



*Comments on the Paper*  
**“Crunch Time: Fiscal Crises and the Role  
of Monetary Policy”**

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The paper “Crunch Time: Fiscal Crises and the Role of Monetary Policy” by Greenlaw, Hamilton, Hooper, and Mishkin provides both a theoretical and empirical look at the fiscal challenges facing many advanced economies. The first part of the paper focuses on the sustainability of current trends, given the number of countries with high levels of fiscal debt to GDP and serious trade imbalances.

The paper makes some observations with which I concur:

1. That unsustainable fiscal policies need to be made sustainable.
2. That the “tipping point” for fiscal policies in many developed countries should be an area of concern and continued attention.

3. That the tipping point can be difficult to precisely determine for individual countries, but the range of debt-to-GDP levels in many advanced economies should make policymakers attentive to imbalances.

I would like to split my discussion of the paper into two parts. First, I will discuss the authors' empirical work on tipping points. In that discussion I will emphasize that the empirical work is a good first step in analyzing the potential of reaching a tipping point, but that the empirical work would probably benefit from a more extensive examination of other factors that influence tipping points.

In the second part of my comments today I will discuss the costs and benefits of the large-scale asset purchase (LSAP) program as an instrument of monetary policy. While remittances – which the authors focus on – are one potential factor worth considering when estimating the costs of this program, I will suggest that a fuller set of benefits and costs of the program for the economy are needed.

As always, I would note that the views I express here today are my own, not necessarily those of my colleagues at the Federal Reserve Board of Governors or on the Federal Open Market Committee (the FOMC).

### **Empirical work on tipping points**

The paper provides an empirical model of long-term government bond rates. The basic model estimates the government bond rate as a function of debt to GDP (both net and gross), the current account deficit, and time and country dummy variables. This model is in the spirit of much literature that looks at the probability of a sovereign default or tries to empirically estimate sovereign debt default premiums. While much of the

earlier literature was focused on problems with sovereign default for less developed countries, this study focuses on the potential for sovereign default premiums to rise in a set of advanced economies.

From this rather parsimonious model the authors draw a number of conclusions. In particular, that at the level of current account deficits and debt-to-GDP ratios currently experienced in many advanced economies, the risk of rising sovereign default premiums is quite high. Furthermore, if unaddressed, these premiums could reach a tipping point that becomes unsustainable.

While this degree of parsimoniousness in a model can be a virtue, I would suggest that if there are important omitted variables from the empirical work then the coefficient estimates can be biased, and the effects attributed to the variables in the model can be a proxy for effects that are really driven by movements in the omitted variables. Because the model includes both dummy variables for countries and time, the omitted variables would need to be variables that could drive long-term rates that vary over time and by country. How likely is that to be the case with this simple regression?

Consider the example of Ireland. **Figure 1** shows that in 2006 Ireland had a very low debt-to-GDP ratio. In fact, debt to GDP was substantially lower than that of the U.S., U.K., and France. The current account deficit was better than that of the United States, similar to that of the U.K., and somewhat worse than that of France. Despite this relatively sanguine situation in 2006, Ireland was close to the tipping point. Debt to GDP was about to rise quickly, as seen in **Figure 2**, and Ireland was about to lose the ability to issue long-term debt.

The problem in Ireland was that while fiscal debt was well controlled, the country was facing a serious financial stability problem. So, what type of financial stability variables might capture the impending tipping point in a way that is not captured by the simple empirical model?

One example of a potentially important omitted variable is the financial strength of the *banking sector*. For example, non-performing assets of the banking sector relative to GDP would capture the impact of building banking pressures. In Ireland, banking problems rather than fiscal problems were an important driver in hitting the tipping point. Another variable that varies over time and by country would be the percentage change in real estate prices or possibly the difference between the return on owning and the return on renting. These types of variables would try to capture the growing risk of bubbles in Ireland and Spain.

A second set of potential omitted variables relates to the *political* determinants of risk premiums. One frequently sees that credit default rates spike around elections, and that countries that are politically destabilized have difficulty generating the political will to address problems – particularly if public opinion is as fragmented as the political process. This might be captured by how frequently national elections were held over the past four years, or by other political variables capturing the difficulty in obtaining a stable majority political party in some countries at some times.

Another political variable that might be relevant is a variable that captures whether there is stable fiscal federalism in a country. For example in Spain, debt and banking problems have been exacerbated by the reality of regions that were autonomous

but not necessarily fiscally responsible. A variable that might capture this impact is state and local government debt to GDP.

A third set of potential omitted variables would reflect *labor market conditions*. With a currency union, persistent differences in competitiveness can push countries to the tipping point. Measures of labor market productivity might capture this impact, which may vary over countries and over time. Another potential important variable would be differences in unfunded pension liabilities relative to GDP. Countries with growing unfunded pension liabilities relative to GDP may need to eventually raise government debt to fund these liabilities, pushing a country to the tipping point.

A variety of other potential omitted variables could be explored. Credit default swap rates tend to move as countries approach high rollover periods. A debt management variable might capture this rollover risk by looking at short-term debt relative to GDP. And demographic variables may also be relevant. Countries with fast-growing, well-educated populations may be less at risk of tipping points than countries with declining populations that are not well educated.

While this is not an exhaustive list of omitted variables, it does highlight that such a pared-down model may ignore important drivers of tipping points. In addition, one cannot be sure that the coefficients used in simulations might not change significantly with a more richly specified model.

While this paper provides a good discussion of tipping points, the coefficients and simulations should be viewed as indicative of a more general point – that policymakers should consider how a variety of public policies, including fiscal policies, can influence tipping points.

## **Benefits and Costs of LSAPS**

The final section of the paper discusses the expansion of the Federal Reserve's balance sheet. It highlights a potential problem – that if monetary policy is successful in returning us quickly to full employment, or if interest rates rise for other reasons such as reaching a tipping point, remittances to the Treasury would be impacted. The baseline scenario the authors provide reflects gains overall for the LSAP, but under the authors' most pessimistic scenarios significant losses are generated.

Unfortunately, this discussion does not do justice to the policy trade-offs, in my opinion. To take them into account, ideally one would do a more complete comparison of how the economy and fiscal policy would evolve with and without large-scale asset purchase (LSAP) programs in place.

The purpose of the LSAP is to reduce long-term interest rates to stimulate the economy. Analysis of the LSAP program requires looking at more than remittances. Ideally one would start with how well policy – with and without LSAPs – fulfills the Federal Reserve's dual mandate, provided by Congress. Even if one wanted to focus on the more narrow fiscal impact, I believe one would need a much fuller analysis.

And to capture the *benefits* of the LSAP you need a fuller model. One of the models currently used by the Federal Reserve Bank of Boston provides a relatively conservative estimate of the economic benefits of a hypothetical additional \$750 billion LSAP. Based on historical experience, the model implies that such a purchase would lower long-term rates by 20 to 25 basis points, relative to not making the additional purchases. The impact of this large a reduction in long-term rates is a cumulative gain in

real GDP, relative to the base, of 1.6 percent or \$260 billion. In our model such a purchase also results in a decline in the unemployment rate of 0.25 percent or 400,000 jobs. Some of the models we run provide a larger impact to such purchases.

Nonetheless, such estimation provides a baseline for considering the economic benefits of additional purchases. These estimates are subject to a considerable degree of uncertainty, and the impact could easily be higher or lower than that implied by our model. However, based on our statistical work using historical data, we believe these are reasonable estimates of the benefits.

Even if one wanted to focus on the fiscal impact of the LSAP program, I would suggest that the impact goes beyond remittances provided to the Treasury. The first effect would be to examine the path of interest rates on government debt with and without the LSAP program. Since the LSAP reduces interest rates, such a simulation would show that the debt-to-GDP ratio is reduced by the lowered cost of financing fiscal deficits as a result of the LSAP program.

The second fiscal impact would be from faster economic growth. Faster economic growth produces more tax revenue and, by reducing unemployment, reduces government entitlement expenditures on programs such as unemployment insurance. Thus, LSAPs actually produce a much more positive fiscal impact than the authors suggest.

Moreover, the evaluation of the program needs to include the contributions of LSAPs to achieving the goals of the dual mandate for U.S. monetary policy. We currently have an unemployment rate of 7.9 percent in the country and PCE inflation of 1.3 percent. Had we not undertaken LSAP policies, we would be even further away from

achieving each element of our dual mandate, with an unemployment rate higher and an inflation rate lower than we currently have (assuming we have been successful in improving the economy).

As **Figure 3** shows, loan rates on mortgages and autos have declined since the zero lower bound for the federal funds rate was hit, and home and auto sales have been improving. These interest-sensitive sectors have been among the fastest growing components of real GDP over the past year. Some of this improvement is the result of our LSAP policies.

Finally, extended periods of unemployment may have long-run costs that have both fiscal and broader economic impacts. If an extended period of high unemployment causes more workers to drop out of the labor force and places many new workers on a permanently lower income growth path – as many studies have shown – then failing to undertake LSAPs can have much broader impacts on fiscal and economic policies.

## Concluding Observations

The authors of this paper have provided a useful contribution to the literature by highlighting the impact of not considering fiscal tipping points. As their work highlights, hitting fiscal tipping points can have dire consequences for all citizens – and predicting when such a tipping point will be hit is difficult. As a result, fiscal and monetary policymakers need to be mindful of the potential of their actions to impact tipping points.

But I hope my discussion today has highlighted that, with respect to monetary policy, the LSAP program improves the broader fiscal outlook by lowering interest rates and providing more economic growth. In addition, it returns the economy to full

employment and an inflation rate at the 2 percent target more quickly than would have occurred in the absence of such actions. We do well to also consider these benefits, and the costs of inaction, when evaluating policy.

Thank you.