General Discussion:
Fiscal Stimulus
and Fiscal Sustainability

Chair: Randall S. Kroszner

Mr. Feldstein: I think this is an important paper because of the limited scope for expansionary monetary policy in the next economic downturn. But I would like to add a positive addition to what's been offered in the paper—that it's possible to have a fiscal stimulus without increasing the fiscal deficit. That is, without an increase in government spending or a net cut in taxes by combining a balanced budget with investment incentives. In other words, to increase private spending through investment tax credits or accelerated depreciation, and it's not unthinkable to extend the fiscal incentives to other kinds of spending like home building. One can have an expansionary fiscal policy without it being equivalent to an increase in the fiscal deficit.

Mr. Taylor: I think it's important to add to this important set of results the results from models and simulations. It's another way to think about it, and Jason Furman mentioned this. The Congressional Budget Office (CBO) has models which have fiscal consolidation being quite positive. It's more longer run than shorter run because they mix in some Keynesian in the short run. But if you use models which integrate the long run and the short run properly, you get possibly beneficial effects even in the short run from fiscal consolidation. There's been a lot of work on that. One of the advantages of having a structural model to do this is you can debate what the issues are, and

one huge issue is how credible this action is. If it's credible and laid out and multiyear, all those things which we hope could be, there's even better reasons to think that the short run effects that we worry about are not there, and the long run effects are there. So, I just wanted to add that.

Ms. Tesar: Let me just echo, I also think this is a really nice paper. I have a question and then an observation. The question is, there's a debate out there whether these fiscal expansions are done through reducing taxes or increasing expenditures, and of course, what the expenditure is on. I'm wondering if you explored any of that or if you have thoughts about that. The observation is—and this is nothing you can really do anything about, it's just the reality of using past data to kind of project forward—but of course in the current environment a lot of things are different than they were in the 1980s. Markets are a lot more integrated. We've got more capital and labor mobility so that the spillovers from fiscal expenditures that could weaken the multiplier. So in defense of structural models, this is where that can help because it can help you in thinking about what the past data say, but you can nuance it with how the world is different going forward.

Mr. Hubbard: Building on what Linda Tesar just said, it struck me that, although I like this paper a great deal, there were two things missing for policymakers from this discussion. The first alternative would be automatic stabilizers as opposed to shocks to government consumption, which I think of as bridges or military spending. The other is tax changes. I wonder on two dimensions if you can comment on what you see in terms of differences in economic effectiveness, but also lags? As one might imagine, automatic stabilizers or tax changes coming with a shorter lag than bridges or military spending.

Mr. Gorodnichenko: First of all, I would like to thank Jason Furman for his comments. We agree with pretty much everything he said except the size of the fiscal gap. We can debate more about that. We also agree that having structural models may be very helpful to understand the mechanisms of how fiscal policy works. We decided to take a more empirical route where we don't impose any restrictions on the data, but we're surely not the last word in this research. We'll

see more papers trying to understand the size of fiscal multipliers and how they affect the debt-to-GDP dynamics and so on. Many of the comments suggested here are about the composition of fiscal stimulus. Should it be a combination of tax cuts, infrastructure spending or maybe something else? This is unfortunately where we hit constraints from the identification side because the data are available only at the relatively aggregate level. We can't really say much about if it should be infrastructure spending or defense spending or maybe some other type of spending. The same applies to tax shocks. In addition it is so much harder to identify exogenous changes in tax variables. That's why we intentionally didn't look at the effects of tax shocks. But again, this is something to be studied in the future and hopefully more people will look into this.

Mr. Auerbach: Yes, just to add, I think these data limitations are all arguments for complementing this analysis with structural modeling, as many people have already said. Given the data we have, we can't look at the effects of investment incentives versus simple lump sum tax cuts, which we'd expect to have very different effects on the economy. The data just don't allow us to do that. In past work, we've tried to look at the effects of different components of government spending—for example, the effects of government investment versus government consumption. We found some differences, but, once one starts looking below the surface even when the data are available, results tend to get a lot noisier. You really can't simply rely exclusively on this kind of analysis without looking at structural modeling as well.

Mr. Romer: Alan and Yuriy focus on the question, especially at the end of the paper, of if you do fiscal expansion at high versus low debt, what are the effects? But another question is, how does whether you have high or low debt affect whether you actually do the expansion? With that preface, I'm going to be to be one of those people who says, let me tell you about my latest research. Christina Romer and I have been working on the question of how governments respond to financial crises, and particularly looking at countries that enter a crisis with high versus low debt. We didn't look at the multiplier question because we didn't think we had a good way of getting at that. But in terms of the fiscal response, the answer is

really striking and I think it makes intuitive sense. If you go into a financial crisis with high debt, if you're Greece or you're Italy, you end up running a large fiscal contraction. If you go into a financial crisis with low debt like the Scandinavian countries in the 1990s or Iceland in the recent crisis, you have enormous fiscal expansion. And if you go in with medium debt like the United States or the U.K., you probably have a little bit of fiscal expansion. It's a really powerful pattern in the data. You can then look at what happens to output afterward. For the countries that have low debt when they have a financial crisis, the aftermath is pretty innocuous. I wouldn't recommend having a financial crisis, but for these countries it doesn't show up that strongly in the output data. If you're a high-debt country, the aftermath is catastrophically bad. So if you think about not just what the multiplier is, but whether you are actually going to use fiscal expansion, then the evidence seems to push very strongly toward the position that having a lot of fiscal space is very valuable.

Mr. Dudley: I want to build on Glenn Hubbard's comments a little bit about automatic fiscal stabilizers. I think that's something that should be explored because it's not just about the fact that they would take effect more quickly. It also would affect expectations. And as we saw following the financial crisis, expectations on the monetary policy side were pretty darn important. For example, when we finally moved to open-ended QE, we think that was a lot more powerful than having a program that began on a certain date and ended on a certain date. I would imagine fiscal stabilizers, you could design them the same way. It also would have the other benefit, it would reduce the likelihood of monetary policy being pushed to the zero lower bounds. I think the expectations aspect of fiscal stabilizers is worth exploring.

Ms. MacGuineas: I like the paper a lot. My only worry is that the conclusion as it is used policy will be: oh we should do more and more stimulus. I think your qualifying points at the end are so important, as has been discussed already, which is when we go into the next crises or downturn, it's very likely that the debt levels will be much higher and that the trajectory will be much higher. I think that like with automatic stabilizers, the point is, can you do stimulus that doesn't have to talk about when you pivot from stimulus to

consolidation, but isn't there a way that they can be paired together more so that the packages that are stimulative have short-term stimulus policies whether it's bursts of spending and targeted tax cuts that are also paired with pension and health-care reforms that would kick in in the medium term? And does your research shed any light on whether that would be a useful model in terms of the outputs you are looking at?

Ms. Wilkins: It's a really live question that you're asking, and the estimates for Canada show the probability of hitting the zero lower bound at about 7 percent. So it's live in our minds for sure. I think a related question for us is that it's not just about fiscal policy and sustainability, but about the optimal mix of fiscal and monetary policy. Maybe it's building on what Bill Dudley said in the sense that what you're really choosing from and what we've been choosing from in Canada over the past few years is a rise in private debt or a rise in public debt. Clearly, given the implications going forward for allocation of resources and financial stability, it is pretty important to work that optimal mix out. I think it raises another question with respect to governance because we've been in a comfortable position of taking fiscal policy as given, but the question about coordination does come up.

Mr. Rogoff: I would like to echo that it's a great paper, and Jason Furman's discussion was also terrific. Still, I would have been curious to hear Alberto Alesina's discussion because his work is the one you're criticizing most. Hopefully we will hear that another day. Certainly, a point a lot of people have made is that composition matters a lot. I think all economists agree everyone should have done much more infrastructure. Productive infrastructure spending is like motherhood and apple pie. Of course it brings the debt to GDP down in the long run. By definition if productive infrastructure spending is offering a higher rate of return than the government paying, the debt/GDP ratio will fall. It's an entirely different question whether Keynes' suggestion of digging ditches and filling them in lowers debt-to-GDP ratios. I suppose the modern equivalent will come if we build a wall across the border and the next administration tears it down, will both actions constitute stimulus? Another question that some people have raised is the issue of credibility where there's a remarkable bifurcation

in the academic literature. In monetary policy, credibility is every-thing. We study that constantly; we design institutions around it, and think we've had a lot of success. With fiscal policy the issue of credibility tends to be completely ignored. It's assumed everything is completely credible despite the fact we all know that fiscal is not nearly as credible because of the possibility of political change. As an example of a result, recall Christiano and Rebelo's *Journal of Political Economy* paper in 2011 or 2012, which stated "Well, you should use fiscal policy on steroids at the zero bound, but it's very important that as soon as the zero bound is released, you stop. If you don't stop, and it's known that you're not going to stop, it's much, much less effective, to the point where can be counterproductive, even in the short run." So, what is it? Because, in fact, the credibility issue is quite critical when it comes to fiscal policy, and yet largely seems to get ignored in this debate.

Mr. Auerbach: Picking up on that point, the points that Bill Dud-ley made and Maya MacGuineas made, all relating to wanting to react quickly even through automatic policies and comparing that with longer run responsible behavior: I completely agree with Ken Rogoff's last point. Credibility is absolutely important, and building fiscal institutions, whether it's a fiscal council or an independent, stronger CBO, or whatever it is, to strengthen the credibility of fis-cal policy is important. That's something that we can't analyze in the data doing what we do, but I think it's very important. But I also wanted to sound a note of caution about how much we can do. For example, at the beginning of the Obama administration, we became too familiar with the term "shovel-ready project," and it was just a pipe dream, I think. Of course, we didn't have them then and we said, "well, wouldn't it have been better if we had a list of shovel-ready projects?" But then, as people have thought about that, the idea that you could enter the next recession with a list of projects ready to go is just not really feasible. If you have these really valuable projects that you want to undertake, and then you say, "well let's wait for five years before we undertake them," it just doesn't work. On the automatic stabilizer front, I think there are similar problems. There's a nice paper in *Econometrica* by McKay and Reis which looks at us-ing a model of the U.S. economy to determine how well our existing

automatic stabilizers work, and the answer is not all that well. Of course, it's a relatively neglected area, thinking about how you would design spending, tax and social insurance programs to provide better automatic stabilizers. We probably could do better. But these programs are primarily designed with a different purpose in mind, not to provide automatic stabilizers. After all, we could have much stronger automatic stabilizers by having 90 percent marginal tax rates, but we don't really think too seriously about that. In my view, and this is really moving away from the paper, I think strengthening fiscal institutions is about the best we can hope for in terms of being better prepared to deal with the next recession.

Mr. Gorodnichenko: I will just add quickly that the question of automatic stabilizers is extremely important, but the framework we use is not very good for answering this kind of question. You have to have a structured model to do this kind of analysis. For example, this paper by McKay and Reis is one example of how we can do this. I also want to second what Ken Rogoff and Alan Auerbach said about expectations and credibility. It is absolutely important and we try to solve this issue, maybe in the perfect way, by controlling for expectations, by looking at CDS spreads to see what the market is thinking about the effects of fiscal shocks. Again, we are not probably the last word on this, but we tried to make some effort.

Mr. Buti: Alan introduced the paper with a lot of qualifications and he ended with a lot of qualifications. Jason Furman said forget about the qualifications. Now, I think for the policymakers here in the room, the qualifications are very important indeed, I think especially in the current juncture for high-debt countries. Going away with the idea that you can have a free lunch I think would be pretty dangerous. On the paper itself, some of the criticism on the absence of a structural model I think is important. If I look at the range of models around, including those of the European Commission, it is very difficult to reproduce Alan's results and find multipliers in a range of situations above 2, even at the zero lower bound. At the zero lower bound, we go to up to 1.5. Any multiplier above 2 seems to be very, very optimistic. I would like to raise three issues. First, the direct metric of estimations. You look directly at the final results. To

the extent that you have negative demand shocks, monetary policy reacts as well. Are you picking up the impact of monetary policy as well and attribute it to fiscal policy? I think this is one of the issues. Second, I think composition of the fiscal stimulus is very important as well for the size of the multipliers. Third, a persistent effect of more than two and a half years doesn't seem to be easily reconcilable with a range of models on this. I have a final question which was beyond the paper we are discussing. Are we at the zero lower bound still? From the point of view of fiscal policy, the multipliers are higher to the extent that long-term interest rates do not move. Are we still in this these conditions now?

Ms. Mann: I just wanted to bring to the attention of people a website that OECD has that has all of the decomposition of the fiscal accounts very easily obtainable, as well as some papers that look at the different multipliers for different types of spending, and we're working on one right now for taxes. But the question that I had was, to what extent in your modeling are you doing a individual country undertaking a fiscal expansion exercise when everybody else around the world does nothing? And the reason why I ask that is because when we did this exercise, we found that the multipliers of a collective action—in other words a bunch of countries undertaking expansions or contractions simultaneously which of course is kind of what happened, they all did the contraction together—those multipliers were much, much larger and it's natural to know why, because of spillovers through the external accounts. I think when we think about what might be going forward, if an individual country has a recession, so a negative shock, then there's one strategy. But if it's a collective group, a global shock, then there's even stronger rationale for pursuing expansionary policy.

Mr. Carvalho: I just wanted to pick up on the credibility of fiscal policy institutions. A contrast for me that's kind of revealing is Germany versus Brazil. We both have around 40-45 percent of debt to GDP, but in Brazil we're certainly not facing very low long-term rates. Our 10-year real rate is probably around 5 percent. So the idea of trying to split sample or interact with some measure of CDS or

long-term real rates might be informative of whether or not you have the fiscal space.

Mr. Henry: So I take your point about not having a structural model to look at automatic stabilizers in the kind of systematic way you'd like to, but I want to encourage you to actually do that and expand your dataset beyond OECD countries. It's a very natural experiment. If you look at East Asia during the Asian financial crisis, the IMF initially pushed fiscal consolidation but then reversed course within two quarters of the program and allowed these Asian countries to let the automatic stabilizers kick in. If you actually look at the output response in event time around that episode and compare it to the response of output in event time to the pivot to fiscal consolidation in Europe in 2011 roughly, you see a strikingly different pattern. So it seems there's something that can be learned from that, an additional source of variation by looking at the Asian crisis countries.

Mr. Gorodnichenko: There is this very important question about the way we found our estimates for fiscal shocks with responsive monetary policy. We do address this issue in the regression context where we control for short-term interest rates, long-term interest rates to see if they make a huge difference, and it doesn't seem to be terribly important for our estimates. We didn't estimate spillover effects. For example, if Germany spends, does it help Greece? But in another paper, we have those kinds of results and we reasoned that a coordinated effort will be a more effective than every country doing its separate thing.

With respect to Carlos Carvalho's question, we observe debt-to-GDP ratio at 40 percent in Brazil. But this debt-to-GDP ratio is very different from 40 percent in Germany. That's why we tailor our analysis and compare variations within the country, so we'll compare Brazil with 10 percent and 40 percent, and Germany will be kind of on a separate track. That's an important issue.

Automatic stabilizers, thanks for this suggestion and we'll look into it.

Mr. Furman: Maybe I should be clearer about some of the caveats. My view would be that I think this paper supports, and some of the structural models support, if you're at the effective lower bound and

expect to be there for more than a year, if you have a large output gap, then you cannot afford not to do fiscal stimulus. The second thing I'd say is the higher your debt-to-GDP ratio, the more true that statement that I just made is because the more the difference between g and r affect your debt dynamics. David's paper I think finds two things the way I'd interpret it. One is that you'd rather have a debt-to-GDP ratio of 20 than 120. The second is that we've been giving catastrophically bad advice to countries with very high debt-to-GDP ratios. I think that tells you about the advice we've been giving, the mistakes that policy has been making, not what we've been doing. Caveat to all those might be a little bit different if you are the United States that has its own monetary policy and if you're Ireland which doesn't. Some of this might argue for more coordinated at a higher level so you don't have bond trader shifting out of Ireland and into another country. The last thing I'd say is I think the scale of this matters. I think there's an argument for larger automatic stabilizers. From 2009 to 2012, the automatic stabilizer was 1.5 percent of GDP, discretionary was 2.5 percent of GDP. We could up the automatic stabilizers; we can't up them that they would have been enough stimulus in that circumstance. The same thing with investment incentives that Marty Feldstein brought up. All for that. But there's a limit to the scale at which you can do that, so I think that can only be part of your arsenal. And of course, all of this would be better as part of a credible fiscal framework that brought the long term down.