## **Olivier J. Blanchard**

I agree with everything that Alan wrote, and this comment will focus on just two points. The first is the empirical evidence. Like Alan, I have a very strong prior that fiscal policy can work to increase or decrease output. If one believes that aggregate demand determines output in the short run, which most of us do, that aggregate demand is C + I + G + NX, which most of us do, that Ricardian equivalence does not hold, which most of us do, and that we stay away from high deficits and high debt environments in which many things can go wrong, then, it is very difficult to see how a decrease in taxes or an increase in spending would not lead to an increase in output. This led Roberto Perotti and me (Blanchard and Perotti 2002) to look at the effects of tax shocks, defined as the changes in taxes that cannot be predicted either from the past or from the automatic response of taxes to economic activity, and then trace through the effect of these tax changes and the spending changes on output, without imposing our prior, namely, that it should work through aggregate demand.

As Alan points out, Blanchard and Perotti (2002) found that when taxes are decreased in the United States, GDP goes up for a while then turns around and falls back. The data look just as in the textbook.

On the basis of these results, Roberto Perotti (2002) performed the same exercise for a number of OECD countries. When Perotti did exactly the same exercise, attempting to identify the tax changes and follow the effects on GDP and other variables for OECD countries, the results were much less conclusive—and this is a euphemism. I would like to highlight several of Perotti's results.

First, when Perotti (2002) looked at the effect of spending changes, say spending increases, he found that there was a positive effect on GDP, but the multiplier was much less

1

than one. But he did not find the response of interest rates that would naturally explain that effect. Then, on the tax changes, he found a set of results which can, at best, be called disappointing. Table 1 below (Table 9 from the paper) shows impulse responses for each of the five countries he looked at: the United States, Germany, Great Britain, Canada, and Australia.

country	sample	quarter					max	min
		2	4	8	12	20		
USA	all	0.06	0.23	0.54*	0.44*	0.08	0.54*( 8)	0.03 (1)
	<b>S</b> 1	0.43*	0.88*	1.01*	0.84*	0.18	1.04*( 9)	0.18 (20)
	S2	-0.18	-0.54*	-0.90*	-0.81*	-0.20	-0.10(1)	-0.92*( 9)
DEU	all	-0.34*	0.00	0.49*	0.02	-0.31*	0.56*(7)	-0.43*(1)
	<b>S</b> 1	-0.40*	-0.08	-0.00	0.53*	-0.50*	0.53*(12)	-0.54*(1)
	S2	0.03	0.24*	-0.19	-0.52*	0.18	0.26*(3)	-0.52*(11)
GBR	all	-0.09*	-0.11*	-0.16*	-0.21*	-0.15*	-0.08*(1)	-0.21*(12)
	<b>S</b> 1	-0.09*	0.15*	0.12*	-0.06	0.01	0.20*(4)	-0.18*(1)
	S2	-0.16*	-0.32*	-0.39*	-0.28*	0.04	0.04 (20)	-0.40*( 7)
CAN	all	0.09*	0.43*	0.57*	0.37*	0.14	0.59*(7)	0.05 (2)
	<b>S</b> 1	-0.05	0.00	-0.18*	-0.21*	-0.08	0.06 (1)	-0.23*( 9)
	S2	0.08	0.49*	0.80*	0.67*	0.35*	0.87*(7)	0.08 ( 2)
AUS	all	-0.47*	-0.40*	-0.42*	-0.23*	-0.05	-0.05 (20)	-0.49*( 5)
	<b>S</b> 1	-0.53*	-0.24*	-0.28*	-0.21	-0.21*	-0.18 (10)	-0.67*(1)
	S2	-0.33*	-0.42*	-0.49*	-0.17*	-0.04	-0.04 (20)	-0.57*(7)

 Table 1: Response of GDP to a Tax Shock

Effects on GDP of a net tax shock equal to -1 percentage point of GDP, from benchmark model described in text. Asterisks indicate significance.

It gives the effect of a 1-percent-of-GDP decrease in taxes after two quarters, four quarters, eight quarters, twelve quarters, twenty quarters, and so on. The sample covers 1960 to 2000, and can be split into two sub-periods, one from 1960 to 1980 and the other from 1980 to 2000. One would expect that a decrease in taxes would increase GDP and that the effect would go away. Looking at the first line, corresponding to the United States, this is exactly what one finds, replicating what Blanchard and Perotti (2002) found earlier. The table also shows that there are

an unusual number of negative signs. In roughly half the cases, Perotti did not find the predicted effect of tax cuts on GDP. Interestingly, he also found that the effect was always weaker or more likely to be wrongly signed in the second period, from 1980 to 2000, than in the earlier period. This may tell us something about the weaknesses of structural VARs, and it may tell us something about fiscal policy. I think it would be wrong to say that the fault is entirely with the structural VARs; rather, in my opinion, it would be safe to say that looking at the data, one does not find—except possibly with more work—the kind of effects that one would expect. These results raise a useful warning to be cautious with our conclusions. These results may be the effects of methodology, or they may be due to something else.

The second point concerns automatic stabilizers. There, we may suffer from enormous schizophrenia in that we basically accept the automatic stabilization we have: we neither want to reduce it, nor to improve on it. There is absolutely no reason, however, why history would have given us the optimal automatic stabilizers. A country that has a more progressive income tax has more automatic stabilization, and that may be very good for some countries, but it is not necessarily the way to go for all countries. We should think about whether we could do better. Basically, very little work has been done on automatic stabilization; JSTOR lists only 11 articles on automatic stabilizers in the last twenty years, most of them from the earlier part of the period. There are several issues concerning automatic stabilizers that need to be examined.

First, there is a distinction between truly automatic stabilizers and those that are triggered. Truly automatic stabilizers require absolutely no intervention by anyone. So, for example, the income tax or unemployment benefits will work without anyone making a decision. But there are automatic stabilizers that are triggered; they depend on some aggregate measure crossing some level. The extension of unemployment benefits in the United States would be an

3

example: when the unemployment rate goes above some level, then the period for which benefits are paid is longer. This type of stabilizer is not quite as good because these stabilizers are lax, they respond to something that is measured with a lag. Unemployment benefits are triggered in response to published unemployment, and there is room for manipulation; that is, if you want to trigger this benefit, you can probably play with the numbers.

Second, one wants automatic stabilizers to be appropriate for most shocks, and that is an issue that bears more investigation. For example, unemployment benefits, mentioned by Alan as a good automatic stabilizer, may not be the greatest tool when the source of the increasing unemployment is an increase in the natural rate. In this case, it may not be appropriate. Further, the investment tax credit may not be the best tool if the source of a recession is a consumption collapse.

The next point is well known and very important; it concerns "the bang for the buck." I agree with Blinder that while intertemporal income shifts can have some effect, they are clearly much weaker than intertemporal price shifts, and the method one uses to get a lot of bang for the buck without changing intertemporal prices, whether through investment tax credits, VAT cuts and so on, creates all kinds of issues. For example, using the investment tax credit creates accounting problems. And if one aims at increasing people's sensitivity to these policy levers, people will soon come to know the tax code quite well and they will play with it.

Finally, I think one wants something that is self-eliminating—even if it is the case that recessions typically do not last much longer than the two quarters or three quarters that Blinder mentions. One wants these policy levers to work in such a way that at some point the decision to use them becomes a decision by the fiscal authority to do the right thing. So, invoking these

4

automatic stabilizers should not mean that they remain in effect forever; they should basically be phased out.

Finally, looking at the various things that a policymaker can do raises the question: Is there a magic combination? Unfortunately, I believe, the answer is no. I cannot think of an example of something that works through intertemporal price shifts and is truly automatic; I think it has to be triggered; it has to depend on something, on some aggregate that is measured.

In the end, I think, one comes out with a list that has been extolled before, but I think we should return to it. The investment tax credit clearly looks like something we should revisit. Another one is value-added-tax (VAT) decreases: changing sales taxes in the United States would require a deal between the federal government and the states. Also, if one opts for a general VAT decrease, it is rather inefficient. With a general VAT decrease, one is including goods for which there is little possibility of intertemporal substitution. Such a measure should probably be targeted towards durable goods, and this can be done. The question is for how long? I think if it is open ended, under rational expectations it would actually work quite well: as long as unemployment is above some level, the VAT on cars is decreased by five percent. There would probably be bunching at the very beginning: when people know it is going to cross the threshold, they wait, and then, when it crosses the threshold, they buy cars. And then nothing much would happen until the end, when people believe that the unemployment rate is about to go below the critical level, and then there will be bunching again. These are issues that we should be thinking about much more, instead of just taking what we inherited from history and leaving it at that.

## References

- Blanchard, Olivier and Roberto Perotti. 2002. "An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output." *Quarterly Journal of Economics* 117(4) November: 1329-1368.
- Perotti, Roberto. 2002. "Estimating the Effects of Fiscal Policy in OECD Countries." Mimeo. September.