Government Spending: An Economic Boost?

BY DANIEL J. WILSON

The severe global economic downturn and the large stimulus programs that governments in many countries adopted in response have generated a resurgence in research on the effects of fiscal policy. One key lesson emerging from this research is that there is no single fiscal multiplier that sums up the economic impact of fiscal policy. Rather, the impact varies widely depending on the specific fiscal policies put into effect and the overall economic environment.

Over the past three years, there has been a resurgence in economic research on the impacts of fiscal policy, as implemented through direct government spending and tax rates. This resurgence is due in large part to the severe global economic downturn and the massive fiscal stimulus programs put in place in many countries as a response. Now, as many countries pivot from stimulus to austerity despite uncertain recovery, the question of the economic effects of higher taxes and reductions in government spending takes on a new importance.

This *Economic Letter* reviews recent research on the economic effects of fiscal policy. This research makes clear that many factors can affect the size and direction of fiscal effects, suggesting that policymakers must carefully consider the specific context of fiscal policy to understand the probable effects of new spending and tax initiatives.

The fiscal multiplier?

The economic analysis of the effects of fiscal policy typically focuses on what is called the fiscal multiplier. The most common definition of it is the magnitude of the change in economic activity caused by a change in fiscal policy. For example, a GDP fiscal spending multiplier of 1.5 means that a $1 increase in government spending leads to a $1.50 increase in GDP.

The term multiplier refers to the broad effects of government spending and taxes on overall economic activity, not just on those households or businesses directly targeted by fiscal policy. For instance, increased government spending on highways may affect not only highway construction companies, but also the retailers frequented by newly employed highway workers, local asphalt providers, and nonlocal steel and equipment producers. Moreover, the current or future financing of the increased government spending may affect the savings and investment decisions of households and businesses throughout the economy. Similarly, a tax cut affects not only those who pay the tax, but also all areas of the economy that depend on the spending of those taxpayers or are influenced by future policy changes required to pay for the tax cut.

The use of the fiscal multiplier as an analytical device has helped ensure that theoretical analyses consider both the direct and indirect effects of fiscal policy. However, the concept arguably has led the economics profession down the false path of posing the misleading question, "What is *the* fiscal

multiplier?" A central theme of recent work on fiscal policy's impact has been that there is no single fiscal multiplier. Rather, the impact of policy varies over time and across geographic areas. How this plays out depends at a minimum on the type of fiscal policy, that is, taxes versus spending, government purchases versus transfers, government investment versus consumption; its financing; how quickly it is implemented; what monetary policy is in place; and the state of the business cycle.

Theoretical guidance

Within the economics literature, two broad frameworks are used to understand the effects of fiscal policy. The Neoclassical model emphasizes the distortionary effects of government spending. The New Keynesian framework highlights the potential role of government spending in alleviating factors that prevent the private economy from making rapid adjustments to economic shocks. In the standard Neoclassical model, changes in fiscal policy affect the economy primarily through labor supply, at least in the short run (see Ramey 2011a). Government spending is viewed as a negative wealth shock to households because they recognize that taxes must rise either now or in the future to pay for it. This induces more people to enter the labor force, increasing output. Counterintuitively, the more distortionary the tax system is, the bigger the positive impact of government spending on output. That's because the distortions add to the negative wealth shock, prompting larger increases in labor supply. In this model, government spending is inherently wasteful. The spending has no direct effect either on the welfare of individuals or on the productivity of private businesses.

Leeper, Walker, and Yang (2010) explore the implications of three departures from this standard Neoclassical framework. First, they consider government investment spending, such as on infrastructure. Such government investment increases the productivity of private businesses, potentially altering the fiscal multiplier both in the short and long run. Second, they consider the importance of lags between when fiscal policy changes are legislated and when they go into effect. They find that such lags can greatly reduce the short-run impact of the spending. Third, they find that distortionary taxation to finance government investment can reduce its long-run impact.

New Keynesian models differ in that they generally assume some degree of stickiness, that is, that wages and prices do not adjust instantly to economic shocks. Christiano, Eichenbaum, and Rebelo (2011) develop such a model to study how the fiscal multiplier varies along a number of dimensions. Their baseline model yields a GDP fiscal spending multiplier that is constant over time and equal to about 1.0. The multiplier varies only modestly when most parameters are changed, such as the degree of price or wage stickiness. However, the multiplier varies enormously depending on how monetary policy reacts to the economy. In particular, the multiplier can be above 3 when monetary policy is fixed, such as when the central bank's interest rate target is stuck near its lower bound of zero.

Empirical estimates

Over the past few decades, the standard approach to estimating the impact of fiscal policy has generally been to investigate correlations over time between government spending or taxes and economic performance at the national level. Beginning with the seminal paper of Blanchard and Perotti (2002), economists have increasingly used a statistical technique known as structural vector autoregression (SVAR) to estimate the relationships between government spending and other economic variables over time, while imposing certain assumptions suggested by economic theory. Blanchard and Perotti's key assumption was that government spending responds to economic shocks with a lag. This assumption

allows researchers to identify the movements in government spending that would not have been expected, given the usual way government spending responds to economic shocks, and then estimate how GDP and other economic variables react to those movements. Blanchard and Perotti and other researchers using the SVAR approach have tended to find multipliers that are near or less than one, both for government spending and for tax cuts.

More recently, a number of time-series studies have sought to avoid the strong assumptions underlying Blanchard and Perotti's approach by building models that incorporate evidence from contemporary forecasts, news media, and government reports on unexpected changes in government spending or taxes. Using this approach, Ramey (2011b) finds that the multiplier on government defense spending is between 0.6 and 1.2 at its peak. Auerbach and Gorodnichenko (2010) provide an interesting variant on this approach. They allow the multiplier to differ in recessions and expansions. They find the long-run effect to be positive and as high as 2.5 in recessions, but as low as near –1.0 in expansions.

Several recent papers have used variations in government spending across regions, such as states or counties, to identify the effects of fiscal policy. These studies take advantage of the fact that large portions of federal spending are often allocated to regions for reasons unrelated to regional economic performance or needs. For example, federal highway grants are distributed to states based primarily on legislated formulas that rely on noneconomic factors, such as the layout of the interstate highway system. Such variations can be used to identify the effects of federal spending on a local economy. How these local effects relate to the national effects of federal spending depends on whether there are spillover effects to other regions, which could be positive or negative depending on patterns of trade and labor mobility, and the ways local governments may influence how the money is spent.

Nakamura and Steinsson (2011) exploit the fact that a given percentage change in U.S. military spending generally translates into much larger changes in such states as California and Virginia. They use this variation to identify the portion of each state's military spending that is independent of its current economic conditions and then estimate the effect of such independent spending on state GDP. They derive a local GDP multiplier of 1.5 over two years. Fishback and Kachanovskaya (2010) estimate a GDP multiplier using variations in federal spending across states during the Great Depression. They obtain a local multiplier as high as 1.7.

Similarly, Wilson (forthcoming) looks at the local impact of federal spending from the 2009 American Recovery and Reinvestment Act (ARRA), estimating the extent to which cross-state differences in employment can be explained by differences in ARRA spending. The study exploits the fact that much ARRA funding was allocated to states based on formulas that relied on factors unrelated to state economic conditions. For example, the extent of a state's highway infrastructure in 2006 was part of the formula determining that state's share of ARRA highway funds in 2009. Wilson finds a strong correlation between ARRA spending based on these independent sources of variation and post-ARRA employment growth, with the effects starting around the summer of 2009 and continuing at least through the first quarter of 2011. The magnitude of this employment response is consistent with a local GDP multiplier of around 1.5.

Conclusion

What does this literature tell policymakers and others trying to assess the impact of fiscal policy changes? It is an inconvenient reality that this literature provides an enormous range of multiplier

estimates, ranging from –1 to 3. However, this range is not so much a reflection of disagreement over an underlying parameter as it is a reflection of one of the key lessons of this research—that there is no single multiplier that can be applied mechanically to all situations. The impact depends on the type of fiscal policy changes in question and the environment in which they are implemented. The effects of government investment are potentially greater than those of other types of government spending. And the effects from transfers to people without much wealth or ability to borrow are probably higher than from transfers to others. The impact depends on how policy changes affect expectations of future government spending and taxes. It also depends on how quickly the changes are implemented and whether they were anticipated before they were authorized. Moreover, the impact varies depending on whether monetary policy counteracts or complements fiscal policy. Finally, it depends on the state of the business cycle. Effects are more positive during recessions. An important lesson from the research is that it's essential to clearly understand the context in which fiscal policy is operating, that is, the factors that may cause economic effects and the size of the multiplier to vary.

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