier model that relates production input to output. It assumed that new SNAP benefit recipients have the same spending and saving behavior as the average existing SNAP household. It also assumed that prices and interest rates are fixed in the one-year horizon and that government spending does not crowd out private spending, which is less likely during an economic downturn. A related study from 2010 estimated the SNAP multiplier to be 1.79. This study assumed new SNAP recipients' behavior to match the observed average instead of marginal propensities to save and consume, which tends to bias the multiplier estimate upward. Patrick Canning and Brian Stacy, *The Supplemental Nutrition Assistance Program (SNAP) and the Economy: New Estimates of the SNAP Multiplier*, Economic Research Report Number 265, U.S. Department of Agriculture Economic Research Service (Washington, D.C.: July 2019).

²³Marco Di Maggio and Amir Kermani, "The Importance of Unemployment Insurance as an Automatic Stabilizer," Working Paper No. 22625 (Cambridge, M.A.: National Bureau of Economic Research, 2016): 2; Kenneth Hanson, *The Food Assistance National Input-Output Multiplier (FANIoM) Model and Stimulus Effects of SNAP*, Economic Research Report Number 103, U.S. Department of Agriculture (Washington, D.C.: Oct. 2010), iv; Kekre, "Unemployment Insurance in Macroeconomic Stabilization," 24; Alan S. Blinder and Mark Zandi, *The Financial Crisis: Lessons for the Next One*, (Washington, D.C.: Center on Budget and Policy Priorities, Oct. 15, 2015): 18.

²⁴Christopher Boone, Arindrajit Dube, Lucas Goodman, and Ethan Kaplan. "Unemployment Insurance Generosity and Aggregate Employment," *American Economic Journal: Economic Policy*, vol. 13 no. 2 (2021):60.

²⁵Kekre, "Unemployment Insurance in Macroeconomic Stabilization,"2439; Yun Pei and Zoe Xie, "A Quantitative Theory of Time-Consistent Unemployment Insurance," *Journal of Monetary Economics*, 117 (2021): 849; Makoto Nakajima, "A Quantitative Analysis of Unemployment Benefit Extensions," *Journal of Monetary Economics*, vol. 59 no. 7 (2012): 686.

²⁶Mark Duggan, Andrew C. Johnston, and Audrey Guo, *Experience Rating As An Automatic Stabilizer*, Working Paper No. 30651 (Cambridge, M.A.: National Bureau of Economic Research, Nov. 2022): 2.

²⁷This study did not holistically examine the economic effects of experience rating, including potential effects on firms' decisions to hire.

²⁸The author noted that his estimates lie in the middle-to-upper end of the range of past estimates. He also assumed that state-level job search behavior and outcomes are unrelated to state-level UI extensions, except through factors that trigger the extensions. Robert G. Valletta, "Recent Extensions of US Unemployment Benefits: Search Responses in Alternative Labor Market States," *IZA Journal of Labor Policy*, vol. 3, no. 18 (2014): 20.

²⁹Nakajima, "A Quantitative Analysis of Unemployment Benefit Extensions," 698.

³⁰Nakajima, "A Quantitative Analysis of Unemployment Benefit Extensions," 697.

³¹Pei and Xie, "A Quantitative Theory of Time-Consistent Unemployment Insurance" and Nakajima, "A Quantitative Analysis of Unemployment Benefit Extensions."

³²Ammar Farooq, Adrianna D. Kugler, Umberto Muratori, “Do Unemployment Insurance Benefits Improve Match and Employer Quality? Evidence from Recent U.S. Recessions,” Working Paper, No. 27574 (Cambridge, M.A.: National Bureau of Economic Research, rev. April 2022), 20-21.

³³GAO, *Unemployment Insurance: Pandemic Programs Posed Challenges, and DOL Could Better Address Customer Service and Emergency Planning*, [GAO-22-104251](#) (Washington, D.C.: June 7, 2022).

³⁴Marianne Bitler and Hilary Hoynes, “The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession,” *Journal of Labor Economics*, vol. 34, no. 1, pt. 2 (2016); Jeff Larrimore, Jacob Mortenson, and David Splinter, “Earnings Shocks and Stabilization during COVID-19,” *Journal of Public Economics*, vol. 206 (2022). Bruce Meyer and Derek Wu, “The Poverty Reduction of Social Security and Means-Tested Transfers,” *ILR Review*, vol. 71, no. 5 (2018). Marianne Bitler, Hilary Hoynes, and Elira Kuka, “Child Poverty, the Great Recession, and the Social Safety Net in the United States,” *Journal of Policy Analysis and Management*, vol. 36, no. 2 (2017); Bradley L. Hardy, “Income Instability and the Response of the Safety Net,” *Contemporary Economic Policy*, vol.35, no.2 (2017).

³⁵Bitler and Hoynes, “The More Things Change, the More They Stay the Same?;” Meyer and Wu, “The Poverty Reduction of Social Security and Means-Tested Transfers;” Hardy, “Income Instability and the Response of the Safety Net;” Bitler, Hoynes, and Kuka, “Child Poverty, the Great Recession, and the Social Safety Net in the United States.”

³⁶Bitler and Hoynes, “The More Things Change, the More They Stay the Same?,” S422.; Meyer and Wu, “The Poverty Reduction of Social Security and Means-Tested Transfers,” 1136. Bitler and Hoynes (2016) also found SNAP and UI to be marginally more countercyclical during the Great Recession than in previous cycles since 1980.

³⁷Jeehoon Han, Bruce D. Meyer, and James X. Sullivan, “Income and Poverty in the COVID-19 Pandemic,” *Brookings Papers on Economic Activity*, Summer (2020): 87.

³⁸Jesse Rothstein and Robert G. Valletta, “Scraping by: Income and Program Participation After the Loss of Extended Unemployment Benefits,” *Journal of Policy Analysis and Management*, vol. 36, no. 4 (2017): 880, 882.

³⁹Larrimore et al., “Earnings Shocks and Stabilization during COVID-19,” 104,602.

⁴⁰The study notes that this finding is consistent with the supplemental UI benefits provided by the CARES Act in 2020. Because these benefits were a fixed weekly amount and not tied to wages while working, lower-earning beneficiaries were the most likely to replace their earnings. The study defined earnings as wages and salaries, excluding self-employment.

⁴¹While these studies varied in the set of programs considered as part of the social safety net, they all included SNAP and UI. Bitler and Hoynes, “The More Things Change, the More They Stay the Same?;” Hardy, “Income Instability and the Response of the Safety Net;” Bitler, Hoynes, and Kuka, “Child Poverty, the Great Recession, and the Social Safety Net in the United States.”

⁴²This study also mentions that despite being effective at reducing poverty, since 1980 the safety net appears less responsive to instability for the same demographic groups. Hardy, “Income Instability and the Response of the Safety Net,” 327.

⁴³Bitler, Hoynes, and Kuka, “Child Poverty, the Great Recession, and the Social Safety Net in the United States,” 358.

⁴⁴According to the study, immigrants are not able to access a large share of the safety net due to lack of eligibility (for unauthorized immigrants) or because access is more limited. Bitler, Hoynes, and Kuka. “Child Poverty, the Great Recession, and the Social Safety Net in the United States,” 380.

⁴⁵René Chalom, Fatih Karahan, Kurt Mitman, and Benjamin Pugsley, “Liquidity Effects of Unemployment Insurance Benefit Extensions: Evidence from Consumer Credit Data,” Paper presented at a meeting of the Society for Economic Dynamics (2019); Joanne W Hsu, David A. Matsa, and Brian T. Melzer, “Unemployment Insurance as a Housing Market Stabilizer,” *American Economic Review*, vol. 108 no. 1 (2018).

⁴⁶According to the study, this finding implies that as long as home prices maintain their values, mortgage holders receiving UI benefits may use their benefits to pay down housing debts. There may be less incentive to pay down mortgage debt in a time when house prices are depressed.

Chalom et al., “Liquidity Effects of Unemployment Insurance Benefit Extensions,” 7.

⁴⁷Hsu, et al., “Unemployment Insurance as a Housing Market Stabilizer,” 50.

⁴⁸We use the term “food insecurity” to refer to multiple measures of food scarcity used in different studies, to include “food insufficiency” and “food hardship.”

⁴⁹Natasha Pilkauskas, Janet Currie, and Irwin Garfinkel, “The Great Recession, Public Transfers, and Material Hardship,” *Social Service Review*, vol. 86 no. 3 (2012): 12; Anna Aizer and Claudia Persico, “Lessons Learned from the COVID-19 Policy Response and Child Well-Being,” *Recession Remedies: Lessons Learned from the U.S. Economic Policy Response to COVID-19* (Washington, D.C.: The Hamilton Project and the Hutchins Center on Fiscal & Monetary Policy, Brookings Institution, 2022): 273; Marianne Bitler, Hilary Hoynes, and Diane Schanzenbach, “The Social Safety Net in the Wake of COVID-19,” *Brookings Papers on Economic Activity*, Summer (2020): 121.

⁵⁰The authors defined food hardship based on self-reported responses to whether, in the past 12 months, the household received free food or meals or whether household members experienced hunger due to not being able to afford enough food. Pilkauskas et al., “The Great Recession, Public Transfers, and Material Hardship,” 12.

⁵¹Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, div. N, tit. VII, § 702, 134 Stat. 1182, 2092 (2020). “Food insufficiency” is a measure used for the Census Bureau’s Household Pulse Survey. Specifically, households were considered food insufficient if they reported sometimes or often not having enough food to eat in the past 7 days. Aizer and Persico, *Recession Remedies*, 273.

⁵²The Patient Protection and Affordable Care Act gave states the option to expand their Medicaid programs by covering nearly all adults with incomes at or below 133 percent of the federal poverty level. Pub. L. No. 111-148, 124 Stat. 119 (2010), as amended by the Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, 124 Stat. 1029 (2010). States that expanded Medicaid eligibility criteria made individuals that lost employment-sponsored health insurance more likely to be eligible to enroll in Medicaid.

⁵³Sankar Mukhopadhyay, “The Effects of Medicaid Expansion on Job Loss Induced Mental Distress during the COVID-19 Pandemic in the US,” *SSM – Population Health*, vol. 20, 101279 (2022): 9.

⁵⁴This study used self-reported food insufficiency data from the Census Bureau’s Household Pulse Survey. Aizer and Persico, *Recession Remedies*, 274.

⁵⁵Bitler, et al., “The Social Safety Net in the Wake of COVID-19,” 121.

⁵⁶We previously reported that selected states faced challenges managing the surge in UI claims and implementing program expansions during the COVID-19 pandemic. We also reported that staffing challenges and persistent demand hampered selected states’ abilities to process Pandemic Unemployment Assistance claims. See [GAO-22-104251](#) and GAO, *Pandemic Unemployment Assistance: Federal Program Supported Contingent Workers amid Historic Demand, but DOL Should Examine Racial Disparities in Benefit Receipt*, [GAO-22-104438](#) (Washington, D.C.: June 7, 2022).

⁵⁷Joseph Benitez, “Comparison of Unemployment-Related Health Insurance Coverage Changes in Medicaid Expansion vs Nonexpansion States During the COVID-19 Pandemic,” *JAMA Health Forum*, vol. 3 no. 6 (2022); Joseph A Benitez, Victoria E. Perez, Jie Chen, “Did Medicaid Slow Declines in Access to Health Care during the Great Recession?,” *Health Services Research*, vol. 56 (2021); Bidisha Mandal, Nilton Porto, D. Elizabeth Kiss, Soo Hyun Cho, and Lorna Saboe-Wounded Head, “Health Insurance Coverage during the COVID-19 Pandemic: The Role of Medicaid Expansion,” *Journal of Consumer Affairs* (2022): 11.

⁵⁸Benitez, “Comparison of Unemployment-Related Health Insurance Coverage,” 1.

⁵⁹Benitez, Perez, and Chen, “Did Medicaid Slow Declines in Access to Health Care,” 655; Joseph A Benitez, Victoria Perez, and Eric Seiber, “Medicaid Access During Economic Distress: Lessons Learned From the Great Recession,” *Medical Care Research and Review*, vol. 78, no. 5 (2021): 494.

⁶⁰Mukhopadhyay, “The Effects of Medicaid Expansion on Job Loss Induced Mental Distress,” 2.

⁶¹Sarah Hamersma, Yilin Hou, Yusun Kim, and Douglas Wolf, “Business Cycles, Medicaid Generosity, and Birth Outcomes,” *Population Research and Policy Review*, vol. 37 (2018): 742.

⁶²Medicaid generosity was based on state-level eligibility criteria.

⁶³UI generosity was proxied by the maximum benefit that eligible unemployed individuals can receive. Hamid Noghanibehambari and Mahmoud Salari, “The Effect of Unemployment Insurance on the Safety Net and Infant Health in the USA,” *Economic Annals*, vol. LXVII, no. 234 (2022): 12.

⁶⁴The standard deviation is a measure of the amount of variation in the data from the mean. A larger standard deviation indicates more variability.

⁶⁵This analysis is based on data from the Survey of Income and Program Participation in years 1996-2013 and the Behavioral Risk Factor Surveillance System in years 1996-2015. Elira Kuka, “Quantifying the Benefits of Social Insurance: Unemployment Insurance and Health,” *The Review of Economics and Statistics*, vol. 102, no. 3 (2020).

⁶⁶SNAP generosity was based on several state-level SNAP administration characteristics, including eligibility guidelines and program spending. Daniel P. Miller and Taryn W. Morrissey, “SNAP Participation and the Health and Health Care Utilisation of Low-Income Adults and Children,” *Public Health Nutrition*, vol. 24, no. 18 (2021): 6,548.

⁶⁷Sheila Zedlewski, Elaine Waxman, and Craig Gundersen, The Urban Institute, Round Table on *SNAP’s Role in the Great Recession and Beyond* (Washington, D.C.: The Urban Institute, 2012): 5.

⁶⁸We previously reported on the design and administration of refundable tax credits, including the EITC. See GAO, *Refundable Tax Credits: Comprehensive Compliance Strategy and Expanded Use of Data Could Strengthen IRS’s Efforts to Address Noncompliance*, [GAO-16-475](#) (Washington, D.C.: May 27, 2016).

⁶⁹Marianne Bitler, Hilary Hoynes, and Elira Kuka, “Do In-Work Tax Credits Serve as a Safety Net?,” *The Journal of Human Resources*, vol. 52 no. 2, March (2017); Maggie R. Jones, “The EITC Over the Great Recession: Who Benefited?,” *National Tax Journal*, vol. 70, no. 4 (2017).

⁷⁰Jones, “The EITC Over the Great Recession: Who Benefited?” 724.

⁷¹Bitler et al., “Do In-Work Tax Credits Serve as a Safety Net?,” 320.

⁷²According to the National Bureau of Economic Research, the Great Recession started in January 2008 and ended in June 2009. Annual individual income tax revenue peaked in 2008, as the Great Recession began, and reached a low point in 2010, shortly after it ended. This change in revenue was not caused by automatic stabilizers alone. Multiple factors, including tax law changes, affect the amount of revenue collected in any given year.

⁷³CBO captures net changes in automatic stabilizers on the spending and revenue sides associated with unemployment and output gaps, respectively. According to CBO staff, these estimates reflect initial responses as well as feedback effects that the initial changes might have through affecting unemployment or output in the current quarter. We note that CBO’s methodology does not allow separate analysis of initial changes in stabilizers and subsequent feedback effects, the latter of which could partly offset the former, particularly during economic downturns. We also note that automatic stabilizers may impact the fiscal condition in ways that fall outside the scope of CBO’s methodology, such as through reducing losses to government-sponsored mortgage companies.

⁷⁴GAO, *The Nation’s Fiscal Health: Road Map Needed to Address Projected Unsustainable Debt Levels*, [GAO-23-106201](#) (Washington, D.C.: May 8, 2023).

⁷⁵Medicaid is a large federal health care program. As an automatic stabilizer, the program’s costs can fluctuate in the near-term with changes in the economy. However, like other federal health care programs, its long-term costs are driven by an aging of the population and increases in the cost of health care. Enrollees over 65 have much higher per capita costs than children and adults under 65, and Medicaid plays a large role in funding long-term care, such as nursing homes, for aged persons.

⁷⁶See [GAO-23-106201](#).