

Monetary Policy; Science or Art?

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The title of our panel is “Central Banking: Is science replacing Art?” I am not quite sure what “science” and “art” mean in this context, and so let me, for purposes of discussions, offer two working definitions.

Monetary policy can pretend to be close to science if it can be conducted using simple and robust rules. The rules can be formal, or informal. They may not be perfect, but they have to be robust, i.e. to do well especially when things are bad.

Monetary policy must be closer to art if it is frequently confronted to new, poorly anticipated and poorly understood, contingencies. In that case, each of these contingencies requires fast thinking and having to make decisions, not fully based on existing research but rather on well trained intuition. In other words, it requires Otmar Issing as central bankers.

There is little doubt that the theory of monetary policy has made tremendous strides over the last twenty years. Inflation targeting, Taylor rules, are gigantic improvements over the morass of conflicting monetary targets, intermediate targets, and instruments that passed for monetary policy theory twenty years ago. In this sense, monetary policy is much closer to science than it was then.

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But it is still very far from science. Indeed, I worry that we have been lulled—or we have lulled ourselves—into a sense of complacency which is not warranted. There are still many issues we do not understand, and these may come back to bite us with a vengeance in the future.

Let me develop these themes in a bit more depth.

1 Starting points

I refuse to start from the assumption that the role of monetary policy is to control and stabilize inflation. The only acceptable way to start is, I believe, to think of the goal of monetary policy, together with fiscal policy, as the maximization of welfare.

More concretely (and with a number of implicit intellectual jumps that those who have worked on relating welfare to macro variables will recognize), I see the goals of monetary and fiscal policy as not only maintaining low and stable inflation, but also as stabilizing the distance of output from first best, stabilizing the “welfare relevant output gap”. (The terminology may sound a bit academic and pretentious, but will prove useful below).

If this leads to an allocation of tasks where monetary policy can focus exclusively on inflation, so be it. But it has to be a result, not an assumption.

2 Towards science

In that light, let me focus on the two main implications of the “New Keynesian” models, the class of models used today to derive optimal monetary policy.

The first implication is what I have called elsewhere the “divine coincidence” (Blanchard and Gali 2005). The divine coincidence result states

that, under plausible conditions (conditions which are satisfied in the baseline New Keynesian model), stabilizing inflation also stabilizes the distance of output from first best—the welfare-relevant output gap.

This is a really important result. It implies that central banks should indeed focus just on inflation, and can sleep well at night. If they succeed in stabilizing inflation, they will automatically generate the optimal level of activity.

Put another way, even if you did not care about inflation, but only about activity, you would still want the central bank to focus on inflation. Inflation targeting is an output-friendly rule.

The second implication is that such stabilization can be achieved through a Taylor rule, where the interest rate is adjusted in response to inflation. Again leaving aside many caveats and details, the basic condition is that the interest rate responds more than one for one to inflation.

How robust are these two rules?

- More robust than one might have thought. For example, inflation stabilization remains optimal even in the presence of “supply shocks”, such as changes in the price of oil or decreases in the rate of total factor productivity growth. Output may indeed go down as a result of inflation stabilization; but if it does, it is because first-best output would have gone down as well, so the decline is fully justified.
- But not so robust that they should be followed blindly. Let me take three examples. All three are taken from my research, not because of a bloated ego, but because I have worked them out and I believe they are empirically relevant.

3 Which inflation rate?

From the point of view of welfare, which inflation rate should be stabilized? Most central banks focus on a consumer price index, or some modification of it, and, from the point of view of consumers, this may well be the appropriate inflation index to focus on.

But, one may ask, what is the right inflation rate to focus on if the goal is to stabilize the welfare-relevant output gap? The answer, worked out by Erceg et al (2000), is that it depends on the details of price and wage setting. If, to take one extreme, the only source of nominal rigidities is in price setting, then price inflation should be stabilized. If, to go the other extreme, the only source of nominal rigidities is in wage setting, then wage inflation should be stabilized. If, as is surely the case in practice, nominal rigidities come from both sources, then some properly weighted average of wage and price inflation should be stabilized.

Put another way, focusing on price inflation stabilization can be the right thing to do from the point of view of activity. But it could also be a very wrong thing to do, with large welfare costs, if most of the nominal inertia comes from wage setting.

How empirically relevant is this issue? In quiet times, not so much. But one does not have to go very far in time or space to find examples where it matters a lot. The table below shows the evolution of wage and price (CPI) inflation for Hungary in the late 1990s and early 2000s. The differences between the two are quite striking. The example may be extreme, but revealing. Which inflation rate we target matters for output and for welfare. And which inflation rate we should target depends very much on things we do not know much about, such as the details of the structure of price and wage setting.

Hungary. Wage and Price inflation, 1997 to 2002

	1997	1998	1999	2000	2001	2002
Wage inflation	18.7	12.4	1.8	17.0	14.8	10.1
Price inflation	18.3	14.2	10.0	9.8	9.1	5.2

Source: OECD Economic Outlook Database

4 Fiscal dominance and the failure of the Taylor rule

In some cases, inflation targeting should be followed, whether fiscal policy is optimal or not. Sometimes, it should not. The issue was particularly obvious in the run-up to the elections in Brazil in 2002.

As the probability increased that the left-wing candidate, Luiz Inacio Lula da Silva, would be elected, financial and foreign exchange markets became increasingly worried that budget deficits would increase, and that the Brazilian government would eventually default on its debt. The rate of interest on Brazilian dollar-denominated debt increased sharply, and the Brazilian currency, the Real, depreciated sharply against the dollar.

In that environment, a Taylor rule would have prescribed an increase in the real interest rate in reaction to the higher inflation. But such an increase in real interest rate would likely have been counterproductive. To the extent that it led to higher real interest payments on the debt, it would have increased the risk of default, leading to further depreciation, further inflation, and so on.

Note the use of the conditional tense. The reason is that, as soon as Lula was elected, he credibly committed to larger primary surpluses, the crisis passed, the Real appreciated, and inflation decreased. So, we shall never know for sure what would have happened, had fiscal policy been less responsible. (My contribution (Blanchard 2005), was to write down a model

and estimate the relevant parameters. I concluded that, given those estimated parameters and the debt and deficit configuration at the time, Brazil was indeed in the region where inflation targeting would have been perverse). But the general point remains: Inflation targeting, in a high debt environment and suboptimal fiscal policy may not be the right policy. Indeed, in a recent paper, Schabert and Van Wijnbergen (2006) have shown that the best policy in a context such as this one, is a passive Taylor rule, a less-than-one-for-one response of the nominal interest rate to inflation.

5 Oil price shocks, real wage rigidities, and inflation targeting

Sitting in Frankfurt, and thinking about the problems of the Euro area, the first two examples may feel a bit exotic. Let me end with an example closer to home, the optimal response of monetary policy to an increase in oil prices.

As I indicated earlier, in the benchmark New Keynesian model, the optimal response of monetary policy to movements in oil prices is to fully stabilize inflation. This is a strong recommendation, and even central banks clearly do not fully follow it. Rather they aim at stabilizing inflation only over some horizon. And they are right. A highly plausible extension of the basic model yields a more balanced conclusion:

The extension recognizes the presence of “real wage rigidities”. These can be formalized in different ways, but one can generally think of them as implying that it takes time for workers to accept the required adjustment in real wages implied, for example, by higher real oil prices.

In this case, strict inflation targeting (or a closely related policy, that of allowing for “first round effects” but not “second round effects”) will be

suboptimal. It will lead to a decrease in output much larger than is optimal; equivalently, it will lead to a potentially large increase in the welfare relevant output gap. The divine coincidence no longer holds (the precise argument is developed in Blanchard and Gali 2005)

What is the optimal policy in that context? It is to allow for some more inflation for some time. How much more and for how much time depends on the degree of real wage rigidities. The higher the higher real wage rigidities, the more inflation the central bank should tolerate.

One may argue that one should not take real wage rigidities as given, that less monetary accommodation may itself eliminate real wage rigidities: If workers understand policy will not accommodate, they may reconcile themselves faster with the required decrease in the real wage. The argument goes only so far: The evidence from the Euro area is that the tough monetary policy followed in Europe since the early 1990s has not led to dramatic reforms in labor market institutions, or in wage setting. I will be the first to admit that we have a limited understanding of real wage rigidities. I surely expected more real wage resistance in Europe in the face of the increases in the price of oil over the last year. But, in a way, my failure to predict accurately proves my point... The right monetary policy, and the way we should think and use inflation targeting depends on factors we still understand quite poorly.

6 Conclusions

Had I been more knowledgeable, I would have discussed other very relevant examples, in which the form optimal monetary policy should take remains very unclear. Let me mention some of the obvious ones, from the zero bound and the role of quantitative easing in Japan, to the relation between inflation and the output gap at low inflation—an issue central to the Euro

area today—, to the way monetary policy should react to sharp movements in exchange rates coming from portfolio shifts—an issue the Fed may well be confronted with in the not too distant future.

In each of these cases, we (at least I) not know the right answers. In each case, much work is needed before we go from art to science. Until then, maybe more humility is needed in the articulation of policy. While it is important to articulate clear policies, it is also important to indicate the limits of our knowledge. Otherwise, when faced with contingencies such as those I just discussed, we may be stuck between keeping the same policies to maintain credibility, or adopt better policies at the potential cost of losing credibility.

References

Olivier Blanchard, “Fiscal dominance and inflation targeting. Lessons from Brazil”, in “Inflation Targeting, Debt, and the Brazilian Experience, 1999 to 2003”, Francesco Giavazzi, Ilan Goldfajn, and Santiago Herrera eds, MIT Press, 2005, 49-84.

Olivier Blanchard and Jordi Gali, “Real wage rigidities and the New Keynesian Model”, NBER WP 11806, November 2005.

Christopher Erceg, Dale Henderson, and Andrew Levin, “Optimal monetary policy with staggered wage and price contracts”, JME, 46-2, 281-313.

Andreas Schabert and Sweder van Wijnbergen, “Debt, deficits, and destabilizing monetary policy in open economies”, mimeo Amsterdam, February 2006.