POLICY MEMO

December 6, 2012

GREEN 'SEQUESTER' IS ALREADY COSTING U.S. JOBS

Job losses from ongoing clean-tech cuts will rival those from defense cuts

BY JOSH BIVENS

In recent fiscal policy debates, one concern has largely united Democrats and Republicans: that scheduled cuts to defense spending will cost jobs in coming years.

In August, the *Washington Post* reported that then-presidential candidate Mitt Romney "said the automatic defense cuts known as 'sequestration' that are scheduled to take effect Jan. 1 would result in as many as 1.5 million lost jobs and a significant decline in the overall economy…" (Rucker 2012). An earlier *Washington Post* blog post (Smith 2012) quoted Virginia Gov. Tim Kaine as saying, "All the concern about sequestration falls on that we may lose private defense jobs." In September, Sen. John McCain issued a press release warning that "over 1.1 million defense-related jobs will be lost if sequestration takes effect as scheduled on January 2, 2013" (Office of Senator John McCain 2012). And, "President Barack Obama startled Washington during Monday night's foreign policy debate when he said billions in automatic Pentagon cuts 'will not happen,'" reported *Politico* in October (Ewing 2012). Whatever the other virtues or vices of cutting defense spending, it is undeniable that reduced federal spending in the near term with the economy still weak would drag down economic growth and job creation. It is important to note that this applies to *all* government spending, not just defense spending. This policy memo looks at the declining federal support for clean-technology investments, which has not received nearly as much attention as defense cuts scheduled under the sequester

in the Budget Control Act of 2011, yet has very large impacts. It finds that if clean-technology spending returned to 2009 levels in 2013, the job gains from this policy change would actually rival the gains from cancelling the entire projected defense spending sequester for 2013. Specific findings include the following:

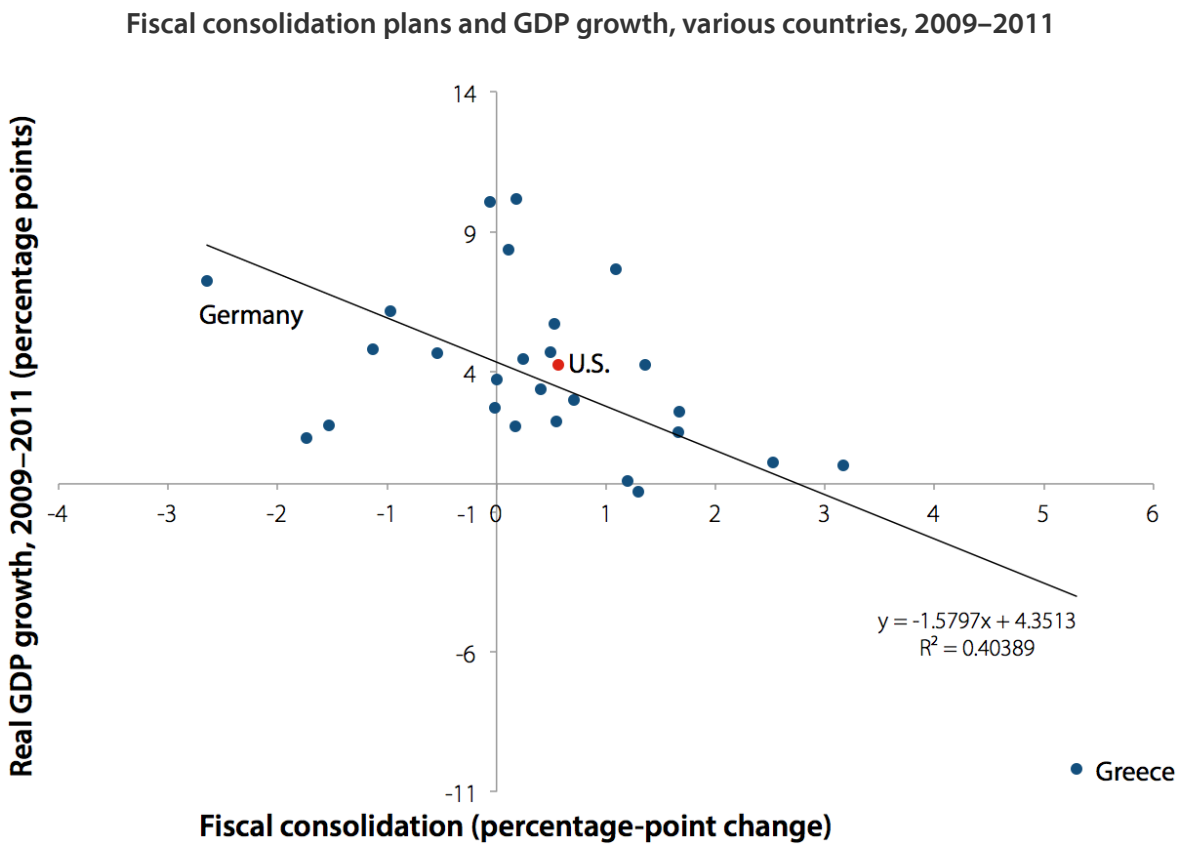
- According to a report by Jenkins et al. (2012), federal support for clean technology is set to fall from $47.3 billion in 2009 to $12.9 billion in inflation-adjusted dollars by 2013.
- This $35 billion cutback in clean-technology support in 2013, relative to its peak 2009 level, is nearly two-thirds the size of the $54 billion cut to defense scheduled for 2013 under the sequester imposed by the Budget Control Act.
- Because each $1 of green investments supports 1.5 times as many jobs as each $1 in defense spending (Pollin and Garrett-Peltier 2011), the drawdown of clean-technology spending in 2013 relative to peak levels would translate into about 436,000 fewer jobs—a drag on job growth almost equal to the roughly 448,000 fewer jobs from the proposed defense sequester.

Economic background: Growing recognition that spending cuts don't lead to growth

The unanimous agreement among policymakers that proposed defense spending cuts will drag on economic activity and job growth in coming years represents real progress in diagnosing and curing the joblessness crisis. The U.S. economy remains depressed, having never fully recovered in the more than three years since the Great Recession officially ended in June 2009. The key barrier to full recovery has been the same since the end of 2007: Households, businesses, and governments haven't been spending enough to create enough jobs to lower the unemployment rate and restore higher levels of labor force participation. The primary source of this demand shortfall is not particularly mysterious: the huge decline in household wealth and residential construction investment caused by the burst of the housing bubble. Between the end of 2009 and the beginning of 2010, when the effectiveness of the American Recovery and Reinvestment Act of 2009 (ARRA) was at its peak, government spending (particularly federal spending) provided an effective counterweight to the insufficient spending by households and businesses, but it was not sufficient to spur full recovery (Bivens 2013, forthcoming). Moreover, since the recovery officially began, and after the fade-out of ARRA's economic boost, the public sector (particularly state and local governments) has been a key source of demand weakness, with just under 600,000 jobs lost in the state and local government sector since June 2009. This pullback in fiscal support has coincided not only with falling public-sector employment, but also with a marked slowdown in the pace of overall recovery. Growth in real GDP for 2011 (the first full year in which contractionary federal fiscal policy served as an outright drag on the economy) averaged just 1.6 percent, down from 3.1 percent in 2010 and 2.7 percent in the last six months of 2009 (the first half-year of official recovery).[1] So far in 2012, growth has sustained its much slower 2011 pace. This association between fiscal contraction and slower growth can also be seen in the international evidence. **Figure A** plots countries by the relationship between the degree of fiscal consolidation from 2009 to 2011 (horizontal axis) and the growth rate of GDP over the same period. (The line in the figure represents the average correlation between the two.) Greece, for example, underwent severe fiscal contraction and GDP shrank considerably. Germany increased fiscal spending and GDP grew. The message of this graph is simple: Fiscal contraction (sometimes short-handed as "austerity") hurts, and those countries that have managed to avoid large cutbacks in government spending have experienced much better growth.

While the Federal Reserve's recent pledges of further economic support in the form of monetary policy are welcome, it remains the case that *fiscal* support—particularly increased spending and investments—has by far the

FIGURE A



Note: A negative x-axis value signifies less consolidation—i.e., more spending.

Source: Adapted from International Monetary Fund (2012, Fig. 1.1.1)

greatest leverage in pushing the economy back to potential and reducing today's too-high rates of joblessness. Despite the widespread recognition that fiscal support would be uniquely effective given current U.S. economic conditions (specifically because the Federal Reserve has pledged not to try to offset any of the boost provided by fiscal support), very little fiscal support has actually been supplied since the ebbing of ARRA spending. The Obama administration has managed—often by delaying its own long-stated priority of allowing the Bush-era income tax cuts on the highest earners to expire—to push some degree of fiscal support through Congress.[2] But this fiscal support has been widely recognized as insufficient given the scale of joblessness remaining—as evident in the administration's so-far thwarted efforts to pass its American Jobs Act to provide another boost to the economy. For much of the past four years, the biggest obstacle to obtaining greater fiscal support has been the insistence by many policymakers, particularly GOP members of Congress, that government spending does *not* boost job creation and that spending cuts can actually boost economic activity and jobs in the short run. This view, utterly at odds with textbook macroeconomics, was aggressively advanced by the Republican staff of the Joint Economic Committee in 2011:

> *Fiscal consolidations are programs to reduce government budget deficits and stabilize government debt as a percentage of GDP. Such programs theoretically may consist of reductions in government spending or increases in government receipts (principally tax increases but also higher user fees, and asset sales). …[A] decrease in government spending as a percentage of GDP accelerates long-term economic growth and may even boost short-term economic growth as well. …Fiscal consolidation programs in Canada,*

> *Sweden, and New Zealand, among others, achieved their goals for government deficit reduction and government debt stabilization and boosted their real GDP growth rates by reducing government spending.* (Brady 2011)

With the threat to defense spending—the maintenance of which is a perennial priority of GOP politicians—from the automatic cuts built into the BCA, the confidence that government spending cuts can actually boost economic activity in the short run seems to be fading. Given that this confidence was always wholly misplaced, this is a welcome step forward and paves the way for an intelligent discussion about how to bring down joblessness in coming years.

Federal support for clean technology in ARRA led to job growth

When ARRA was having its maximal impact on the U.S. economy in 2009 and early 2010, it boosted overall GDP growth rates substantially, relative to both the years preceding its passage and following its peak impact (for an overview of ARRA, see Bivens (2013, forthcoming). Aside from its salutary effects as a macroeconomic stabilizer, ARRA made an enormous downpayment toward the goal of making the United States a much cleaner economy, with it being described as:

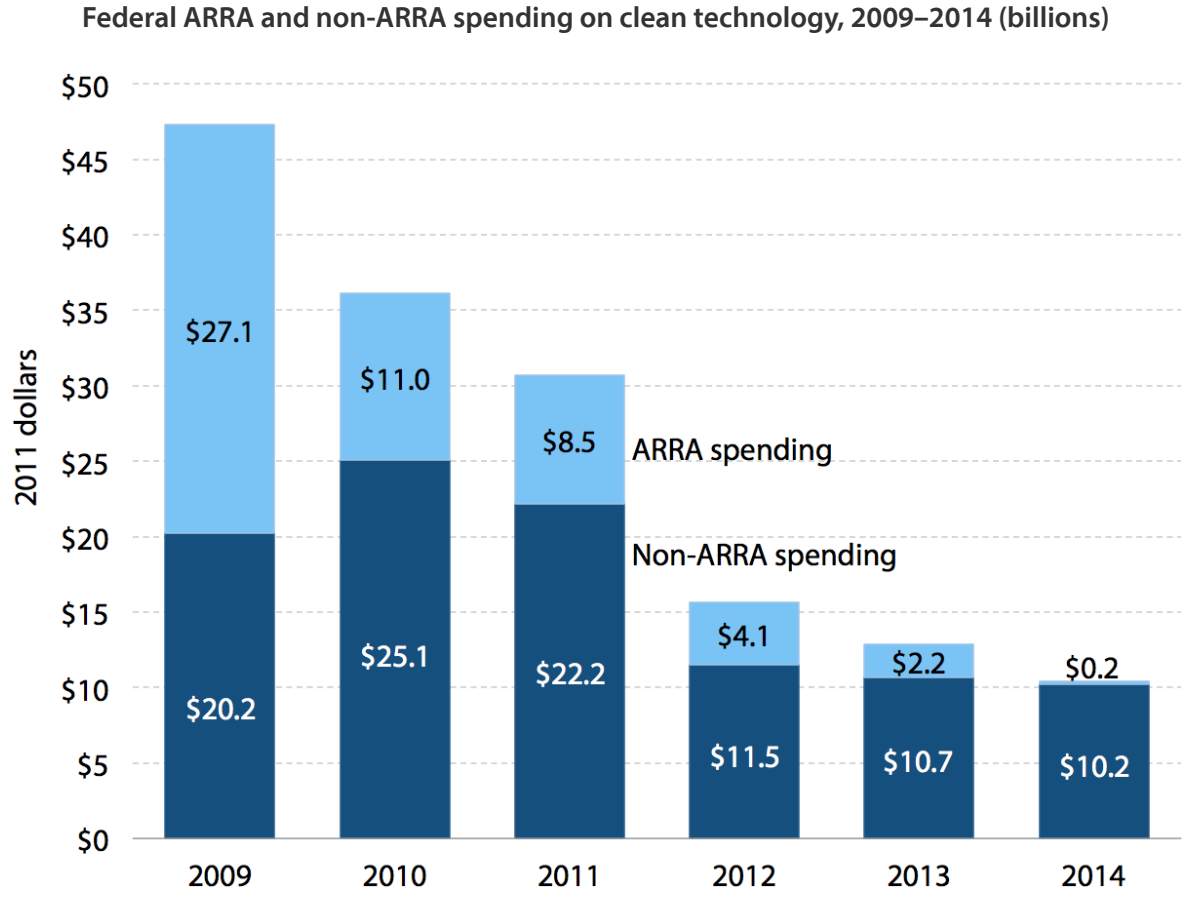
> *The biggest, most transformative energy bill in history, financing unprecedented government investments in a smarter grid, cleaner coal, energy efficiency in every imaginable form, "green-collar" job training, electric vehicles and the infrastructure to support them, advanced biofuels and the refineries to brew them, renewable power from the sun, the wind, and the heat below the earth, and factories to manufacture all that green stuff in the United States. …Critics often argue that while the New Deal left behind iconic monuments—the Hoover Dam, Skyline Drive, Fort Knox—the stimulus will leave a mundane legacy of sewage plants, repaved potholes and state employees who would have been laid off without it. But it's creating its own icons: the world's largest wind and solar plants, the country's first cellulosic ethanol refineries, zero-energy border stations, a bullet train that will connect Los Angeles to San Francisco in less than three hours…* (Grunwald 2012)

The roughly $90 billion in green investments made in ARRA led to roughly 1 million jobs created or saved in 2011 (Bivens, Pollack, and Walsh 2011). Besides providing an essential downpayment on moving to a cleaner economy, as documented by Grunwald (2012), the green investments in ARRA were exceptionally useful stimulus, as direct spending by governments tends to register much larger "multiplier" effects in spurring economic activity per dollar spent (relative to other forms of stimulus, notably tax cuts aimed at higher-income households and/or businesses). However, the direct spending components of ARRA began rapidly winding down by the second half of 2010. The "ad hoc" fiscal stimulus measures passed at the end of 2010 (which were largely extended at the end of 2011) included mostly tax cuts and transfers to distressed states and individuals rather than direct public investments, green or otherwise. By the middle of 2012, green investments sponsored by ARRA had almost completely wound down, with nearly a million fewer jobs supported by these spending flows than in mid-2010.

Clean-energy cutbacks beyond ARRA wind-down

According to a report by Jenkins et al. (2012), federal support for clean technology is set to fall from $47.3 billion in 2009 to $12.9 billion in inflation-adjusted dollars by 2013. But as Jenkins et al. (2012) have shown, the large projected reduction in federal spending on clean technology between 2009 and 2013 is not just the result of ARRA investments winding down. Just over a quarter of

FIGURE B



Source: Adapted from Jenkins et al. (2012)

the $35 billion cutback in these five years is actually non-ARRA spending, as shown in **Figure B**.

Part of the projected slowdown in clean-technology spending represents the boom and bust nature of federal commitments to clean technology, a phenomenon best represented by the failure of the wind power production tax credit to become a permanent feature of U.S. energy policy. Instead, this tax credit is up for expiration each year. Congress usually renews the credit, which largely just serves to keep wind power subsidies constant in the face of perpetual subsidies (implicit or explicit) given to fossil-fuel production. But in some recent years the wind production tax credit has not been passed by Congress, and each time it ceases, investments in wind power (as measured by additions to wind capacity) have declined significantly, as shown in **Figure C**.

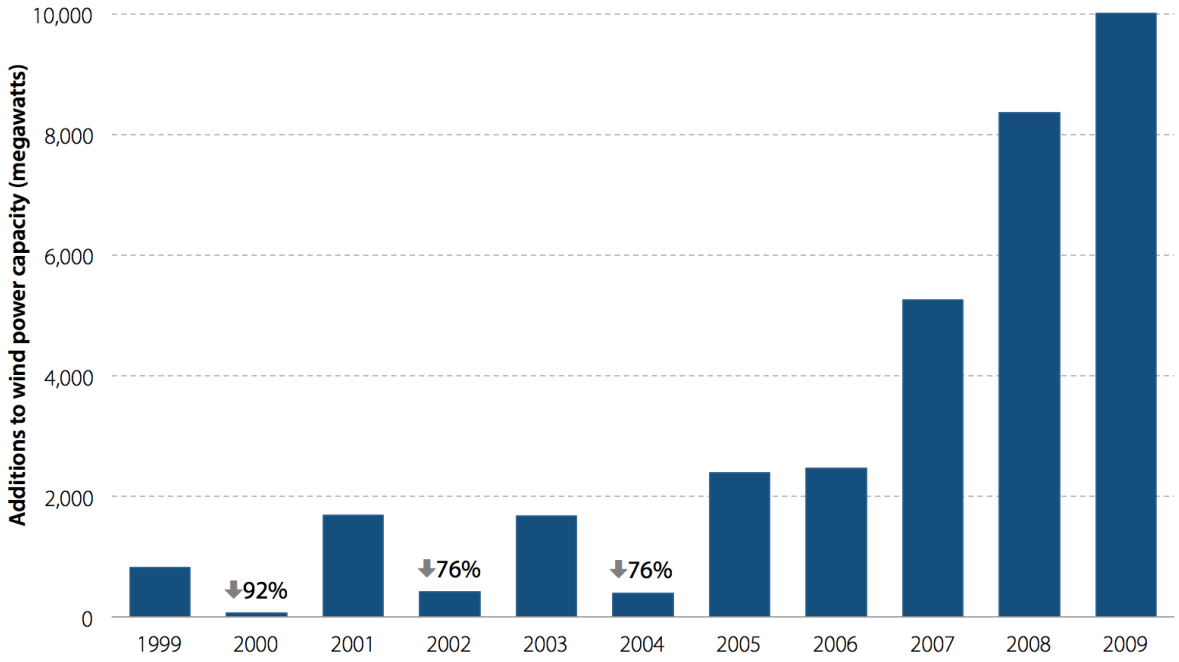
Regardless of whether it is due to the ebb of ARRA spending, the failure to make a permanent policy commitment to clean technology, or the misguided rush to cut federal spending to address overblown fears of current budget deficits, federal support for clean-technology spending in 2013 will be far lower than in 2009–2012 unless Congress acts.

Impact of restoring clean-technology support versus ending the defense sequester

What would happen if federal support for clean technology in 2013 returned to 2009 levels? Applying a generic macroeconomic multiplier for federal spending of 1.4 (Zandi 2011) to this clean-energy policy counterfactual indicates it would support roughly $49 billion in extra economic activity in 2013 if it were adopted (all numbers that follow in this section and the next section are

FIGURE C

The wind power production tax credit and additions to wind power capacity, 1999–2009



Note: The wind production tax credit was not renewed in 2000, 2002, and 2004.

Source: Adapted from American Wind Energy Association (2010)

TABLE 1

Impact of clean technology versus defense spending in 2013

	Deactivate defense sequester	Restore federal support for clean technology to 2009 levels
Budgetary cost (billions)	$54	$35
Economic impact (billions)	$76	$49
Jobs per $1 billion in spending	5,900	8,900
Total jobs supported in 2013	**448,400**	**436,100**

Sources: Jenkins et al. (2012), Pollin and Garrett-Peltier (2011), and Bivens (2012)

summarized in **Table 1**). This multiplier is entirely in line with other estimates of the multiplier effect of federal spending, such as those provided by the Congressional Budget Office (CBO 2011) and Council of Economic Advisers (CEA 2011), as well as those used by private-sector forecasters (see Bivens 2011 for an overview of these multipliers).

Further, this multiplier may be too low. Evidence is accumulating that direct public spending carries a higher economic multiplier during times of prolonged, large output gaps (PLOGs, in the jargon) that persist even when monetary policies emphasize lower policy interest rates and expanded balance sheet activities, conditions that characterize the U.S. economy today. Woodford (2011), Hall (2009), Eggertsson (2011), and the most recent World

Economic Outlook released by the International Monetary Fund (IMF 2012) have all persuasively made this point. Using a generic multiplier from Bivens (2011) that translates changes in GDP to changes in jobs, one would normally expect this $49 billion reduction in GDP from the projected cutback in federal clean-technology spending to translate into roughly 390,000 fewer jobs in 2013. However, research by Pollin and Garrett-Peltier (2011) indicates that each $1 in green investments supports 1.13 times as many jobs as average spending, which raises the estimated number of jobs created by restoring federal clean-technology spending to about 436,000.

How does this compare to the defense sequester?

The dollar value of the scheduled sequester of defense spending in 2013 is larger than the cutback in federal clean-technology spending between 2009 and 2013. Since there is little reason to think that the overall economic multiplier for defense spending is appreciably smaller than that for other forms of direct federal spending, the $54 billion cutback in defense spending is likely to reduce economic activity in 2013 by roughly $76 billion. However, Pollin and Garrett-Peltier (2011) have noted that defense spending creates or saves significantly fewer jobs per $1 million—0.74 times as many jobs as average spending flows. This means that roughly 448,000 jobs would be created or saved in 2013 if the defense sequester were deactivated for that year. Because green investments support 1.13 times as many jobs as average spending, and defense spending 0.74 times as many jobs as average spending, each $1 of green investments supports 1.5 times as many jobs as each $1 in defense spending. The greater number of jobs created per dollar of economic activity by clean-technology spending relative to defense spending largely reflects the higher labor-intensity of green investments, which can often be thought of as conscious attempts to replace fossil fuel inputs with labor inputs. All of this indicates that returning federal clean-technology spending to 2009 levels would actually support a roughly equal number of jobs as completely deactivating the defense sequester for 2013. Thus it is odd that so much political angst has been expressed over these defense cuts while there has been so little concern over the cutback to support for clean technology.

Long-run implications of cutbacks to federal support for clean technology

Besides being a particularly good form of fiscal support to create jobs, the federal commitment to clean technology is likely to have beneficial long-run impacts if it is sustained. Many studies agree that there are hundreds of billions of dollars in high-return investments in clean technology that are currently not being made because of a range of market failures (Bivens 2012). Federal support for this technology can help alleviate these market failures. The most compelling reason to undertake aggressive federal support for clean technology is, of course, the threat of global climate change caused by the emission of greenhouse gases. The *Stern Review on the Economics of Climate Change*, a report commissioned by the British government and chaired by Nicholas Stern, undertook a review of the literature on climate change economics and calculated that climate change could cost the world economy 5 percent of total GDP each year (in present value terms). This is roughly the amount (as a share of GDP) that the U.S. economy contracted in 2009 due to the Great Recession. All scientifically based strategies aimed at slowing the growth of greenhouse gas emissions rely strongly on a switch to clean technology. For example, Pacala and Socolow (2004) identify 15 "potential wedges" for slowing emissions, with each wedge equal to 1 billion tons of carbon over the next 50 years that would be saved through its adoption. Six of these 15 wedges directly involve investments in energy efficiency (and this is not including energy-efficient vehicles) and a switch toward renewables. Romm (2009) argues that roughly 75 percent of a comprehensive strategy to stabilize greenhouse gas emissions at non-catastrophic levels over the next 50 years will rely on the switch to renewables and non-vehicle energy efficiency investments. In short, the cutback to

federal support for clean technology is not just bad for jobs in the near term, it is bad for the economy (and the planet) in the long run.

Conclusion

The debate over American fiscal policy has taken too many damaging turns in recent years. Most importantly, too many policymakers and media commentators have fixated on the phantom dangers posed by rising budget deficits while not focusing enough attention on using fiscal policy expansions to bring down chronically high unemployment rates. Recently, concern over the job-slowing impacts of the scheduled sequester of defense spending have helped refocus attention on the real dangers. However, even this largely welcome focus on the importance of avoiding too rapid fiscal contraction is puzzling, as it focuses so much attention on defense spending. Defense spending is not likely to be any more supportive of economic activity than any other kind of federal spending. Further, the economic activity spurred by defense spending is extremely capital-intensive and is likely to support significantly fewer jobs than other types of spending. Given the absolutely crucial importance of reducing joblessness, excessive focus on maintaining defense-spending levels while looking with equanimity at other spending cutbacks—particularly those with the threat of greater long-run damage, such as cutbacks to clean-technology spending—is ill-advised. *—**Josh Bivens** joined the Economic Policy Institute in 2002 and is currently the director of research and policy. His primary areas of research include macroeconomics, social insurance, and globalization. He has authored or co-authored three books (including* The State of Working America, 12th Edition) *while working at EPI, edited another, and has written numerous research papers, including for academic journals. He appears often in media outlets to offer economic commentary and has testified several times before the U.S. Congress. He earned his Ph.D. from The New School for Social Research. —EPI would like to thank the **BlueGreen Alliance** for its support.*

Endnotes

1. Real GDP growth is measured from the fourth quarter of the year relative to the fourth quarter of the previous year (or the second quarter when measuring growth in the second half of 2009). {{2.}} For a fuller description of this "ad hoc" fiscal support, see Bivens and Fieldhouse (2012).

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