Measuring fiscal impetus: The Great Recession in historical context

Leslie McGranahan and Jacob Berman

Introduction and summary

Fiscal policy describes how the expenditure and revenue decisions of local, state, or federal governments influence economic growth. In this article, we create a comprehensive measure of fiscal policy called fiscal impetus, which estimates the combined effect of purchases, taxes, and transfers across all levels of government on growth. Our goal is to use this measure of fiscal impetus to examine how fiscal policy has behaved during business cycles in the past, how it responded to the most recent recession, and how it is likely to evolve over the next several years. Our analysis reveals that policy was more expansionary than average during the 2007 recession and has been significantly more contractionary than average during the recovery. By the end of 2012, fiscal impetus was below its historical business cycle average and it is forecast to remain depressed well into the future.

Research on fiscal policy typically attempts to measure how a change in tax or spending policies impacts economic outcomes. For example, studies tend to focus on narrow questions such as how a change in eligibility for a safety net program affects unemployment or how infrastructure spending affects gross domestic product (GDP). While there is a vast literature examining the effectiveness of particular fiscal policies, relatively little attention has been devoted to measuring the total contribution of *all* fiscal policies.

Perhaps the simplest indicator of the stance of overall fiscal policy is the budget deficit. A deficit indicates that government expenditures exceed revenues, a difference that must be financed by borrowing. Assuming that government borrowing does not crowd out private investment, a deficit is stimulative. It means the government is directly purchasing or transferring more than it is bringing in through taxes. Tax cuts and transfers lead to higher private consumption and investment, while direct purchases lead to higher public consumption and investment. However, focusing only on the deficit fails to account for the fact that different fiscal policies may affect economic growth differently. For example, a given level of spending on foreign aid or domestic investment will have the same effect on the budget deficit, though the latter may be more likely to stimulate domestic economic growth.

An alternate approach to measuring the stance of fiscal policy is to use statistical techniques to measure fiscal variables relative to a benchmark or historical norm. Lucking and Wilson (2013) do this by regressing federal taxes, spending, and primary deficits on lags of the Congressional Budget Office (CBO) estimate of potential output. By identifying the historical relationship between federal fiscal policy and the output gap

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(the difference between potential and current output), they create a baseline against which recent policy can be compared. They argue that federal fiscal policy has been a modest drag on economic growth during the recovery from the Great Recession—because fiscal variables have been less expansionary than would be expected based on the magnitude of the output gap—and that it will continue to be a modest drag.

Many research organizations, such as the International Monetary Fund (Bornhorst et al., 2011) and the CBO (2013a) have divided fiscal policy into structural and temporary/cyclical components. The temporary components aim to measure changes that are direct responses to the business cycle; they can also include the effects of changing asset prices or temporary budget items. Any automatic stabilizers triggered by the tax code or benefit systems are counted as cyclical, while discretionary fiscal policy is counted as structural. Other authors have relied on large-scale econometric models to estimate the effects of policies. These models look at historical data and try to find statistical relationships between changes in fiscal variables and changes in output. For example, Follette and Lutz (2010) apply fiscal multipliers to a variety of policy factors and estimate their aggregate effects using the FRB/US model developed by staff of the Board of Governors of the Federal Reserve System.

In this exercise, we refrain from measuring the stance of fiscal policy using econometric techniques and instead focus on developing a simple method to measure fiscal impetus that allows us to compare historical data from the National Income and Product Accounts (NIPAs), produced by the U.S. Bureau of Economic Analysis (BEA), across time in a meaningful and consistent way. Our approach has several strengths. First, it is comprehensive. Since our method only requires data from the national accounts, it can easily include all sectors of government. While federal fiscal policy attracts significant attention, state and local policy is often ignored. State and local governments account for 45 percent of all government receipts, and nearly 40 percent of expenditures, so it is necessary to include these sectors in any measure of overall fiscal stance. The national accounts data are also extremely detailed, making it easy to identify the sources of strength and weakness within subcategories. For example, within the national defense consumption expenditures category, we can see exactly how much ammunition purchases contributed to fiscal impetus.

Second, our method does not require us to disentangle structural policy changes (active policy changes such as new direct spending) from automatic stabilizers and other cyclical changes (passive changes caused by the business cycle). Although this distinction is useful for other types of analysis, classifying the source of impetus as active or passive should have no relationship to a measure of its scale.[1] Additionally, separating the two forms of impetus can be challenging and imperfect (Weidner and Williams, 2014). Absent a measure of the output gap, we are not saying anything about the level of fiscal impetus relative to the decline or recovery of economic activity. Instead, our goal is simply to report what happened. Because our measure does not require a complex model, it can be easily updated and modified.

Our exercise makes assumptions about how fiscal policies affect contemporaneous output, but we make no attempt to test those assumptions. Specifically, we will use multipliers estimated by the CBO to weight the impact of different types of policy. Rigorously measuring these multipliers requires either a statistical argument that identifies some exogenous policy variation or a dynamic equilibrium model that can account for the various channels through which fiscal policy is likely to affect the economy. For example, more formal models can account for how a shock in government spending is likely to affect interest rates, inflation, productivity, incentives to work, or expectations of future taxes. Instead of referring to this large (and often controversial) literature, we take the CBO multipliers as given and ask what they imply about the stance of fiscal policy more broadly.

Detailed measurement

In this section, we develop the measure of fiscal impetus that we use throughout the remainder of the article. Our goal is to have a measure of fiscal impetus that is the sum of fiscal impetus arising from different sources (taxes and transfers, federal and state) that is conceptually similar to the concept of the contributions to real GDP percentage change as measured in the NIPAs (table 1.1.2) with the modification that we adjust for population growth.[2]

Let nominal output at time t be denoted by y_t, and let $x_{i,t}$ be the nominal value of a particular component of fiscal policy indexed by i at time t. The percent contribution is approximated as the percent change in a component of fiscal policy multiplied by its ratio to total output in the previous period, t–1. This is expressed as:

$$1) \quad \frac{x_{i,t-1}}{y_{t-1}}\left(\frac{x_{i,t}}{x_{i,t-1}}-1\right).$$

To get the contribution in real per capita terms, we divide all nominal terms by an appropriate price deflator, p_t, and the population, n_t. Finally, we sum

across each form of impetus to get the following measure of total fiscal impetus:

$$2) \quad \sum_i \frac{x_{i,t-1}}{y_{t-1}} \left(\frac{x_{i,t} p_{t-1} n_{t-1}}{x_{i,t-1} p_t n_t} - 1 \right).$$

Note that when we set $x_{i,t}$ to government purchases and assume no population growth, the measure is nearly identical to the BEA's official calculation of the government contribution to percent change in real GDP published in NIPA table 1.1.2.[3] We do not include any lags in our equation, so we are measuring impetus as a share of contemporaneous GDP. The effects on actual growth may be more drawn out.

Data

Our three impetus categories are purchases, taxes, and transfer payments at both the federal and state and local levels. Our purchases category includes all purchases of goods and services included in government consumption expenditures and gross investment in the NIPAs. Since governments produce nonmarket services, the BEA uses the cost of inputs to impute the market value of government production. At the federal level, defense-related activities account for nearly two-thirds of all purchases; the major nondefense categories include health research, health care services provided to veterans, tax collection and financial management, federal policing activities, and the administration of social insurance programs. On the state and local level, the single largest category is primary and secondary education; others include highway construction, police and fire services, higher education, and community services.

Our second category of fiscal impetus is tax revenues. Tax revenues enter our measure of fiscal impetus negatively because higher taxes reduce consumption. Our data come from NIPA table 3.1 and are personal current taxes (the income tax and the capital gains tax), taxes on production and imports (property, sales, and excise taxes), and contributions for government social insurance (employer and employee contributions to Social Security, Medicare, and unemployment insurance trust funds). During periods of economic slack, labor tax revenue falls automatically as households have less taxable income and shift into brackets with lower marginal tax rates. Additionally, in an effort to raise disposable income and stimulate private demand, governments often respond to downturns by cutting statutory rates or expanding credits and deductions. Though property and sales taxes are less sensitive to business cycles, revenue collections also tend to slow when the economy is depressed.

The final type of impetus in our model is transfer payments as recorded in NIPA table 3.12U. As with taxes, changes in the level of transfers happen automatically as incomes fall or through policy changes that expand eligibility. Transfer payments stimulate private demand by making more resources available to households for consumption. Transfers can be either cash payments, such as Social Security benefits, or in-kind transfers such as food stamps—an important distinction between the two is that in-kind benefits cannot be saved.

To convert values into real terms, we use the relevant NIPA implicit price deflator. For taxes and transfers, we use the personal consumption deflator; and for government purchases, we use the government consumption expenditures and gross investment deflator. Our population sample is the total population of the United States as reported in NIPA table 2.1. All growth rates are in real per capita, seasonally adjusted, annualized terms.

Understanding fiscal impetus

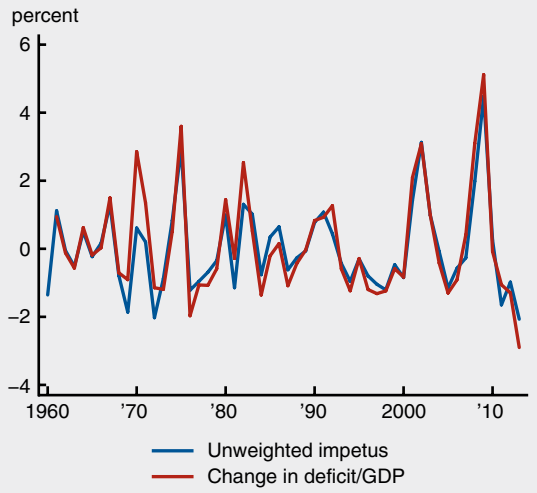
Figure 1 plots our measure of total fiscal impetus and the annual change in the total government deficit to GDP ratio. These are not measured in per capita terms. Although these two measures both come from the NIPAs, they are computed using different data and methods. The cash deficit includes categories such as interest payments and income receipts on assets that we do not include in our measure of fiscal impetus since their impact on economic activity is ambiguous. The mathematics behind both calculations are also different: The blue line in the figure represents a growth rate, while the red line is the difference between two ratios. Nevertheless, they tell broadly the same story. Years in which the deficit/GDP ratio is growing are also years when fiscal impetus is expansionary.

A problem with this unweighted fiscal impetus measure is that it fails to account for the fact that different forms of fiscal impetus may have different effects on economic activity. This is one of the reasons we do not rely on the deficit as our impetus measure. To account for this, we apply weights or "multipliers," denoted as w_i, to different sources of fiscal impetus before we aggregate across the types. For example, if we would expect a tax cut for a low-income household to be more likely to be spent than a tax cut for a high-income household, we would assign a higher weight to low-income tax cuts (as measured by cuts in the payroll tax). Our final impetus equation, then, is expressed as:

$$3) \quad \sum_i w_i \frac{x_{i,t-1}}{y_{t-1}} \left(\frac{x_{i,t} p_{t-1} n_{t-1}}{x_{i,t-1} p_t n_t} - 1 \right).$$

FIGURE 1

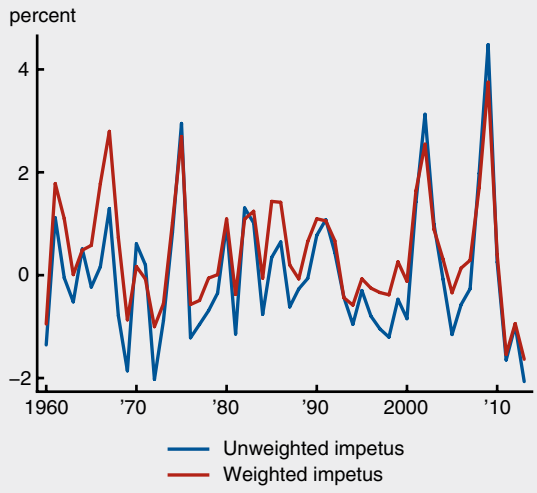
Comparing impetus and the budget deficit



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 2

The impact of weighting on impetus



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

We assign a multiplier of 1.5 to purchases, 1.25 to transfers, 0.8 to payroll taxes, and 0.4 to income, property, and sales taxes. We choose these weights based on research by the Congressional Budget Office.[4] As a simple robustness check, we perform all of our calculations using a multiplier of one for all forms of impetus in the appendix. In general, changes to the multipliers change the magnitude of impetus, but not its overall shape over time. To show the effect of weighting, figure 2 compares impetus without population adjustment calculated using uniform weights versus our preferred weights. Our preferred weights increase the mean of impetus over time, but decrease its variance. Figure 3 shows annual fiscal impetus since 1960 using our preferred multipliers in real per capita growth terms.

Fiscal impetus during the recession

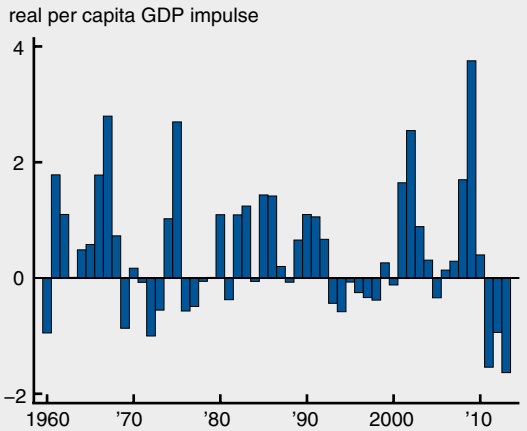
We developed this measure of fiscal impetus to analyze fiscal policy during business cycles. Throughout, we use the National Bureau of Economic Research's business cycle dates to mark the beginning and end of recessions. To better understand the dynamics of fiscal policy during the 2007–09 recession, we compare the path of key variables for the eight quarters following the 2007 peak with their path following other business cycle peaks since 1960. Our sample of recessions includes the recessions starting in 1960, 1969, 1973, 1981, 1990, and 2001. We start in 1960 since this avoids the several short recessions in the 1950s, as well as the large distortionary effects of the Korean War. We drop the first part of the double-dip recession starting in January of 1980. This approach provides a framework for understanding how fiscal measures responded to the recession as it was happening. The eight-quarter period covers the beginning of the recession in the fourth quarter of 2007 through the fourth quarter of 2009.

Figure 4 compares fiscal policy during the Great Recession to the average fiscal policy in our historical sample. We show the cumulative impetus as of each quarter relative to the peak quarter. That is, we compound each quarter's impetus to show the sum of all impetus since the start of a recession. The faint lines in the background of the figure represent each previous recession. Figure 5 shows cumulative impetus decomposed into its component parts. The thick black line represents the path of impetus during the average recession; any shaded area above the black line is policy impetus since 2007 that was in excess of the historical average, and any area below the line is policy impetus below the historical average. The black line, plus the distance above it, minus the distance below, yields the 2007 experience. A larger area represents a larger deviation from average. For example, in figure 5, the fact that the green region is above the black line in the later quarters but its area is relatively small indicates that the growth in purchases during this recession was only slightly above average.[5]

At quarter 8, the red line in figure 4 is above all of the faint lines, which indicates that fiscal policy

FIGURE 3

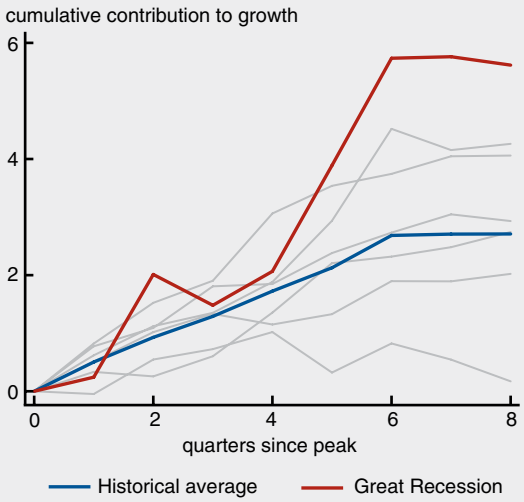
Weighted fiscal impetus



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 4

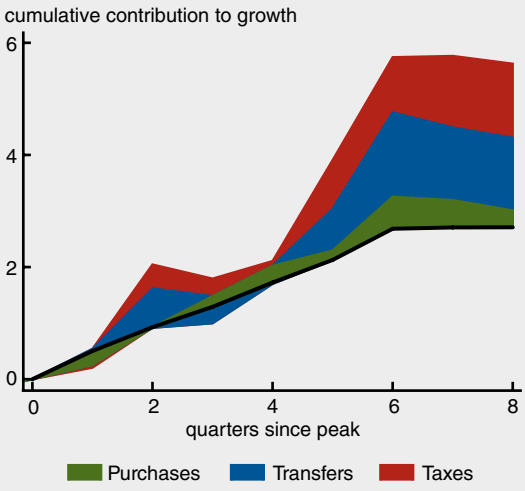
Fiscal impetus during recessions



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 5

Excess impetus during recessions by category



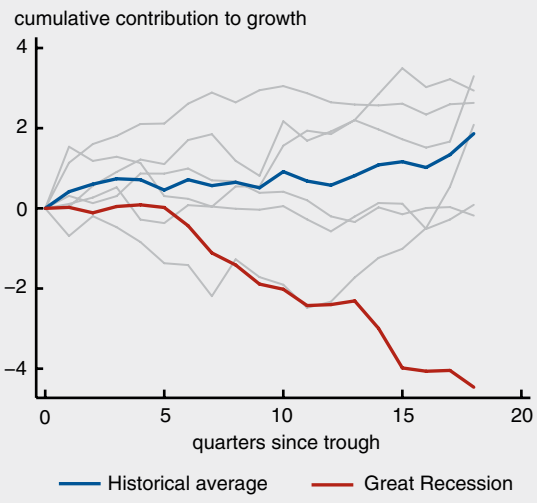
Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

during the Great Recession was more expansionary than in any previous post-1960 episode. The first major source of fiscal impetus came from the Economic Stimulus Act of 2008, which spent $113 billion on lump-sum, refundable tax rebates for individuals making less than $75,000 and joint filers making less than $150,000. The NIPAs record this partially as an offset to personal current taxes and partially as a current transfer payment. The spike due to this is clearly visible as expansionary tax and transfer policy in the second quarter of 2008 (the second quarter after the peak). Policy contracted in the following quarter as taxes and transfers returned to their previous levels and then surged back up as automatic stabilizers kicked in and Congress passed the American Recovery and Reinvestment Act (ARRA). By the eighth quarter after the peak, impetus was solidly above the previous historical high achieved during the 1973 recession.

As indicated in figure 5, the majority of excess stimulus came from falling taxes and increasing transfers; purchases account for only 10 percent of stimulus above the historical average. On the tax side, a sharp drop in effective tax rates and ARRA-related tax cuts drove personal taxes well below historical levels. Payroll and production taxes were also below average, although the size of the effect was modest. On the transfer side, stimulus was more evenly distributed across programs. A large portion of excess stimulus came from unemployment insurance with other categories including refundable tax credits, special payments to Social Security beneficiaries, and increased food stamp benefits (Supplemental Nutrition Assistance Program, or SNAP). Medicaid transfers did not rise above the historical average. In the purchases category, nearly the entire excess stimulus came from defense purchases. Nondefense purchases were only slightly above average, and state and local government purchases were a significant drag.

FIGURE 6

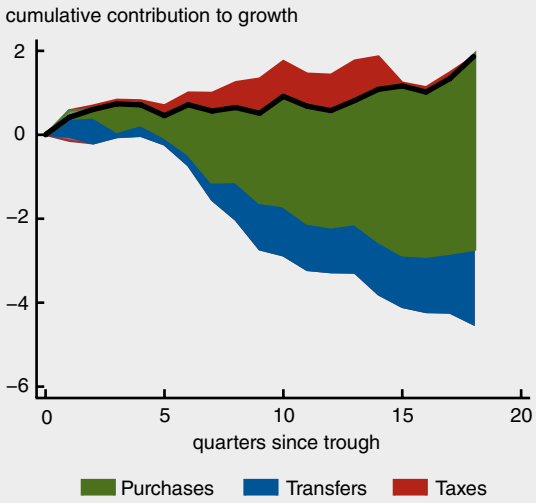
Average fiscal impetus during recoveries



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 7

Excess impetus during recoveries by category



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

Fiscal impetus during the recovery

In this section, we repeat the calculations above, but instead plot the relevant series starting at the business cycle trough and covering the subsequent 18 quarters. This approach allows us to study the dynamics of policy during the recovery. The period covers the beginning of the recovery in the second quarter of 2009 all the way through the fourth quarter of 2013. As indicated in figure 6, fiscal policy during the recovery was significantly more contractionary than the historical average. The net effect of policy in the quarters immediately after the beginning of the recovery hovered around zero as opposed to the historical average, which is slightly positive. Policy began contracting around the fifth quarter and remained near the low end of our comparison recoveries throughout most of the recovery. In the last several quarters in the figure (representing late 2012 and 2013) it fell precipitously, and by the end of 2013 it was well below the previous historical low of the 1969 recovery.

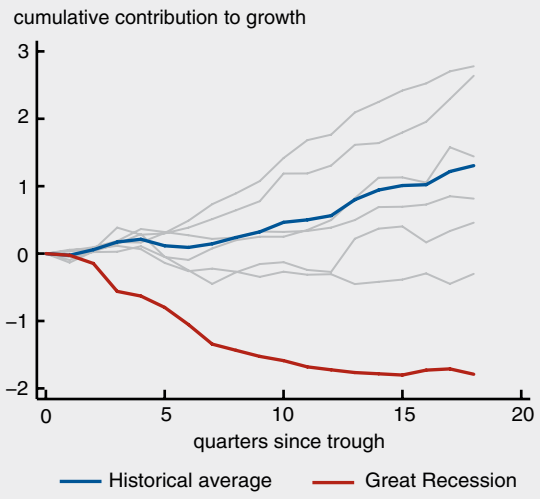
Figure 7 divides the impetus contribution into its component parts and shows that the tightening of fiscal policy was driven primarily by a decline in direct government purchases. While purchases grew at a slightly above-average rate during the recession, they shrank in almost every quarter of the recovery. Purchases also grew slowly during the recoveries of 1991 and 1975, but by 2012 the cumulative decline was larger than in any prior historical period. The decline in purchases was driven mostly by cuts by state and local governments. Figure 8 highlights that the contraction in state and local government purchases far exceeded that of any previous historical episode. The contribution of federal government purchases was also below average, though the magnitude of the effect was less dramatic. In the nondefense sector, the federal civilian work force declined to the smallest level since 1966 and intermediate purchases also fell considerably. However, given that nondefense purchases are not a large part of the government sector, this was only a modest drag. The cumulative effect of defense purchases hovered near zero and then slowly drifted down around 2011—a trend roughly in line with the historical average. Overall, about 70 percent of the relative decline in purchases is explained by the state and local sector.

Despite persistently high unemployment, transfer payments in this recovery grew below the historical average. Per capita spending on Social Security, Medicare, and Medicaid—which together account for three-quarters of all government social benefits—was below average. This is consistent with the record-low growth in national health expenditures over the past several years. Unemployment insurance was a relative drag, but it was declining from unusually high levels. Spending on SNAP benefits was consistently higher than average; however, even at its peak, SNAP accounted for only 3 percent of social benefits, so the magnitude of the effect was small.

The relative drag from purchases and transfers during the recovery was partially offset by tax policy.

FIGURE 8

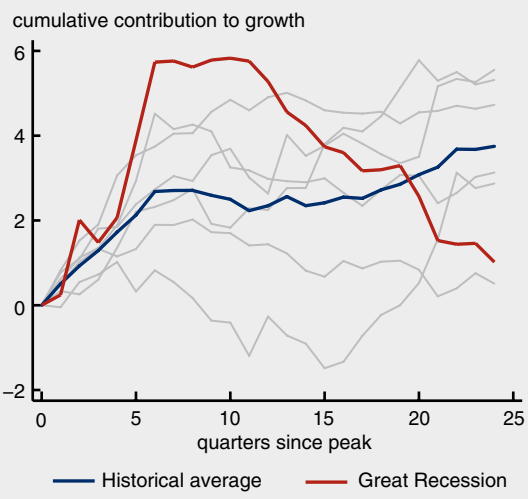
State and local purchases during the recovery



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 9

Average fiscal impetus over business cycles



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

The net effect of tax policy throughout most of the recovery was near zero, compared with the negative historical average, which indicates that taxes usually increase. The 2001 recovery was the only one in which tax policy was a larger contribution to growth than in 2009. Almost the entire tax stimulus came from the payroll tax cut of 2011, which cut the rate for employee contributions from 6.2 percent to 4.2 percent. When Congress allowed this legislation to expire in 2013, payroll revenues rose sharply and by the end of 2013, tax policy had converged back to its historical average. Personal current taxes (as opposed to payroll taxes) were a relative drag throughout the recovery, while production taxes made a modest positive contribution. A sharp increase in taxes combined with declining purchases made the first quarter of 2013 (quarter 14 in figure 6) the most contractionary quarter of fiscal policy since 1960. Under our specification of the weights, the magnitude of drag in that quarter was 4 percent of per capita GDP.

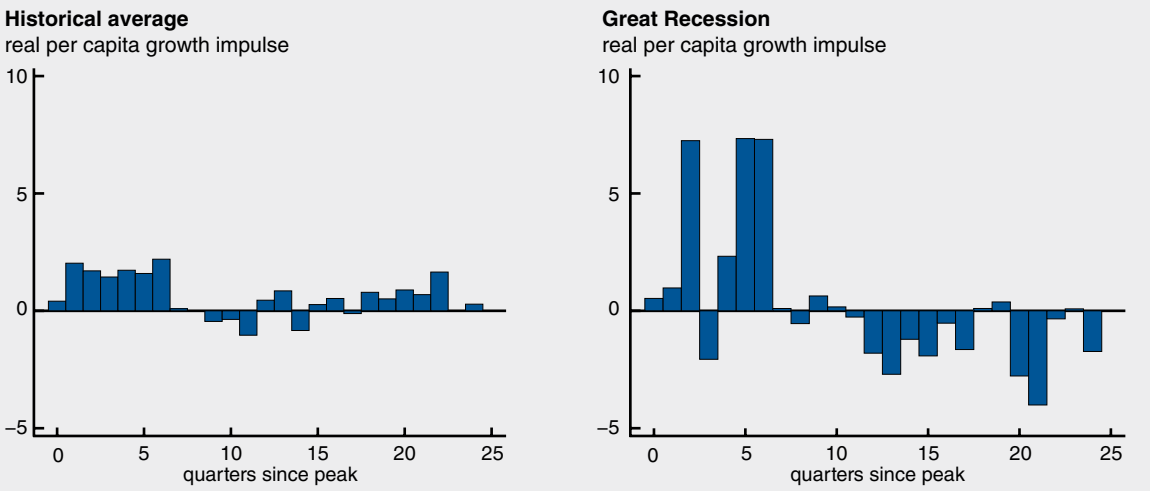
Fiscal impetus over the full business cycle

In this section, we repeat the calculations above for the entire business cycle. This allows us to compare the size of the fiscal expansion during the recession with the fiscal contraction during the recovery. We are interested in assessing the extent to which the unprecedented decline during the recovery offset the increase during the recession. We start in the fourth quarter of 2007 and continue through the fourth quarter of 2013. Figure 9 shows that relative to the historical baseline, although fiscal policy was unusually expansionary during the recession, the contraction in fiscal policy following the recession was even larger. The cumulative contribution to growth of fiscal policy was more stimulative than average up until the middle of 2012 when the red line crosses the blue line. By the end of 2013, cumulative fiscal impetus was solidly below its historical average.

Figure 10 presents this information in a different way. We show the data as growth rates for each quarter without cumulating over time. In past business cycles, policy started as moderately expansionary, shifted to neutral or slightly negative, and then returned to a modest positive contribution about 15 quarters after the business cycle peak. During the most recent episode, policy started as strongly expansionary, contracted significantly, eased somewhat, and then contracted again. In table 1, we report summary statistics for fiscal policy following each peak over the quarters when real per capita GDP was below its pre-recession level. This represents the business cycle period before the economy has returned to trend growth. As a result, the number of quarters differs for each recession. Changing the number of quarters under consideration for a particular business cycle will tend to change the magnitude of the averages, but the general trends are consistent across most sample periods. Overall, we find that fiscal policy was less expansionary and more volatile than average following the 2007 peak. Within our sample,

FIGURE 10

Contemporaneous fiscal impulse



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

TABLE 1

Average fiscal impetus over recession and recovery

	Purchases	Taxes	Transfers	Total fiscal impetus	
Start of recession	Mean	Mean	Mean	Mean	Standard deviation
	(percent)				
1960	1.03	−0.06	0.76	1.73	1.24
1969	−1.12	0.31	1.23	0.42	1.64
1973	0.66	0.18	1.12	1.96	2.25
1981	0.58	0.10	0.68	1.35	1.27
1990	−0.11	0.07	1.09	1.05	1.19
2001	1.05	0.17	1.19	2.41	0.81
Average (1960–2001)	0.37	−0.25	0.48	0.60	1.82
2007	−0.28	0.04	0.56	0.32	3.10

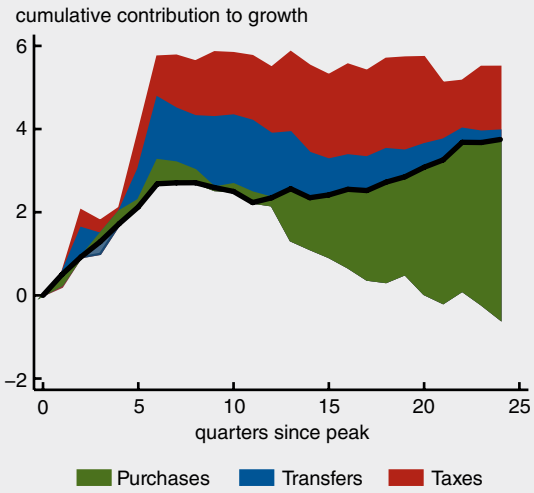
the 2007 business cycle had the smallest average impetus and the highest standard deviation. Figure 11 confirms this graphically; namely that the source of weakness was largely in the purchases category, which subtracted an average 0.28 percent from growth instead of adding 0.37 percent as it typically has. Low purchases were partially offset by expansionary tax policy and slightly above-average transfers. Within purchases, the state and local government sector explains nearly the entire decline; national defense was modestly above average, and nondefense was roughly average.

Fiscal impetus from ARRA and payroll tax cut

As mentioned earlier, fiscal policy changes are often divided into discretionary policy and automatic stabilizers. In this section, we discuss some of the largest discretionary changes. Government on the local, state, and federal level responded to the Great Recession with a variety of discretionary fiscal policies. A full cataloging of these policies is beyond the scope of this article, but there are two large federal programs that merit special attention: the American Recovery and Reinvestment Act (ARRA) passed in 2009 and the payroll tax holiday passed in 2011. In supplemental tables, the BEA computes the effects of these specific programs on selected government-sector transactions. By applying these computations to our impetus formula, we can measure the size of ARRA and the payroll tax cut relative to the residual policy impetus (all impetus not due to these two policies). It is important to emphasize that our model is static and will tend to produce different results from econometric or general equilibrium methods used by other researchers.

FIGURE 11

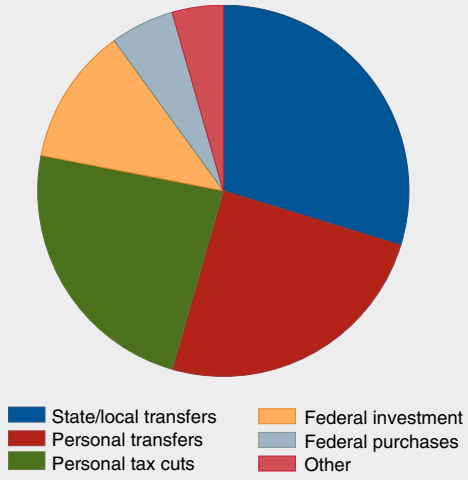
Excess impetus over business cycles by category



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 12

Composition of ARRA dollars spent



Notes: Average is from 2009–12. Components are not weighted by multipliers. Other includes corporate tax cuts and subsidies.
Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

Figure 12 decomposes ARRA's effects on the government account into its component parts. The data include only the effects of programs over the period authorized in the original ARRA legislation; subsequent extensions to programs that were initially part of the ARRA, such as numerous unemployment insurance extensions, are not included in these calculations and are part of the residual impetus. We start at the first quarter of 2009 when the legislation was passed and end in the last quarter of 2012 when nearly all the funds had been disbursed. Over this period, ARRA increased net borrowing by an average of $194 billion per year, or 1.3 percent of GDP. Most of the program consisted of transfer payments and tax cuts. Direct federal government consumption purchases accounted for only 5 percent of the total program.

For the payroll tax holiday, we investigate the entire period that it was in effect—January 2011 to December 2012—even though there were three separate pieces of legislation authorizing the program over that period. The payroll tax holiday is simpler to analyze since the only account affected was contributions for government social insurance.

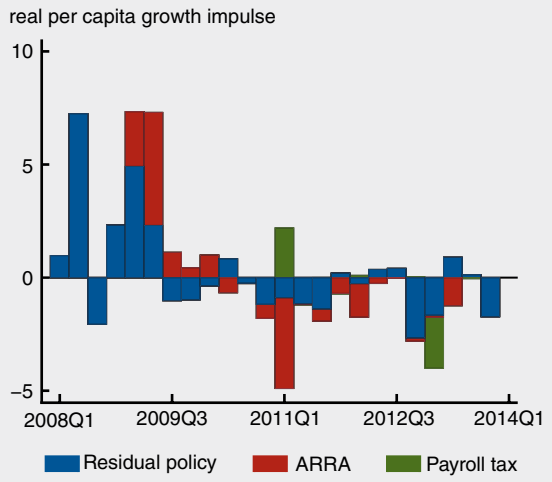
Figure 13 combines the program-specific data with our policy weights to show the sources of impetus during the Great Recession and recovery. The figure begins at the business cycle peak in the first quarter of 2008. The impetus from ARRA shows up immediately after the legislation was passed. ARRA had its greatest impact in the second quarter of 2009 when it contributed 5 percent to real per capita growth. As ARRA-related funding declined, the program made negative contributions to growth, the largest of which occurred in the first quarter of 2011. This was purposefully offset by the payroll tax cut, which first took effect that quarter and provided a growth impetus of 2.2 percent. All policy on the federal, state, and local level not included in these two programs is defined as residual policy. We compute residual policy simply by subtracting the effects of ARRA and the payroll tax cut from the total impetus calculated earlier.

ARRA affected tax impetus primarily through credits to personal current taxes: "Making Work Pay" provided a refundable tax credit of up to $400 for individuals and up to $800 for couples; the American Opportunity Tax Credit provided a credit to pay for higher education expenses; the existing Earned Income Tax Credit and Child Credit were expanded; and the floor for the alternative minimum tax was reduced. Corporate income taxes were cut by a small amount, but we omit this from the model since we do not include a multiplier concept for corporate income taxes.

In the transfers sector, the majority of ARRA impetus came from provisions affecting unemployment insurance. ARRA authorized the extension of emergency benefits, provided federal funding for extended benefits, loosened eligibility requirements, and increased monthly benefits by $25 for all recipients. Additional ARRA impetus came from SNAP, which expanded eligibility for childless adults and increased benefits

FIGURE 13

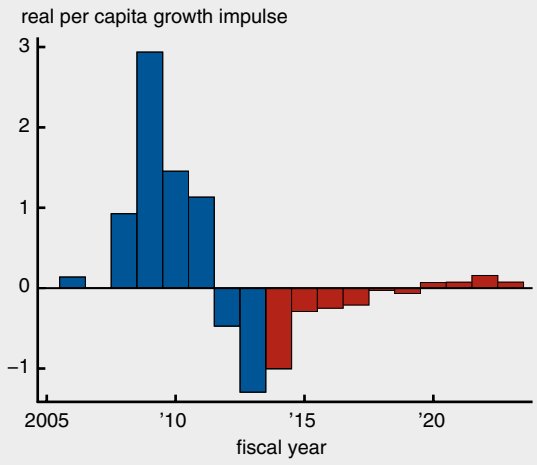
Sources of impetus over the Great Recession



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE 14

A forecast of impetus in the medium-term future



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

by an average of $46 per month. Other transfer programs included a one-time $250 payment to Social Security beneficiaries, student financial assistance, limited assistance for housing and energy expenses, and veterans' benefits.

ARRA impacted the purchases channel directly through funds that were made available for specific federal programs and indirectly through grants to state and local governments. Federal government purchases consisted primarily of research grants to agencies such as the National Institutes of Health and the Department of Energy, as well as some infrastructure programs. Gross investment and capital transfers are weighted the same as purchases. ARRA's effect on state and local government purchases is difficult to measure since most funding was provided through grants for Medicaid and education. Instead of attempting to estimate counterfactual state spending, we simply apply the CBO-estimated weight of 1.3 (CBO, 2013b).[6] This is the same as assuming that states and localities spent the majority of funds on purchases, with a small percentage going to offset cuts in transfers or tax hikes.

Forecasts of fiscal impetus

Given the abnormal path of fiscal impetus in recent years, a natural question is whether impetus is likely to return to its historical trend. We explore this question by applying our impetus measure to forecasts of purchases, transfers, and taxes. Our forecast comes from the CBO's baseline projection, which assumes that future federal fiscal policy will evolve as prescribed by current law. One advantage of using the CBO forecast is that the assumptions and policies included in the forecast are transparent. Additionally, no major federal tax or spending policies are set to expire in the near future, which means that current law provides a reasonable estimate of what policies are likely to occur. One disadvantage of the CBO forecast is that it only covers federal fiscal policy and omits the state and local sector. This means the results from the CBO forecast are not comparable with the results in previous sections. Nevertheless, third-party forecasters show a similar path for state and local fiscal policy, so we believe that the general trends presented below are also a reasonable indication of overall future impetus.

Figure 14 graphs federal fiscal impetus from 2006 to 2023. The figure shows that federal fiscal impulse is expected to remain contractionary from fiscal years 2014 to 2019. However, the magnitude of the contraction is likely to be less than in recent years. In fiscal year 2015, taxes and purchases provide a negative contribution of about 0.5 percent and 0.1 percent, respectively, partially offset by transfers that are estimated to provide a 0.3 percent positive contribution. In the next several years, the majority of fiscal drag comes from tax policy, as the contribution of purchases hovers near zero. The positive contribution of transfers is projected to edge up and bring the net contribution of impetus into positive territory by 2020.

Fiscal policy during the Great Recession was more expansionary than in the average post-1960 recession, with declines in taxes, increased in transfers, and higher

purchases all contributing to higher than typical fiscal impetus. This pattern reversed itself following the cyclical trough, with declining purchases, particularly among subnational governments, accounting for most of the shortfall. By mid-2012, cumulative fiscal impetus was below the average level in other post-1960 recessions. Although fiscal restraint is expected to ease somewhat over the coming years, there is no indication that fiscal policy will be a meaningful source of economic growth in the near future.

NOTES

[1]An increase in transfer spending can happen automatically with the business cycle or as part of a new discretionary program. In either case, households have more transfers than they otherwise would and the program would be expected to stimulate demand. Theory suggests that the impact of a policy change is affected by whether it is expected to be temporary or permanent. Although the discretionary/automatic distinction is loosely related to expectations, it is difficult in practice to reliably differentiate the two.

[2]We use per capita growth rates because it helps detrend the GDP series over long time horizons. Also, to the extent that GDP growth is a proxy for improving welfare, per capita GDP growth is the relevant statistic.

[3]The BEA does not release data on the level necessary to reproduce the figure exactly.

[4]These multipliers are also consistent with FRB/US, the large-scale macroeconometric model used by the Board of Governors of the Federal Reserve System. Throughout our exercise, we assume that there is no monetary offset—monetary policy response to fiscal policy changes. The central bank typically responds to changes in fiscal policy by adjusting monetary policy to maintain an economy with stable inflation and full employment. Since we are only interested in the fiscal side of policymaking, we assume the central bank leaves monetary policy unchanged.

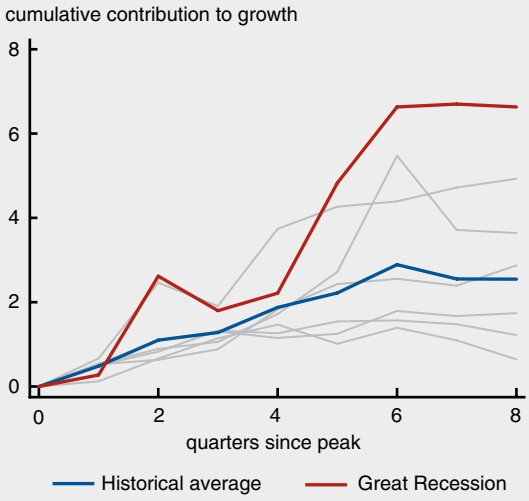
[5]The shading is sometimes both positive and negative between data points to preserve continuity. The areas do not overlap such that any portion is ever "covered" by another. For example, if the contribution to growth from purchases, taxes, and transfers, were, respectively, positive 6 percent, negative 3 percent, and negative 3 percent, then the figure would appear with one large green area above the thick black line, and two smaller, equally sized blue and red areas below the thick black line.

[6]See www.cbo.gov/sites/default/files/cbofiles/attachments/43945-ARRA.pdf.

APPENDIX: CALCULATIONS USING A MULTIPLIER OF ONE FOR ALL FORMS OF IMPETUS

FIGURE A1

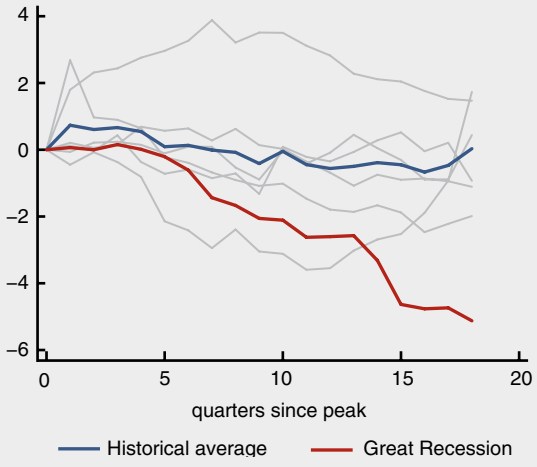
Unweighted fiscal impetus during recessions



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE A2

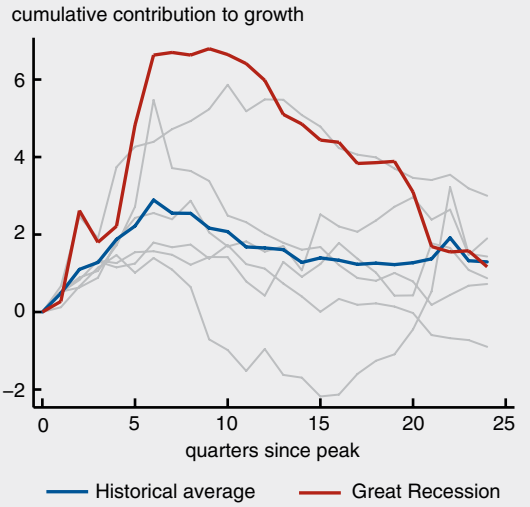
Unweighted fiscal impetus during recoveries



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

FIGURE A3

Unweighted fiscal impetus over the business cycle



Sources: U.S. Bureau of Economic Analysis accessed via Haver Analytics and authors' calculations.

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