Congressional Budget Office

JANUARY 2019

The Effects of the Partial Shutdown Ending in January 2019

Summary

The Congressional Budget Office has estimated the effects of the five-week partial shutdown of the government that started on December 22, 2018, and ended on January 25, 2019. This report presents CBO's findings, which include the following:

- CBO estimates that the five-week shutdown delayed approximately $18 billion in federal discretionary spending for compensation and purchases of goods and services and suspended some federal services.
- As a result of reduced economic activity, CBO estimates, real (that is, inflation-adjusted) gross domestic product (GDP) in the fourth quarter of 2018 was reduced by $3 billion (in 2019 dollars) in relation to what it would have been otherwise. (Such references are in calendar years or quarters unless this report specifies otherwise.) In the first quarter of 2019, the level of real GDP is estimated to be $8 billion lower than it would have been—an effect reflecting both the five-week partial shutdown and the resumption in economic activity once funding resumed.
- As a share of quarterly real GDP, the level of real GDP in the fourth quarter of 2018 was reduced by 0.1 percent, CBO estimates. And the level of real GDP in the first quarter of 2019 is expected to be reduced by 0.2 percent.[1] (The effect on the *annualized* quarterly growth rate in those quarters will be larger.)[2]
- In subsequent quarters, GDP will be temporarily higher than it would have been in the absence of a shutdown. Although most of the real GDP lost during the fourth quarter of 2018 and the first quarter of 2019 will eventually be recovered, CBO estimates that about $3 billion will not be. That amount equals 0.02 percent of projected annual GDP in 2019. In other words, the level of GDP

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[1] The economic forecast that CBO released in *The Budget and Economic Outlook: 2019 to 2029* was completed before the partial shutdown of the federal government began. Therefore, that forecast does not incorporate any of the shutdown's economic effects. See Congressional Budget Office, *The Budget and Economic Outlook: 2019 to 2029* (January 2019), www.cbo.gov/publication/54918.

[2] To annualize an amount is to adjust it so that it applies to an entire year.

for the full calendar year is expected to be 0.02 percent smaller than it would have been otherwise.

- Underlying those effects on the overall economy are much more significant effects on individual businesses and workers. Among those who experienced the largest and most direct negative effects are federal workers who faced delayed compensation and private-sector entities that lost business. Some of those private-sector entities will never recoup that lost income.
- All of the estimated effects and their timing are subject to considerable uncertainty. In particular, CBO is uncertain about how much discretionary spending was affected by the partial shutdown, how affected federal employees and contractors adjusted their spending in response to delayed compensation, and how agencies will adjust their spending on goods and services now that funding has resumed.

In CBO's estimation, the shutdown dampened economic activity mainly because of the loss of furloughed federal workers' contribution to GDP, the delay in federal spending on goods and services, and the reduction in aggregate demand (which thereby dampened private-sector activity).[3]

CBO's estimates do not incorporate other, more indirect negative effects of the shutdown, which are more difficult to quantify but were probably becoming more significant as it continued. For example, some businesses could not obtain federal permits and certifications, and others faced reduced access to loans provided by the federal government. Such factors were probably beginning to lead firms to postpone investment and hiring decisions. In addition, risks to the economy were becoming increasingly significant as the shutdown continued. Although their precise effects on economic output are uncertain, the negative effects of such factors would have become increasingly important if the partial shutdown had extended beyond five weeks.

Background

CBO estimates that net discretionary funding for the agencies that were affected by the shutdown totals $329 billion in fiscal year 2019, or about 25 percent of the total discretionary funding for the federal government. That total reflects the annualized amounts of funding provided in the Continuing Appropriations Act, 2019 (Public Law 115-245), which expired on December 22, 2018. Additional appropriations were not provided until January 25, 2019 (35 days later), when H.J. Res. 28 was enacted, which extended the levels of funding provided in P.L. 115-245 through February 15, 2019.

The funding lapse affected discretionary activities in the judicial branch and the following departments and agencies in the executive branch: the Department of Agriculture, the Department of Commerce, the Department of Homeland Security, the

[3] In CBO's estimates, workers who were required to continue to work at agencies that did not have funding contributed to real GDP during the shutdown, while furloughed workers did not—an approach that accords with the methods typically used by the Bureau of Economic Analysis to measure real GDP.

Department of Housing and Urban Development, the Department of the Interior, the Department of Justice, the Department of State (and the related international assistance programs), the Department of Transportation, the Department of the Treasury, the Environmental Protection Agency, the National Aeronautics and Space Administration, and the National Science Foundation. Some smaller agencies were affected as well.

When agencies do not receive appropriations, their employees are required to stop working on any activities normally funded by those appropriations—unless an employee is excepted to perform a particular task.[4] Such tasks are defined in an agency's contingency plan in accordance with guidance from the Office of Management and Budget (OMB) and the Department of Justice.[5] Excepted employees (often referred to as essential employees) are required to carry out activities for the protection of life or property, as well as other activities defined in the agency's plan. They are generally not paid for the hours that they work until their agency receives an appropriation. Employees of the agencies who are not excepted are furloughed. The recently enacted Government Employee Fair Treatment Act of 2019 guaranteed that furloughed employees will receive back pay with the resumption in funding.[6]

Agencies without appropriations also are constrained in what goods and services they can purchase. For example, many contractors are not permitted to provide services to federal agencies that have not received appropriations. In addition, employees at those agencies generally cannot travel for work or participate in training events.

Also, without an appropriation, an agency has no current funding to make grants, provide subsidies, or otherwise make payments to individuals through a variety of benefit programs unless those services are considered essential under the agency's contingency plan. During the partial shutdown that ended on January 25, however, some agencies without current-year appropriations continued to make grants, subsidies, and other transfers, using funding that had been appropriated in earlier years and was available for obligation.[7] Because CBO did not observe a significant drop-off in those payments

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[4] See the Antideficiency Act, 31 U.S.C. §1341 et seq.

[5] See Office of Management and Budget, *Apportionment of Obligational Authority for Necessary Agency Operations in the Absence of Fiscal Year 2019 Appropriations*, OMB Bulletin 19-02 (December 2018), https://go.usa.gov/xEBYk.

[6] See the Government Employee Fair Treatment Act of 2019, S. 24, as signed by the President on January 16, 2019. The law states that furloughed employees shall be paid at the earliest possible date after appropriations have been provided, but it does not provide an appropriation to pay for those costs. That funding was provided on January 25 in H.J. Res. 28.

[7] The period of availability of discretionary appropriations is the span during which the budget authority provided in annual appropriation acts is generally available for obligation. Discretionary budget authority usually is designated as annual (expiring after one year), multiyear (expiring after a specified number of years), or no-year (remaining available until expended). In 2017, 49 percent of discretionary appropriations for that year was made available for more than one year, and 15 percent was made available indefinitely. For additional information, see Congressional Budget Office, letter to the Honorable Steve Womack describing the period of availability of appropriated funds (May 21, 2018), www.cbo.gov/publication/54155.

during the partial shutdown, it did not incorporate any reductions in those payments into the analysis described here.

Using information from the Administration, CBO estimates that the federal civilian workforce totals about 2.1 million workers and that about 800,000 of them (or about 40 percent) are employed at agencies that lacked an appropriation during the partial shutdown.[8] The weekly compensation costs for workers at agencies that were without an appropriation totaled roughly $1.8 billion, or about 40 percent of total compensation for federal workers.

Of those 800,000 employees, CBO estimates, about 300,000 (or 38 percent of employees at agencies without an appropriation) were furloughed during the shutdown. That estimate is not precise, in part because OMB's guidance about who should work during the shutdown changed over time.

Effects on the Federal Budget

Because of the five-week partial shutdown, federal outlays, revenues, and other collections were lower than they would have been otherwise. With the resumption of funding, CBO expects that nearly all of the spending that did not occur during the shutdown will be made up but that the government will probably not fully recoup all of the revenues and other collections that it lost during the shutdown.

Spending

The affected departments' and agencies' spending can be divided into two categories: employees' compensation and purchases of goods and services.

Employees' Compensation. CBO estimates that federal outlays for employees' compensation were reduced by about $9 billion during the shutdown from what they would have been otherwise. Of that total, about $3 billion represents compensation for furloughed employees, and $6 billion represents compensation for excepted employees who were required to work even though their compensation was delayed (see Table 1).

Given the recent appropriation for funding for back pay for all affected federal employees, CBO expects that federal compensation will be boosted by the same $9 billion over February and March. Federal compensation will be otherwise unaffected by the shutdown, in CBO's assessment.[9]

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[8] That information includes data from the Office of Personnel Management's online database called FedScope, www.fedscope.opm.gov/; object-class data from *Budget of the U.S. Government, Fiscal Year 2019: Budget Appendix* (February 2018), www.whitehouse.gov/omb/appendix/; and employment information from the publicly available shutdown contingency plans for the affected agencies.

[9] Some anecdotal evidence suggests that some agencies that did not have current-year funding during the partial shutdown paid workers with remaining balances from earlier years. CBO did not incorporate such payments into the estimates here.

Table 1.

Near-Term Reduction in Federal Expenditures From the Partial Shutdown Lasting From December 22, 2018, to January 25, 2019

Billions of Dollars

	December 2018	January 2019	Total
Compensation for Employees in Agencies Without Funding	3[a]	6	9
Compensation for furloughed employees	1[a]	2	3
Compensation for excepted employees	2[a]	4	6
Spending on Goods and Services	3	7	9
Total Reduction in Federal Expenditures	**5**	**13**	**18**

Numbers may not add up to totals because of rounding.

a. Most of the compensation for federal workers at agencies without funding that was accrued in December 2018 would normally have been paid in January 2019.

Spending on Goods and Services. CBO estimates that federal spending on goods and services was about $9 billion lower during the five-week shutdown than it would have been otherwise. Nearly all of that reduction will, CBO expects, be made up within the first three quarters of calendar year 2019 (which are the remainder of the fiscal year)—because agencies will try to make use of their current-year funding before the end of the fiscal year. Specifically, CBO estimates that one-third of the reduction will be made up in each of the first, second, and third quarters of the calendar year. (Agencies will probably purchase a different mix of goods and services than they had initially planned, however.) Federal spending on goods and services will otherwise be unaffected by the five-week shutdown, in CBO's assessment.

Revenues and Collections

The delay in salary payments to federal employees during the five-week shutdown will alter the timing of tax revenues. Receipts from withheld payroll and individual income taxes will have fallen during the shutdown and will then be recouped with the resumption in funding. Because of the progressive nature of the individual income tax, some federal employees will have additional tax withheld when they receive their back pay in a lump sum. Unless those employees alter their withholding or estimated tax payments, that additional withholding will result in slightly higher revenues in fiscal year 2019. But that effect will be offset in fiscal year 2020, when those employees file their taxes and reconcile their liability and payments from 2019. The reduction in economic activity early in fiscal year 2019 and the subsequent boost in activity later in the year—which are discussed below—might also slightly alter the timing of tax revenues.

The five-week shutdown also affected the collection of some fees and fines. In most cases, only the timing was affected, because fees not collected during the shutdown will be collected with the resumption in funding. Examples include fees collected by the Securities and Exchange Commission and the Federal Trade Commission. In other cases, collections will be permanently lost, because some fees are associated with economic activity that, in CBO's assessment, will not occur, such as some visits to national parks that were canceled. However, permanently lost collections from the five-week shutdown will be small. For example, the fees to enter national parks and other federal recreational areas amount to roughly $500 million in a full year.

Finally, as a result of some reduced activities by the Internal Revenue Service (IRS) that are meant to ensure taxpayers' compliance with tax law, CBO estimates that tax revenues will be roughly $2 billion lower in fiscal year 2019 because of the shutdown. With the resumption of the IRS's activities, tax revenues will return to the levels expected in the absence of the shutdown. However, CBO estimates that much of the lost revenue from those forgone compliance activities will not be recouped.

Macroeconomic Effects

CBO estimates that the five-week partial government shutdown temporarily reduced the level of real GDP. That decrease happened in three ways: Services were not provided by federal workers, federal spending on goods and services was temporarily lower, and a temporary reduction in aggregate demand lowered output in the private sector. Even though GDP is expected to rebound with the resumption in funding, some lost GDP will not be recovered. In addition, the shutdown will have small and temporary effects on aggregate measures of the labor market.

Underlying those effects on the overall economy, however, are much more significant distributional effects—that is, effects that redistribute income from some producers of goods and services to others. Indeed, some people and businesses experienced significantly negative effects. All of the estimated effects and their timing are subject to considerable uncertainty.

Effects on Real GDP

CBO estimates that the partial shutdown made the level of real GDP in the fourth quarter of 2018 a little less than 0.1 percent lower than it would have been in the absence of the shutdown. CBO also estimates that the shutdown and the subsequent rebound in federal spending beginning in February will reduce real GDP by about 0.2 percent in the first quarter of 2019, boost it by 0.1 percent in each of the second and third quarters of 2019, and then boost it slightly in the fourth quarter (see Table 2).

The negative effects on GDP will be only partially offset by the subsequent positive effects because not all forgone economic activity will be recovered. CBO estimates that the shutdown reduced GDP in the fourth quarter of 2018 by $3 billion (in 2019 dollars); that the shutdown, together with the subsequent rebound in spending beginning in February, will, on net, reduce GDP in the first quarter of 2019 by $8 billion; and that in the remainder of 2019, GDP will be boosted by $8 billion.[10] Those estimates suggest that

[10] In order to see the relationship between those reductions in dollar terms and the effects on the level of quarterly GDP shown in Table 2, the reductions need to be annualized, or multiplied by four, because quarterly GDP is reported at an annual rate. For example, CBO estimates that the level of real GDP in the fourth quarter of 2018 (in 2019 dollars) was $5,290 billion at a quarterly rate and $21,160 billion at an annual rate. As a result, the reduction in real GDP in that quarter was 0.1 percent, which equals ($3 billion × 4)/$21,160 billion.

Table 2.

Estimated Economic Effects of the Partial Shutdown Lasting From December 22, 2018, to January 25, 2019

	Fourth Quarter 2018	First Quarter 2019	Second Quarter 2019	Third Quarter 2019	Fourth Quarter 2019
Effect on the Level of Real GDP (Percent)	−0.1	−0.2	0.1	0.1	*
Effect on the Annualized Quarterly Growth Rate of Real GDP (Percentage points)	−0.2	−0.4	1.0	**	−0.3

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

GDP = gross domestic product; * = between zero and 0.05 percent; ** = between −0.05 percentage points and zero.

about $3 billion in forgone economic activity will not be recovered. That amount equals 0.02 percent of projected annual GDP in 2019.

CBO estimates that the partial shutdown reduced the annualized quarterly growth rate of real GDP for the fourth quarter of 2018 by 0.2 percentage points. CBO also estimates that the shutdown will lower that annualized growth rate in the first quarter of 2019 by 0.4 percentage points.[11] In the second quarter of 2019, as federal spending continues to rebound following the resumption of funding in late January, real GDP growth will be boosted by 1.0 percentage point.

Note that the effects on the annualized quarterly growth rates of real GDP are approximately four times the size of the change in the effect on the level of real GDP from quarter to quarter. For example, the negative effect on the level of GDP in the fourth quarter of 2018 rounds to 0.1 percent but is close to 0.05 percent, and four times that amount is a reduction in the annualized quarterly growth rate of 0.2 percentage points. For the first quarter of 2019, the change in the effect on the level of real GDP is about −0.1 percentage point (that is, the difference between the −0.2 percent effect in that quarter and the −0.1 percent effect in the fourth quarter of 2018). Four times that amount equals −0.4 percentage points, which is the effect on the annualized quarterly growth rate.

The effect of the five-week shutdown on the level of GDP in the third quarter is expected to be similar to the effect on the level in the second quarter, so the effect on growth in the third quarter is very small. By the fourth quarter of 2019, CBO estimates, GDP will have nearly returned to the path that it would have taken in the absence of the shutdown. Because the level of GDP will be boosted by less in the fourth quarter than in the third quarter, the effect on the growth rate in the fourth quarter is negative.

[11] In the economic projections that CBO released in *The Budget and Economic Outlook: 2019 to 2029*, which do not include the effects of the shutdown, the annualized growth rate of real GDP in the first quarter of 2019 is projected to be 2.5 percent. Incorporating the effect of the partial shutdown would, by itself, lower that projected rate to 2.1 percent.

Federal Employees' Hours and Compensation. The national income and product accounts (NIPAs), which are maintained by the Bureau of Economic Analysis, include comprehensive measures of economic activity, such as GDP and its components. One of those components reflects federal employees' contribution to GDP. In the NIPAs, the Bureau of Economic Analysis is expected to reduce federal employees' contribution to real GDP to be consistent with the reduction in the hours worked during the shutdown. As a result, furloughed employees will not have contributed to real GDP, despite receiving delayed compensation. In keeping with that approach, CBO estimates that excepted federal employees will have contributed directly to real GDP during the periods when they worked. Because of the reduction in hours worked by furloughed federal employees, the partial shutdown lowered real GDP in the first quarter of 2019 as well as in the fourth quarter of 2018.

With the resumption of funding, the number of hours worked by federal employees and their estimated contribution to real GDP are expected to return to the paths that they would have followed in the absence of the shutdown. Although furloughed employees may try to make up for forgone activity once they resume work, the contribution of federal salaried workers to real GDP will probably be measured as a function of their regular hours—as it is usually measured in the NIPAs. In other words, the NIPAs probably will not record any increase in output. As a result, the forgone government services and the lost contribution to real GDP will never be recovered in measured GDP. As this report mentions above, CBO estimates that the value of services lost during the five-week partial shutdown is $3 billion in 2019 dollars (see Table 1 on page 5).

Delayed federal compensation affects *nominal* GDP differently. The NIPAs measure the nominal output of federal workers as equaling their nominal compensation, whether those employees worked or were furloughed. Because CBO anticipates that the NIPAs will record federal back pay in the periods when federal workers would have been paid in the absence of the shutdown, delaying federal compensation has no direct effect on measured nominal output.

Spending on Goods and Services. The delayed federal spending on goods and services will also affect real GDP. CBO estimates that the five-week partial shutdown made such spending $9 billion lower than it would have been otherwise. However, CBO expects that one-third of that $9 billion total reduction in spending on goods and services will be made up during February and March. Nonetheless, GDP will be dampened in the first quarter of 2019, on net. In later quarters, GDP will be larger than it would have been otherwise, as agencies continue to make up for the reduction in spending on goods and services that occurred during the shutdown.

Effects on Aggregate Demand. CBO estimates that in the near term, the partial shutdown also reduced aggregate demand in the private sector for goods and services, pushing down GDP. The delay in federal compensation lowered consumer spending by affected federal workers—especially, CBO estimates, by liquidity-constrained workers who missed paychecks. In addition, the delay in federal spending on goods and services led to a loss of private-sector income that further lowered demand for other output produced by the private sector. As a result of those effects on aggregate demand, CBO estimates that economic output was dampened and that it will now be boosted as workers receive back pay and federal agencies resume making purchases and providing services. Ultimately, aggregate demand is expected to return to the levels that it would have reached in the absence of the shutdown, although perhaps later than the end of 2019.

Effects on the Labor Market

The five-week partial shutdown is expected to have had small temporary effects on the level of employment and the unemployment rate. Both of those variables are reported by the Bureau of Labor Statistics (BLS), but they come from different surveys using different definitions.[12] Because furloughed workers will receive back pay, BLS counts those workers as *employed* in one survey, which is used to determine payroll employment. However, in another survey, which is used to determine the unemployment rate, BLS counts the same workers as *unemployed on temporary layoff*, as long as those workers reported that they were furloughed federal employees and were otherwise not temporarily employed.

If all furloughed workers in January were counted as unemployed on temporary layoff, the measured unemployment rate would be boosted in January by about 0.2 percentage points. (That rate averaged 3.8 percent in the fourth quarter of 2018 and did not include any effects of the shutdown.) Excepted employees who were working would have had no direct effect on measured employment or on the unemployment rate. Also, the temporary decrease in private-sector activity that resulted from the shutdown might have slowed hiring and increased layoffs in the private sector. That effect might translate into a slightly higher unemployment rate and slightly lower employment in January. Those effects will wane quickly with the resumption in funding, in CBO's assessment.

Distributional Effects

In addition to having the aggregate effects just described, the partial shutdown redistributed resources from some people and businesses to others. That redistribution happened in many ways, and for some, the negative effects were substantial. Federal workers whose compensation was delayed are among the people who experienced the largest and most direct negative effects, although that compensation will be restored with the resumption of funding. In addition, private producers that had contracts with federal agencies that were affected by the partial shutdown—and probably their employees and suppliers—saw a reduction in income during the shutdown. So did private businesses providing goods and services to affected employees. And people who lost income and consequently borrowed money during the shutdown will see an increase in expenses as they pay interest on that debt.

Many other businesses, by contrast, are expected to see a small temporary increase in demand as a result of the shutdown and the resumption of funding. (Some of those businesses might be the same ones that experienced reductions in income.) Such businesses include those that saw a pickup in demand for services provided to furloughed employees. In addition, the resumption of funding and the payment of delayed compensation is expected to temporarily boost aggregate demand. After federal

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[12] For details on how the Bureau of Labor Statistics incorporates the effect of the shutdown in its data releases, see Bureau of Labor Statistics, "Does the Lapse of Appropriation for Some Federal Agencies Impact BLS Data or Release Dates?" (January 24, 2019), https://go.usa.gov/xEBRf.

employees receive back pay, they may temporarily increase their spending on goods and services, though not on exactly the same goods and services that they would have bought in December and January. And federal agencies affected by the shutdown will try to work quickly to reorganize their budgets and spend their appropriated funding—again, not necessarily on the same goods and services that they would have purchased in December and January.

Methods and Uncertainty

CBO's method of estimating the economic effects of the five-week partial shutdown relied heavily on two parameters. First, CBO estimated that affected federal agencies would make up for one-third of the reduction in spending on goods and services in each of the first, second, and third quarters of 2019. That estimate is based on how agencies have tried to spend their full current-year appropriation in the past. Second, CBO used its standard estimate of how changes in government spending affect aggregate demand and thus economic output in the near term. Specifically, CBO used its estimate of the demand multiplier (which is defined as the change in dollars of output for each dollar of direct effect on demand): 1.2 over four quarters. That estimate is based on evidence about the effects of fiscal policy changes that have been implemented in the past and on the agency's short-term macroeconomic model.[13]

CBO's estimates of the economic effects of the five-week partial shutdown are subject to considerable uncertainty. In particular, CBO's estimate of the effects of the shutdown on federal compensation is uncertain. CBO has estimated the effect on personnel compensation using information from the affected agencies' contingency plans and the amount of compensation for each of those agencies, but the number of workers who were furloughed fluctuated over the shutdown. In addition, CBO did not incorporate any effects from agencies that compensated employees with funds from previous appropriations. Furthermore, some small agencies within larger departments—for example, U.S. Citizenship and Immigration Services—had authority to compensate personnel with mandatory rather than discretionary spending. Because the effect on compensation among affected agencies is uncertain, CBO did not try to incorporate it.

In addition, CBO is uncertain about how various federal agencies adjusted their noncompensation spending during the shutdown, how much that spending will change with the resumption in funding, and how much the furloughed federal employees adjusted their spending and saving in response to delayed compensation. Moreover, a good deal of uncertainty exists about the magnitude and timing of the effects of changes in federal spending on aggregate demand. Because of those and other sources of

[13] In CBO's assessment, the effects of government spending on aggregate demand, as summarized by the demand multiplier, vary with the state of the economy. For a detailed discussion of CBO's approach to estimating the short-term effects of fiscal policy changes, see Congressional Budget Office, *How CBO Analyzes the Effects of Changes in Federal Fiscal Policies on the Economy* (November 2014), www.cbo.gov/publication/49494, and Felix Reichling and Charles Whalen, *Assessing the Short-Term Effects on Output of Changes in Federal Fiscal Policies*, Working Paper 2012-08 (Congressional Budget Office, May 2012), www.cbo.gov/publication/43278. Also see Marc Labonte, *The FY2014 Government Shutdown: Economic Effects*, Report for Congress R43292 (Congressional Research Service, September 2015).

uncertainty, the actual economic effects of the partial shutdown may differ from CBO's estimates.

Other organizations have also estimated the economic effects of certain aspects of the shutdown, particularly the reduced contribution to real GDP from services provided by federal employees. CBO's estimate of that particular effect appears to be similar to those organizations' estimates. However, CBO's overall estimate includes other types of effects that appear not to be included in others' estimates, such as effects on aggregate demand for private-sector goods and services.[14] Probably because of that difference, CBO's total estimate is higher than most estimates by other organizations.

Other Possible Effects of the Partial Shutdown

CBO's estimated effects of the five-week partial shutdown do not incorporate a number of indirect negative effects, which are more difficult to quantify but were probably becoming more important as the shutdown continued. For example, during the shutdown, some businesses could not obtain federal permits and certifications, and some faced interrupted access to federal subsidies and loans provided by the federal government. Those types of disruptions were probably beginning to reduce economic output.

In addition, the absence of funding for agencies that help minimize various risks probably increased the risk of low-probability but high-cost events. Also, federal statistical agencies' inability to publish economic data increased uncertainty about the economy among investors, households, and policymakers. Such factors were probably beginning to reduce investors' confidence and to affect firms' plans to invest and hire. Finally, funding lapses were probably beginning to reduce the credibility of the federal government as an employer and a contracting party, making it more difficult for federal agencies to attract and maintain a talented workforce and more expensive to enter into contracts with private firms.

Although their precise effects on economic output are uncertain, those factors would have had increasingly negative effects if the partial shutdown had extended beyond five weeks. And other disruptions would have probably emerged. For example, a longer shutdown could broadly dampen consumer spending by significantly disrupting federal benefit programs, such as the Supplemental Nutrition Assistance Program, housing programs, and other income support programs and by reducing consumer confidence. Although CBO did not observe a significant drop-off in grants, subsidies, or other payments made to individuals during the five-week shutdown, a longer shutdown would probably have disrupted those payments.

[14] For example, Macroeconomic Advisers by IHS Markit and Moody's Analytics have both estimated that the forgone value of services not produced by furloughed federal workers in January would result in a reduction of annualized growth of real GDP of roughly one-quarter of a percentage point in the first quarter of 2019.

This Congressional Budget Office report was prepared at the request of Chairman John Yarmuth of the House Budget Committee and Congressman Tom O'Halleran. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

The report was written by Wendy Edelberg, with contributions from Kathleen Burke, Kim Cawley, Devrim Demirel, Jacob Fabian, Theresa Gullo, John Kitchen, Mark Lasky, Junghoon Lee, John McClelland, T.J. McGrath, Sam Papenfuss, Dan Ready, Jeff Schafer, John Seliski, Jeffrey Werling, and Adam Wilson. Sebastien Gay, Joseph Kile, Deborah Kilroe, Leo Lex, and Chad Shirley provided useful comments.

The report was reviewed by Mark Hadley, Jeffrey Kling, and Robert Sunshine. Benjamin Plotinsky and John Skeen edited the report and prepared it for publication. An electronic version is available on CBO's website (www.cbo.gov/publication/54937).

The agency continually seeks feedback to make its work as useful as possible. Please send any feedback to communications@cbo.gov.

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