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## Austerity in 2009–2013

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The deficit reduction policies followed by several Organization for Economic Co-operation and Development (OECD) countries in 2009–13, often referred to as fiscal austerity, were motivated by the bond market’s reaction to the large debts and deficits that followed the Greek crisis. Austerity was clearly not meant to cool down overheating economies; on the contrary, several countries adopted austerity measures when recessions were not quite over and credit crunches were still retarding the recovery. This is not ideal, but the risk of a meltdown of the Euro area was significant.

Our research examines the effects of austerity on output growth. We focus especially on the composition of austerity measures: how they were divided between tax increases and spending cuts. We also examine whether this round of fiscal adjustments, which occurred after a financial and banking crisis, had different effects on the economy compared with consolidations in “normal” times. One possible reason is that many of the recent fiscal adjustments occurred at the same time, possibly deepening their recessionary effects due to interdependence across economies.

This research builds upon an earlier literature that assessed fiscal adjustments using data up to 2007, before the latest rounds of adjustments. That literature faced two key challenges. One was identifying exogenous shifts

in fiscal policy: those determined by the need to reduce excessive deficits rather than respond to the state of the economy. The second challenge was isolating the effect of fiscal policy from other factors such as devaluations, monetary policy, or labor and product market reforms.

This earlier literature, surveyed in Alesina and Ardagna (2010), used large changes in cyclically adjusted deficits to measure fiscal adjustments. This work found that fiscal consolidations based on spending cuts have been less costly than those based on tax increases. In fact, spending cuts were sometimes associated with almost immediate increases in output growth, confirming earlier findings by Giavazzi and Pagano (1990). Alesina and Ardagna (2013) investigated whether accompanying policies, such as labor market reforms, helped fiscal adjustments. Devaluations sometimes helped (e.g., Ireland in 1988), but they were not consistently the driving force of successful adjustments. Perotti (2013) also emphasized the role of accompanying policies, arguing that one should not study budget cuts in isolation.

Cyclically adjusted budgets, however, are unable to filter out fiscal actions correlated with the cycle, such as discretionary responses to a recession. This limitation has been overcome by the “narrative” method pioneered by Romer and Romer (2010). These authors use original sources (budget documents, records of Congressional

debates, etc.) to identify changes in U.S. tax rates not dictated by the cycle but motivated by the aim of improving long-run growth or of reducing an inherited deficit. Applying this strategy, Romer and Romer estimate large tax multipliers: over the course of three years an increase in taxes equivalent to 1 percent of GDP lowers output by 3 percent.

Devries et al. (2011) use this methodology to construct narrative time series shifts in taxes and spending for 17 OECD countries since the early 1970s. The shifts identified by these authors are motivated solely by the need to reduce an inherited deficit, a definition that fits the fiscal consolidations in Europe since 2009–10. Guajardo et al. (2014) use these data to estimate fiscal multipliers and find that tax-based adjustments generated bigger output losses than expenditure-based ones, consistent with the earlier literature based on cyclically adjusted deficits.

Alesina, Favero, and Giavazzi (2012) use the fiscal consolidation episodes identified by Devries et al. (2011) but propose a methodological innovation. They observe that shifts in taxes and spending in a fiscal adjustment rarely happen in isolation but instead are part of a multi-year plan: some policies are announced in advance, others are implemented unexpectedly, and both tax hikes and spending cuts are used simultaneously. Also, as these plans unfold, they are often revised; ignoring the connections between taxes and expenditures, and between unanticipated and announced changes, can produce biased estimates of the effects of fiscal consolidations.

The results from Alesina, Favero, and Giavazzi again confirm a large difference between expenditure-based adjustments and tax-based ones. These authors also show that the shifts in monetary policy that accompany fiscal adjustments cannot explain this result, although other contemporaneous economic reforms may make certain plans less costly than others.

The research we summarize here uses the model estimated in Alesina, Favero, and Giavazzi to estimate the effects of the fiscal consolidations that occurred during 2009–13. We start by documenting how austerity has been implemented in each country. We estimate such a model with data running up to 2009. Then we simulate the model over 2009–13, feeding in the actual plans adopted in those years. This allows us to analyze not only the output effects of austerity as implemented, but also to ask what output growth would have been had the same fiscal contractions been implemented in a different

fashion, that is, relying less on tax increases and more on spending cuts.

Our main finding is that fiscal adjustments based on spending cuts are less costly, in terms of output losses, than those based upon tax increases. Over our estimation period (1978–2007) the output effect of tax-based adjustment plans with an initial size of 1 percent of GDP is a cumulative contraction in GDP of 2 percent or more in the following three years, a result which is roughly consistent with Romer and Romer. In contrast, spending-based adjustments generate small recessions with an impact on output growth not significantly different from zero.

We then use the coefficient estimates of our estimation for out-of-sample simulations, which project output growth conditional only upon the fiscal plans implemented since 2009. Our model does reasonably well in predicting the total output fluctuations of the countries in our sample over the years 2010–13, particularly, and not surprisingly, for those countries in which the main shock in that period was fiscal policy. For example, the tax-based adjustment implemented in Italy in 2010–13 is sufficient by itself to explain the recession experienced by the country over 2011–2012 (with negative GDP growth of around 2 percent in each year).

We also find little evidence that recent fiscal adjustments had larger negative output effects than past ones. This suggests that fiscal multipliers estimated using pre-crisis data give valuable information about the output loss associated with the post-crisis fiscal consolidations. This result contrasts with Blanchard and Leigh (2013), who argue that the costs of fiscal adjustments have been higher in recent years than previously estimated. The difference between our results and theirs is that we construct forecast errors that are conditional only upon deficit-driven fiscal consolidations. Instead, the forecast errors in Blanchard and Leigh are conditional upon a scenario for all the exogenous variables that enter the International Monetary Fund (IMF) forecasting model. In other words, Blanchard and Leigh attribute any deviations from forecasted growth to fiscal policy. This is a questionable assumption. For instance, countries with especially deep banking crises might have needed larger fiscal adjustments and had larger recessions, but that was because of the banking problem, not because of fiscal multipliers larger than what were estimated earlier.

To conclude, we note that our evidence has nothing to say about the desirability of the fiscal consolidations

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during 2009–13. What we can say is that, assuming that austerity was necessary (to avoid a collapse of the Euro, or banking crises, or even worse recessions), spending cuts were much less costly than tax increases. In other words, this paper shows there was significant heterogeneity in the effects of such fiscal adjustments depending on their composition—taxes versus spending—and, partly, on their credibility and persistence.

## NOTE

This research brief is based on Alberto Alesina, Omar Barbiero, Carlo Favero, Francesco Giavazzi, and Matteo Paradisi, “Austerity in 2009–2013,” NBER Working Paper No. 20827 (January 2015), [http://www.nber.org/papers/w20827?utm\\_campaign=ntw&utm\\_medium=email&utm\\_source=ntw](http://www.nber.org/papers/w20827?utm_campaign=ntw&utm_medium=email&utm_source=ntw). All references are provided therein.

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