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AUSTERITY: The Relative Effects of Tax Increases versus Spending Cuts

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In a recent *New Yorker* article, John Cassidy declared, "It is official: Economic Austerity doesn't work."[1] By that he meant cutting spending in order to reduce a country's debt-to-GDP ratio or to grow a country's economy has failed. His evidence? The failure of the British government to balance its budget and jumpstart economic growth after implementing a series of austerity measures since 2010.

There are two problems with this view. First, it assumes that if the European government had not implemented austerity measures, economic growth would have ensued. This is possible. However, the alternative to austerity would not necessarily have been more short-term economic growth. In fact, for some countries, the lack of austerity means more deficit spending, which likely will trigger large increases in interest rates, debt restructuring (read: defaults), capital levies, and even more weakness in the banking sector. Even if the probability of these undesirable scenarios were less than 50 percent, they certainly could not be dismissed.

The second problem with this simplistic view is that it fails to recognize that in the pursuit of austerity, the important question has less to do with the *size* of the austerity package than what *type* of austerity measures are implemented. Austerity can take different forms. It can be achieved by cutting spending or by raising taxes. Alternatively, austerity can be achieved by adopting a mix of spending cuts and tax increases. That last option is what President Obama calls a "balanced approach."[2] Unfortunately, this view, in a more nuanced form, has been supported by the International Monetary Fund (IMF).[3]

When anti-austerity policy makers or critics talk about austerity without even alluding to this distinction, they do a disservice to the clarity of the issues at hand,

1. John Cassidy, "It's Official: Austerity Economics Doesn't Work," *New Yorker*, December 7, 2012, http://www.newyorker.com/online/blogs/comment/2012/12/austerity-economics-doesnt-work.html#ixzz2EyBPkgCw.
2. In his February 12, 2013, State of the Union Address, President Obama said, "They know that broad-based economic growth requires a balanced approach to deficit reduction, with spending cuts and revenue, and with everybody doing their fair share." The White House, Office of the Press Secretary, "Remarks by the President in the State of the Union Address," http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address.
3. Olivier Blanchard and Daniel Leigh, "Growth Forecast Errors and Fiscal Multipliers" (Working Paper 13/1, IMF, January 2013), http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf.

since different types of austerity measures produce very different results.[4] In this paper, we argue that the consensus in the academic literature is that the composition of fiscal adjustment is a key factor in achieving successful and lasting reductions in debt-to-GDP ratio. The general consensus is that fiscal adjustment packages made mostly of spending cuts are more likely to lead to lasting debt reduction than those made of tax increases.

There is still significant debate about the short-term economic impact of fiscal adjustments. However, as we will show in this paper, important lessons have emerged. In section 2, we show that fiscal adjustments and economic growth are not impossible. In section 3, we show that, while fiscal adjustments may not always trigger immediate economic growth, spending-based adjustments are much less costly in terms of output than tax-based ones. In fact, when governments try to reduce the debt by raising taxes, it is likely to result in deep and pronounced recessions, possibly making the fiscal adjustment counterproductive. In section 3, we also discuss how expansionary fiscal adjustments are more likely to occur when they are accompanied by growth-oriented policies, such as liberalizing both labor regulations and markets for goods and services, in addition to a monetary policy that keeps interest rates low.

These findings are keys to designing proper policies to get the United States and European nations out of their debt crises and onto a more sustainable fiscal path. They also help us to understand what has happened in Europe so far. As it turns out, with a few exceptions, most countries implemented spending cuts in name only, and these cuts were often overwhelmed by large tax increases.[5] As a result, debt reduction was seldom achieved, and economic growth suffered.

But these findings also suggest that the recent budget deal—the American Taxpayer Relief Act of 2012 (ATRA),[6] adopted by Congress and signed by the president on January 2 to avoid the so-called "fiscal cliff"—is unlikely to reduce the country's debt and may also slow economic growth. According to the Congressional Budget Office (CBO), the ATRA is projected to raise $620 billion over 10 years by increasing top marginal income-tax rates on individuals making over $400,000 ($450,000 for married couples filing jointly) and by letting the two-percentage-point payroll tax cut expire for everyone. The ATRA also increases spending by $300 billion over 10 years by extending unemployment benefits for another year and extending a series of tax subsidies for businesses.[7]

4. Alberto Alesina and Silvia Ardagna, "The Design of Fiscal Adjustments" (NBER Working Paper 18423, National Bureau of Economic Research, September 2012), http://www.nber.org/papers/w18423.pdf (subscription only).
5. Veronique de Rugy, "In Europe, Time for True Austerity," *Los Angeles Times*, May 18, 2012, http://articles.latimes.com/2012/may/18/opinion/la-oe-derugy-austerity-gets-bad-rap-20120517.
6. Pub. L. No. 112-240, H.R. 8 (2012).
7. CBO, "Estimate of the Budgetary Effects of H.R. 8, the American Taxpayer Relief Act of 2012, as Passed by the Senate on January 1, 2013," January 1, 2013, http://cbo.gov/sites/default/files/cbofiles/attachments/American%20Taxpayer%20Relief%20Act.pdf.

Though the ATRA does little to reduce the debt, during negotiations and after the deal was adopted the White House advertised it as a deficit-reducing package.[8] The ATRA appears designed more to avoid the looming January 1 deadline that would have triggered across-the-board tax increases, as well as sequestration spending cuts, than to focus on long-term structural fiscal reform.

1. WHAT IS AT STAKE?

The US government is drowning in debt. While the Great Recession has accelerated the government's indebtedness, the country's debt problem is the result of much deeper structural problems, such as slower economic growth, unfunded expansions to the nation's entitlement programs, especially Medicare, and promises made to powerful interest groups. The growth of military spending to fund the wars in Iraq and Afghanistan also contributed to a decade of deficits and increased national debt.

Unfortunately, the failure to address our debt problem could have damaging consequences. In a much-cited empirical study, economists Carmen Reinhart of the University of Maryland and Kenneth Rogoff of Harvard examine the consequences of public debt on economic growth.[9] Using a historical data set spanning 44 countries and 200 years, their findings are startling. Across wealthy and poor countries, the median growth rate for a country with gross debt exceeding 90 percent of GDP is roughly *one percentage point lower* than what the country would have had with lower debt levels. They find slightly different results for emerging markets.

Today's US gross debt has exceeded 100 percent of GDP, which means that the country's future growth could be negatively affected. But Reinhart and Rogoff are not the only scholars warning about the damaging impact of increasing debt ratios on economic growth. Back in 2010, CBO made the same warnings in its "Long-Term Budget Outlook": "CBO's analysis suggests that delaying action for 10 years—and thus allowing the debt-to-GDP ratio to rise by an additional 30 percentage points under the assumptions of the analysis—would cause output to be about 2 percent to 4 percent lower in the long run than it would be if the ratio was stabilized earlier at lower levels, depending on the policy used to stabilize the debt."[10]

Beyond the concern of slower economic growth, too much debt also raises the specter of a sudden and severe crisis in confidence known as a debt crisis. Under such a scenario, investors become skeptical of a government's ability and/or willingness to repay its obligations. Lenders then decide to charge governments higher

8. See, for instance, Jeff Zients, "American Taxpayer Relief Act Reduces Deficits by $737 Billion," US Department of the Treasury, January 2, 2013, http://www.treasury.gov/connect/blog/Pages/American-Taxpayer-Relief-Act-Reduces-Deficits-by-$737-Billion.aspx.
9. Carmen Reinhart and Kenneth Rogoff, "Growth in a Time of Debt" (NBER Working Paper 15639, National Bureau of Economic Research, 2010), http://www.nber.org/papers/w15639.
10. CBO, "The Long-Term Budget Outlook," June 2010, http://www.cbo.gov/publication/21546.

interest rates for borrowing. Since these interest payments must be made out of government outlays, a self-perpetuating crisis can ensue in which a loss of confidence leads to even higher interest rates, leading to more spending, which leads to further loss of confidence, and a vicious cycle ensues. The problem is exacerbated by weakening economic conditions because private borrowers must also pay higher interest rates in order to compete with public borrowers. This is exactly the scenario encountered by some smaller European countries—such Greece and Portugal—and one which larger countries such as Italy have barely managed to avoid thus far.

As well as being expensive and self-perpetuating, large deficits and excessive debt increase the probability of a severe fiscal crisis and can signal to investors that the United States may be getting closer to the time when it will be unable or unwilling to pay back those investors. The United States has thus far avoided this problem. But how long can the country run this risk?

No one knows for sure. Economists cannot pinpoint when these debt levels become unacceptable to global credit markets. Nor can economists reliably predict the type of fiscal crisis that will ensue.

Another crucial reason why debt matters is that future generations will be the ones burdened by it and will have to pay today's deficits. The United States is about to embark on the most massive transfer of wealth from younger taxpayers to older ones in its history. This situation will not just be unprecedented, it will also be unfair: future generations will pay for today's decisions.

For all these reasons, it is imperative for the United States and European nations to get a handle on their debt-to-GDP ratios. But how do they do it? And how costly will it be in terms of induced recession?

2. HOW TO REDUCE DEBT-TO-GDP RATIOS

The United States is not the first nation to struggle with a worrisome debt-to-GDP ratio. The evidence suggests that the types of fiscal adjustment packages that are most likely to reduce debt are those that are heavily weighted toward spending reductions and not tax increases.[11]

One of the difficulties of studying the impact of large fiscal adjustments on both debt and economic growth involves the definition and identification of success-

11. Matthew Mitchell of the Mercatus Center at George Mason University has done a review of the academic literature on this issue, and he finds that, of the 22 papers published that looked at this question, all of them find that the most promising way to shrink the debt is to not increase taxes and to restrain spending so that it shrinks relative to economic output. See Matthew Mitchell, "Does UK Double-Dip Prove That Austerity Doesn't Work?" *Neighborhood Effects* (blog), Mercatus Center at George Mason University, April 26, 2012, http://neighborhoodeffects.mercatus.org/2012/04/26/does-uk-double-dip-prove-that-austerity-doesnt-work/. See also Alesina and Ardagna, "Design of Fiscal Adjustments"; and Alberto F. Alesina., Carlo A. Favero, and Francesco Giavazzi, "The Output Effect of Fiscal Consolidations" (NBER Working Paper 18336, National Bureau of Economic Research, August 2012), http://www.nber.org/papers/w18336 (subscription only).

ful and expansionary episodes. For a long time, the identification criteria were based on observed outcomes: a large fiscal adjustment was one where the cyclically adjusted primary deficit over GDP ratio fell by a certain amount (normally at least 1.5 percent of GDP). Following the approach pioneered by University of California, Berkeley, economists Christina Romer and David Romer,[12] IMF economists suggested a different way to identify large exogenous fiscal adjustments: a large fiscal adjustment is an explicit attempt by the government to reduce the debt aggressively and it is unrelated to the economic cycle.[13] This new approach was meant to guarantee the "exogeneity" of the fiscal adjustments. The authors also suggest that a difference in the way fiscal adjustments are measured would change the overall results. However, the difference in the way fiscal adjustments are defined does not change the overall result. A 2012 study by Alberto Alesina and Goldman Sachs economist Silvia Ardagna shows that spending-based adjustments are more likely to reduce the debt-to-GDP ratio, regardless of whether fiscal adjustments are defined in terms of improvements in the cyclically adjusted primary budget deficit or in terms of premeditated policy changes designed to improve a country's fiscal outlook.[14] Similar results with more advanced technical tools using the IMF episodes are also reached by Alesina and Bocconi University economists Carlo A. Favero and Francesco Giavazzi.[15]

Other research has found that fiscal adjustments based mostly on the spending side are less likely to be reversed and, as a result, have led to more long-lasting reductions in debt-to-GDP ratios.[16] Beyond showing whether spending-based adjustments or revenue-based ones are more effective at reducing debt, the literature also looked at which components of expenditures and revenue are more important. The results on these points are not as clear-cut, partly due to the wide differences in countries' tax and spending systems. With that caveat in mind, successful fiscal adjustments are often rooted in reform of social programs and reductions to the size and pay of the government workforce rather than in other types of

12. Christina D. Romer and David H. Romer, "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks," *American Economic Review* 100, no. 3 (2010): 763–801.
13. Peter Devries et al., "A New Action-based Dataset of Fiscal Consolidation" (Working Paper 11/128, IMF, June 2011), http://www.imf.org/external/pubs/ft/wp/2011/wp11128.pdf.
14. Alesina and Ardagna, "Design of Fiscal Adjustments" (see n. 4).
15. Alesina, Favero, and Giavazzi, "Output Effect of Fiscal Consolidations."
16. Alesina and Ardagna, "Design of Fiscal Adjustments."

spending cuts.[17] Results about which type of revenue increases contribute to successful fiscal adjustment are much less clear.[18]

Also, while successfully reducing the debt-to-GDP ratio is possible, a majority of historical fiscal adjustment episodes fail to do so. Data from studies by Alesina and Ardagna, and by Andrew Biggs and his colleagues, show that roughly 80 percent of the adjustments studied were failures.[19] One explanation is that even (or especially) in a time of crisis, lawmakers are driven more by politics than by good public policy. Countries in fiscal trouble generally get there through years of catering to pro-spending constituencies, be it senior citizens or members of the military industrial complex, and their fiscal adjustments tend to make too many of the same mistakes. As a result, failed fiscal consolidations are more the rule than the exception.

Finally, cutting spending is often perceived as a sure way for lawmakers to lose their next election, but the data does not seem to confirm this fear. A 2010 paper by Ben Broadbent published in the *Goldman Sachs Global Economics Outlook*, for instance, shows that spending cuts can actually be politically beneficial.[20] More recently, Alesina, Dorian Carloni, and Giampaolo Lecce looked at this issue and found "no evidence that governments which quickly reduce budget deficits are systematically voted out of office."[21] A paper by Ami Brender and Allan Drazen more generally shows that increasing deficits before an election has a (mildly) negative consequence on the chance of reelection of the incumbent.[22]

Can these positive election results be entirely driven by the popularity of the

17. Andrew Biggs, Kevin Hassett, and Matthew Jensen, "A Guide for Deficit Reduction in the United States Based on Historical Consolidations That Worked" (AEI Economic Policy Working Paper, American Enterprise Institute, Washington, DC, 2010). See also Alberto Alesina and Roberto Perotti, "Fiscal Expansions and Fiscal Adjustments in OECD Countries" (NBER Working Paper 5214, National Bureau of Economic Research, August 1995), http://www.nber.org/papers/w5214; Alberto Alesina and Roberto Perotti, "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects" (Working Paper 96/70, IMF, June 1997), http://www.imf.org/external/pubs/cat/longres.cfm?sk=2037.0; Philip R. Lane and Roberto Perotti, "The Importance of Composition of Fiscal Policy" (Working Paper 200111, Trinity College Dublin, October 2001); Stephanie Guichard et al., "What Promotes Fiscal Consolidation: OECD Country Experiences" (Working Paper 553, Organisation for Economic Co-operation and Development, May 2007), http://search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&cote=eco/wkp(2007)13.
18. Biggs, Hassett, and Jensen, "Guide for Deficit Reduction."
19. Alesina and Ardagna find that about 84 percent of fiscal reforms fail to substantially reduce a nation's debt-to-GDP level. Alberto Alesina and Silvia Ardagna, "Large Changes in Fiscal Policy: Taxes versus Spending" (NBER Working Paper 15438, National Bureau of Economic Research, October 2009), http://www.nber.org/papers/w15438. Biggs and his colleagues find an 80 percent failure rate. Biggs, Hassett, and Jensen, "Guide for Deficit Reduction."
20. Ben Broadbent, "Fiscal Tightening Need Not Be Electorally Costly, but It Will Test Government Unity," *Goldman Sachs Global Economics*, May 13, 2010.
21. Alberto Alesina, Dorian Carloni, and Giampaolo Lecce, January 2012, "The Electoral Consequences of Large Fiscal Adjustments" (National Bureau of Economic Research, Washington, DC, January 2012), http://www.nber.org/chapters/c12654.pdf.
22. Adi Bender and Allan Drazen, "Political Implications of Fiscal Performance in OECD Countries," March 30, 2006, https://www.bancaditalia.it/studiricerche/convegni/atti/fiscal_ind/Role/2.pdf.

government implementing the adjustment? In other words, maybe only popular governments can cut spending without electoral risk. The paper finds that this is probably not the case. However, the authors acknowledge that this assumption is hard to test and so advise caution.

3. FISCAL ADJUSTMENTS AND ECONOMIC GROWTH

While there is little debate that sound fiscal balance and restraints in the burden of spending have a positive impact on GDP in the long run, the question of whether, in the short term, budget cuts shrink or grow GDP is far from being settled.[23] This is an especially important question for countries whose spending as a share of GDP is close to or above 50 percent. A few uncontroversial points have emerged, however, despite the differences in approaches and in definitions of successful or expansionary episodes.[24]

First, expansionary fiscal adjustments are not impossible. There is now a long trail of academic papers that have studied and documented the impact of fiscal adjustments on economic growth. The first in the series was by Francesco Giavazzi and Marco Pagano in 1990.[25] It was followed by a large literature, which was reviewed in depth by Alesina and Ardagna in 2010.[26] However, today the question is not whether expansionary fiscal adjustments are possible, but whether in the current circumstances it is possible to design fiscal adjustments with as little cost as possible to the economy, given that monetary conditions allow little additional help. It is perfectly possible that fiscal adjustment today might be on average more costly than in the past, but this does not mean that the medicine is not necessary.

23. On the long-run benefits of modest government spending, see Matthew Mitchell, "Why This Isn't a Time to Worry That the Government Is Spending Too Little," *Neighborhood Effects* (blog), June 30, 2010, http://neighborhoodeffects.mercatus.org/2010/06/30/why-this-isnt-a-time-to-worry-that-government-is-spending-too-little/. See also Andreas Bergh and Magnus Henrekson, "Government Size and Growth: A Survey and Interpretation of the Evidence" (IFN Working Paper 858, Institutet för Näringslivsforskning, April 2011).
24. Alesina and Ardagna's 2012 paper gives a detailed look at recent controversies by performing a host of sensitivity tests, changing definitions, and exploring alternative approaches. They try to clarify the differences between the methodologies and empirical results. Their paper also brings other variables that sometimes accompany fiscal adjustments into the discussion, thus expanding the analysis to include the effects of a vast set of policies that constitute the "package" accompanying the fiscal cuts. By considering many alternative definitions of fiscal adjustments, they are able to do robustness checks on their previous results. Alesina and Ardagna, "Design of Fiscal Adjustments."
25. Francesco Giavazzi and Marco Pagano, "Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries," *NBER Macroeconomics Annual* (MIT Press, 1990): 95––122, http://www.nber.org/papers/w3372.
26. Alesina and Ardagna, "Large Changes in Fiscal Policy."

Second, while not all fiscal adjustments lead to economic expansion, spending-based adjustments are less recessionary than those achieved through tax increases.[27] Moreover, when successful spending-based adjustments were not expansionary, they were associated with mild and short-lived recessions, while tax increases were unsuccessful at reducing the debt and associated with large recessions.[28] These findings hold even when using the IMF definitions of fiscal adjustments.[29]

In fact, these findings are consistent with IMF studies themselves.[30] For instance, IMF economists Jaime Guajardo, Daniel Leigh, and Andrea Pescatori studied 173 fiscal consolidations in rich countries and found that "nations that mostly raised taxes suffered about twice as much as nations that mostly cut spending."[31] IMF researchers, however, downplay this result and incorrectly attribute it—as shown by Alesina, Favero, and Giavazzi—to different reactions of monetary policy to different types of fiscal adjustments.

Third, successful and expansionary fiscal adjustments are those based mostly on spending cuts rather than tax increases.[32] Also, these adjustments lasted slightly longer and were associated with higher growth during the adjustment. Using data from 21 Organisation for Economic Co-operation and Development (OECD) countries from 1970 to 2010, Alesina and Ardagna find that successful fiscal adjustments on average reduced debt-to-GDP ratio by 0.19 percentage points of GDP in a given year. GDP grew by 3.47 percentage points in total, which is 0.58 percentage points higher than the average growth of G7 countries. Successful adjustments lasted for three years on average.[33]

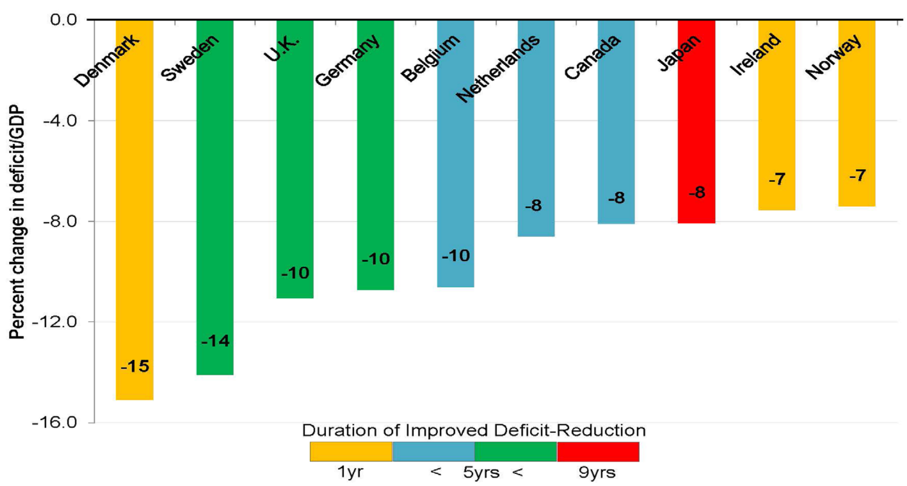
27. For another good summary of the IMF findings on this issue, see Garett Jones, "Which Hurts More in the Long Run, Tax Hikes or Spending Cuts?" *Econlog* (blog), November 14, 2012, http://econlog.econlib.org/archives/2012/11/which_hurts_mor.html.
28. Alesina, Favero, and Giavazzi, "Output Effect of Fiscal Consolidations" (see n. 11).
29. Alesina and Ardagna, "Design of Fiscal Adjustments"; Alesina, Favero, and Giavazzi, "Output Effect of Fiscal Consolidations."
30. Pete Devries et al., "An Action-Based Analysis of Fiscal Consolidation in OECD Countries" (Working Paper 11/128, IMF, June 2011), http://www.imf.org/external/pubs/cat/longres.aspx?sk=24892.0.
31. Jaime Guajardo, Daniel Leigh, and Andrea Pescatori, "Expansionary Austerity New International Evidence" (Working Paper No. 11/158, IMF, Washington, DC, July 2011).
32. Alesina, Favero, and Giavazzi, "Output Effect of Fiscal Consolidations"; Alesina and Ardagna, "Design of Fiscal Adjustments."
33. Alesina and Ardagna's data indicate that successful fiscal adjustment episodes comprised of 72 percent in spending cuts and 28 percent in tax increases, resulting in an average spending reduction of 4.18 percentage points of GDP and a 1.64 percentage point tax increase. However, even using the IMF definition, the authors find that successful fiscal adjustment comprised 67 percent in spending cuts and 33 percent in tax increases, resulting in an average spending reduction of 3.89 percentage points of GDP and a 1.6 percentage point tax increase. Alesina and Ardagna, "Design of Fiscal Adjustments."

TABLE 1. THE 10 LARGEST EPISODES OF SUCCESSFUL FISCAL ADJUSTMENTS

Country	Percent Change in Deficit/GDP Ratio	Period	Duration (Years)
Denmark	–15.1	1983–1986	4
Sweden	–14.1	1993–1998	6
UK	–11.1	1994–2000	7
Germany	–10.7	1984–1990	7
Belgium	–10.6	1996–2000	5
Netherlands	–8.6	1993–1997	5
Canada	–8.1	1993–1997	5
Japan	–8.1	1979–1987	9
Ireland	–7.6	1986–1989	4
Norway	–7.4	1999–2000	1

Source: Authors' calculations based on Alberto Alesina and Silvia Ardagna, "The Design of Fiscal Adjustments" (NBER Working Paper No. 18423, National Bureau of Economic Research, Washington, DC, September 2012), http://www.nber .org /papers/w18423.pdf (subscription only).

FIGURE 1. THE 10 LARGEST EPISODES OF FISCAL ADJUSTMENTS



Source: Alesina and Ardagna, "Design of Fiscal Adjustments."

How can we explain the fact that spending-based adjustments can result in lower or no output costs for the economy than tax-based ones? IMF economists Prakash Kannan, Alasdair Scott, and Marco Terrones argue that this difference in outcomes is not the result of the composition of the fiscal adjustment packages, but rather a result of the business cycle having picked up because of other forms of government interventions, such as expansionary monetary policy.[34] However, Alesina, Favero, and Giavazzi's work shows that taking the business cycle and monetary policy into account does not change the main finding.[35]

If the difference between tax-based and spending-based fiscal adjustments is not the result of the business cycle or monetary policy, what explains it? The standard explanation is that lower spending reduces the expectation of higher taxes in the future, with positive effects on consumers and investors. In particular, there might be a boost in the confidence of the latter—as Alesina, Favero, and Giavazzi have shown. But there is more. As is often the case, the devil is in the details. Studies by Alesina and Ardagna and by Roberto Perotti have noted that fiscal adjustments are multiyear rich policy packages.[36] Austerity measures are often undertaken at the same time that other growth-enhancing policy changes are made, and, as such, there is much to learn by looking into the details of each successful episode.

One important lesson is that several accompanying policies can moderate the contractionary effects of fiscal adjustments on the economy and enhance their chances of success.[37] For instance, spending-based fiscal adjustment accompanied by supply-side reforms, such as liberalization of markets for labor, goods, and services, readjustments of public sector size and pay, public pension reform, and other structural changes tend to be less recessionary or even to have positive economic growth.[38]

Such reforms signal a credible commitment toward more market-friendly policies: less taxation, fewer impediments to trade, fewer barriers to entry, less union involvement, less labor market and business regulation. And, of course, with enhanced economic freedom, unit labor costs become cheaper and productivity improves, making an expansionary fiscal adjustment more likely than a contractionary one.

Germany's fiscal adjustment of 2004 to 2007 provides a good example.[39] First, the country implemented a stimulus by reducing income-tax rates. This reduction was part of a series of supply-side-oriented reforms implemented between 1999 to 2005, including a wide-ranging overhaul of the income-tax system that was meant

34. Prakash Kannan, Alasdair Scott, and Marco E. Terrones, "From Recession to Recovery: How Soon and How Strong" (IMF, 2012), http://www.imf.org/external/np/seminars/eng/2012/fincrises/pdf/ch8 .pdf.

35. See Alesina, Favero, and Giavazzi, "Output Effect of Fiscal Consolidations." See also Alesina and Ardagna, "Design of Fiscal Adjustments," and Alberto Alesina and Francesco Giavazzi (eds.), "Fiscal Policy after the Great Depression," University of Chicago Press and National Bureau of Economic Research forthcoming.

36. Alberto Alesina and Silvia Ardagna, "Tales of Fiscal Adjustments," *Economic Policy* 27 (October 1998), http://www.economics.harvard.edu/faculty/ardagna/files/Economic_Policy_1998_b.pdf; Roberto Perotti, "The 'Austerity Myth': Gain Without Pain?" (NBER Working Paper 17571, National Bureau of Economic Research, Washington, DC, November 2011), http://papers.nber.org/tmp/29877-w17571 .pdf.

37. Perotti, "Austerity Myth."

38. See Alesina and Ardagna, "Design of Fiscal Adjustments"; the case studies by Alesina and Ardagna, "Tales of Fiscal Adjustments"; and Perotti, "Austerity Myth." For specific statistics on average changes to goods regulation, barriers to entry, public ownership, employment protection, union density, etc., see tables 17, 18, and 7b in Alesina and Ardagna, "Design of Fiscal Adjustments."

to boost potential growth but did not have much effect until 2004. In addition, significant structural reforms to tackle rigidity in the labor market were put in place, as well as changes to the pension system due to demographic pressures. These reforms included "an increase in the statutory retirement age, the elimination of early retirement clauses, and tighter rules for calculating imputed pension contributions."[40] Finally, Germany adopted large expenditure cuts in the fringe benefits in public administration (no more Christmas-related extra payments) and also serious reductions in subsidies for specific industries: residential construction, coal mining, and agriculture.[41]

Sweden is another example of successful adjustment. The data show that after the recession, Sweden's finance minister, Anders Borg, not only successfully implemented reduction in welfare spending but also pursued economic stimulus through a permanent reduction in the country's taxes, including a 20-point reduction to the top marginal income tax rate. At the same time, Sweden also benefited from a very aggressive monetary policy followed by strong export revenues and firm domestic demand. As a result, the country's economy is now the fastest-growing in Europe, with real GDP growth of 5.6 percent, which has helped the country to rapidly shrink its debt as a percentage of GDP over the past decade.[42]

The Swedish example raises the question of what role monetary policy can play in successful fiscal adjustments. For instance, there is some evidence that sometimes exchange rate devaluation (induced by an accommodating monetary policy) can help to boost a country's exports as the country becomes more competitive and, as a result, can compensate for a previous slowdown in domestic demand.[43]

Economist Scott Sumner has made the case that the best way to get austerity and growth at the same time is to increase "[nominal] GDP and budget surpluses—the Swedish way."[44] To be sure, monetary policy in Europe—or in the United States, for that matter—could increase the effectiveness of spending cuts and structural

39. Christina Breuer, Jan Gottschalk, and Anna Ivanova, "Germany: Fiscal Adjustment Attempts with and without Reforms," in *Chipping Away at Public Debt: Sources of Failure and Keys to Success in Fiscal Adjustment*, ed. Paolo Mauro (Hoboken, NJ: John Wiley & Sons, 2011), 85–115.
40. Ibid., 107.
41. The German consolidation also responded quickly to unanticipated challenges arising from the reforms. For instance, the government responded to the higher-than-expected cost of labor-market reforms by raising the Value Added Tax (VAT) rate, with part of the VAT collection going toward financing a reduction in the overall tax burden through a cut in unemployment contribution rates.
42. IMF's Fiscal Monitor, "Lessons from Sweden," *Taking Stock: A Progress Report on Fiscal Adjustment,* (Washington, DC: IMF, October 2012), http://www.imf.org/external/pubs/ft/fm/2012/02/pdf/fm1202.pdf. The data mentioned come from the Organisation for Economic Co-operation and Development Stat Extracts, October 2012, http://stats.oecd.org/. See also Veronique de Rugy, "GDP Growth Rates: The Swedish Approach," Mercatus Center at George Mason University, May 16, 2012, http://mercatus.org/publication/gdp-growth-rates-swedish-approach.
43. Alesina and Ardagna, "Design of Fiscal Adjustments." Also, the current devaluation debate surrounding G20 "currency war" has been a prime example. See Jan Strupczewski, "G20 Currency Promises Unlikely to End Devaluation Debate," Financial Post, February 18, 2013, http://business.financialpost.com/2013/02/18/g20-currency-war-promises-unlikely-to-end-devaluation-debate/.

reforms (a little like the water you drink to help the medicine to go down). But it is mistake to oversell it, and it certainly will not achieve our long-term goals without serious reductions is government spending. In particular, the devaluation of a country's currency is neither a necessary nor sufficient condition for success, as shown by Alesina and Ardagna.[45]

There is growing evidence, however, that private investment tends to react more positively to spending-based adjustments. The data from Alesina and Ardagna and Alesina, Favero, and Giavazzi, for instance, show that private-sector capital accumulation increases after governments cut spending, which compensates for the reduction in aggregate demand due to the fiscal adjustments.[46]

The good news is that it is possible to design a fiscal adjustment that could both reduce the deficit and have a minimal or even in some cases positive impact on the economy. It requires austerity mostly based on spending cuts. This can be done without hurting the least advantaged in society. As Alesina wrote in November 2012,

> But if we cut spending, do we necessarily hurt the poor? Not in such countries as Greece, Portugal, Spain, and Italy, whose public sectors are so inefficient and wasteful that they can certainly spend less without affecting basic services. Even in countries with better-functioning public sectors—such as France, where public spending is nearly 60 percent of GDP—there's a lot of room to economize without hurting the poorest and most vulnerable. And even in America, public spending is about 43 percent of GDP, a level common in Europe not long ago, and up from 34 percent in 2000.[47]

In other words, Western governments can save money and avoid inflicting injury on lower-income earners or the poor by improving the way welfare programs are targeted; scaling back programs such as Medicare that use taxes raised in part from the middle class to give public services right back to the middle class; and gradually raising the retirement age to 70. The same is true of Social Security. What is more, lots of savings could be achieved by cutting subsidies going to businesses—which are often large, well-established, and politically connected firms, such as gas and oil companies, farms, automobile manufacturers, or banks.[48]

44. Scott Sumner, "Austerity and Stimulus in Northern Europe," *The Money Illusion*, May 17, 2012, http://www.themoneyillusion.com/?p=14381.
45. Alesina and Ardagna, "Design of Fiscal Adjustments."
46. Ibid.
47. Alberto Alesina, "The Kindest Cuts," *City Journal*, Autumn 2012, http://www.city-journal.org/2012/22_4_spending-cuts.html.
48. Matthew Mitchell, "The Pathology of Privilege: The Economic Consequences of Government Favoritism," (Mercatus Research, Arlington, VA: Mercatus Center at George Mason University, July 8, 2012), http://mercatus.org/publication/pathology-privilege-economic-consequences-government-favoritism.

CONCLUSION

There is a lot that economists disagree about when it comes to fiscal policy. For instance, there is no consensus about the size of the spending multiplier or where on the Laffer curve most countries are situated. However, a consensus seems to have emerged recently that spending-based fiscal adjustments are not only more likely to reduce the debt-to-GDP ratio than tax-based ones but also less likely to trigger a recession. In fact, if accompanied by the right type of policies (especially changes to public employees' pay and public pension reforms), spending-based adjustments can actually be associated with economic growth.

These results help to explain what is going on in Europe. Consider the United Kingdom, where, according to John Cassidy, "austerity has led to recession."[49] In a paper on the United Kingdom's fiscal adjustment, economist Anthony Evans noted that the original austerity plan announced by Chancellor George Osborne would cut £3 in government spending for every £1 in new tax revenue over the full austerity cycle.[50] But what was announced has not happened yet. A look at the first two years of fiscal adjustment, for instance, reveals that roughly £40 billion was shaved from the deficit during the 2010–2011 budget cycle by raising £3 of new tax revenue for every £1 in cuts—exactly the reverse of what was promised.

What is more, the evidence indicates that this trend remains and that the United Kingdom has, at best, slowed down the growth of spending, but it has not really cut spending. According to the OECD's most recent economic outlook, government spending grew to 49 percent of GDP last year from the 48.6 percent of GDP it spent in 2011.[51] Considering the relatively stagnant economy during that time, it means that spending might have gone up, and it certainly has not gone down.

In other words, spending cuts in the United Kingdom cannot be blamed for the stagnating growth path the country is on. However, tax increases can. Here is a partial list:[52] a hike in the value added tax from 17.5 percent to 20 percent (probably the main culprit for the United Kingdom's current problems), a new 50 percent tax bracket on incomes over £150,000 (which will drop to 45 percent in April 2013), a massive increase in air-passenger duty fees,[53] a "temporary" payroll tax of 50 percent on bonuses over £25,000 (which has now expired), a capital-gains tax hike that takes the minimum rate from 10 percent to a new flat rate of 28 percent, a 0.13

49. John Cassidy, "It's Official."
50. Anthony Evans, "In Search of Austerity: An Analysis of the British Situation" (Mercatus Research, Arlington, VA: Mercatus Center at George Mason University, October 15, 2012), http://mercatus.org/publication/search-austerity-analysis-british-situation.
51. Allister Heath, "It Doesn't Look as if Osborne Can Deliver the Necessary Cut in Public Spending," *Telegraph*, January 22, 2013, http://www.telegraph.co.uk/finance/comment/9819045/It-doesnt-look-as-if-Osborne-can-deliver-the-necessary-cut-in-public-spending.html.
52. This is list comes from Veronique de Rugy, "Is Austerity the Answer to Europe Crisis," *Cato Journal* 33, no. 2 (forthcoming: Spring/Summer 2013).
53. HM Revenue & Customs, "Air Passenger Duty," Reference: Notice 550 (April 2012), http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageExcise_ShowContent&propertyType=document&id=HMCE_CL_000505#P12_491.

percent levy on banks,[54] an increase to 7 percent in the stamp duty on the sale of properties worth more than £2 million, and an even steeper tax hike on properties bought through "non-natural persons."[55]

In other words, the UK government has implemented many tax hikes (i.e., private austerity) without many spending cuts (i.e., public-sector austerity).[56] Unfortunately, as Alesina and Ardagna have shown, these are the type of fiscal adjustments that are more likely to fail at reducing the debt-to-GDP ratio and are more likely to slow economic growth.[57] In fact, as of today, there is further evidence that the United Kingdom's productivity is slowing down while its debt-to-GDP ratio increasing: it was 63.4 percent in December 2011 and has increased to 70.7 percent in December 2012.[58]

Italy has been another even clearer example of the failure of tax-based adjustments. The Monti government appointed in November 2011, when Italy was on the verge of collapse, tried to reduce the deficit mostly by raising taxes by more than 2 percentage points of GDP. As a result, the economy shrank by 2.4 percentage points in 2012 and there is no recovery in sight for most of 2013. The debt-over-GDP ratio has actually risen to 127 percent.

Fortunately, successful fiscal adjustments are possible (when mostly based on spending cuts and accompanied by policies that increase competiveness) as we have seen in the case of Germany, Finland, and other more recent examples, such as Estonia and Sweden. However, it is important to refrain from oversimplifying these results since fiscal adjustment packages are often complex and multiyear affairs. Also, many of the successful (i.e., expansionary and debt-to-GDP-reducing) fiscal adjustments in this literature are ones where the growth is export-led during times when the rest of the global economy is healthy or even booming. While there has been some recovery in the midst of the recession, we should recognize that it may be much harder today to achieve export-led growth when many countries are struggling.

While austerity-based spending cuts can be costly, the cost of well-designed adjustments plans will be low. Besides, it is not clear that the alternative to reducing spending is more economic growth. In fact, the alternative for certain countries could be a very messy debt crisis.

54. HM Revenue & Customs, "Bank Levy: 2013 Rate Change," http://www.hm-treasury.gov.uk/d/bank_levy_rates_from_1_January_2013.pdf.
55. For more details, check "United Kingdom: Budget 2012 Announced with Important Changes for Individuals," *Totally Expat*, March 23, 2012, http://totallyexpat.com/news/united-kingdom-budget-2012-announced-important-individuals/.
56. For more details, see Evans, "In Search of Austerity." Evans dives into the British government's austerity policies and notes that they mainly revolved around making changes in the composition of government spending but not a reduction in the absolute level. What is more, he argues that forecasts of falling government spending as a proportion of GDP are due to implausible growth forecasts rather than an absolute reduction in spending.
57. Alesina and Ardagna, "Design of Fiscal Adjustments."
58. Office of National Statistics, "Public Sector Finances, December 2012," January 22, 2013, http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/december-2012/stb---december-2012.html.