

Panel Discussion
Central Banking: Is Science Replacing Art?

Martin Feldstein

I am delighted to be here and to be able to join with all of the others in expressing my admiration for Otmar Issing. Through the years whenever Otmar and I met, I always was impressed with the depth of his thinking and his contribution to price stability (first in Germany and then more broadly in Europe) and particularly with his contribution to practical analytic thinking about how we should understand monetary policy and how monetary policy should be guided. I am grateful, and I am sure everyone here is grateful, to the ECB for sponsoring this remarkable occasion.

As I flew here on Wednesday night from New York, I was reminded of the old story about the first fully automatic air flight between New York and Europe. After the plane had taken off and reached cruising altitude, the voice came over the loudspeaker and said “Ladies and Gentlemen, welcome to the first fully automatic flight. There is no pilot on this plane. Thanks to the wonders of modern science it is all being done automatically and you have nothing to worry about, about, about, about,”. So I was pleased as I flew here that Lufthansa had at least two pilots on board.

In the current context, the implication of that story is that monetary policy is best if it uses science to assist judgement rather than to replace it.

Before I talk about the issue of combining science with art or judgement, I want to talk about something different that has not been mentioned and that I think can be crucial for successful central banking. That is courage: the courage to stick with your beliefs, your convictions, the courage to speak about them publicly even when they are not popular, and the courage to act on them even if they will cause economic pain in the short-run if you are convinced that they are the right policies for the longer-run. I think Otmar Issing has demonstrated that kind of courage, as did Paul Volcker in the most difficult period for U.S. monetary policy during my lifetime. So as we talk about judgement and science we should not forget courage.

I think that over the last few decades, we have seen better economic outcomes than in the past. We have seen it in the US and in Europe and in other parts of the world. Inflation is lower and more stable and the real business cycle fluctuations are more modest. Of course, everything is not perfect. We see high unemployment and low productivity growth, but these are (as previous speakers have emphasized) the result of poor structural policies rather than inappropriate monetary policy.

Why has this improvement in inflation and in the business cycle occurred? I think the answer is better monetary policy, better central banking. This important improvement reflects the combination of better judgement and better science. It is worth emphasizing that this improvement in economic science is the result not only of “academic scribblers” (to use Keynes’ term) but also of research in the central banks and of the accumulation of experience.

Let me quickly mention just five of the ways in which the science of monetary economics is, in my judgement, fundamentally better now than it was a few decades ago.

First there is the understanding of the cost of inflation. Thirty years ago, many economists argued that inflation was a kind of minor inconvenience and that the cost of reducing inflation was too high a price to pay. No one would make those arguments today.

Second, there is a better understanding that there is no long-run trade off between inflation and unemployment but that there is a short-run tradeoff. We pay some price when necessary to bring down inflation but that price is temporary and is not large relative to the permanent gain from reduced inflation.

Third, there is a better understanding of the role of interest rates. Allan Meltzer’s masterful history of the Federal Reserve reminds us that until not too many years ago central bankers and academics failed to distinguish between nominal interest rates and real interest rates. The result was a failure by the Federal Reserve to respond strongly enough to increases in inflation. In those days, the Fed raised nominal interest rates when inflation rose but by less than the increase in inflation, allowing the real interest rate to decline. We understand that much better now.

The fourth example of the improvement in science is the improving data, including both fundamental measures and the better day to day availability of evidence on the state of economy.

And, finally, the fifth example is the development of new analytic models that provide useful insights. If we think about the difference between the kind of simple static models that we learned when I studied monetary analysis for the first time and the array of dynamic stochastic models with various forms of expectations that we think about today, it really is a remarkable difference. Of course none of these modern models represents the real world. But they do teach us important lessons.

So there has been scientific progress that has contributed to strengthening the practice of monetary policy. But despite the progress, our scientific knowledge is really limited in many ways. The analytic models are valuable but they are still only useful as heuristic devices to help clear our thinking rather than to design specific real-time policies.

The goal of applying Bayesian statistical decision theory to monetary policy is of course a very attractive one. The basic idea is to optimize a preference function taking into account the uncertainty of parameters, of exogenous variables, and of random shocks. But in reality this paradigm fails because we do not know the structure of the model and because the true structure itself is changing. We cannot express our Bayesian priors over a set of models that we cannot specify. The Bayesian approach can be a guide to thinking about monetary policy rather than a formal procedure.

There are also too many things that we do not understand. We are particularly poor at the open economy issues. We also do not understand why long-term rates have not increased while the Federal Reserve has been raising short-term rates. (Of course there are many explanations but we do not know how much weight to put on each of them.) We do not understand the links between asset prices, monetary policy, and aggregate demand. We do not understand speculative markets adequately. I could continue but that gives you a sample of what I believe are the limitations of our scientific knowledge at this time.

Of course the science will continue to improve. But I suspect that even as the science improves central banking will always still need judgement. Let me mention just two reasons why we cannot expect science to replace judgement. The first is shocks: unusual shocks, unique shocks, shocks that simply cannot be part of any model. Think about the Mexican default, the 1987 stock market collapse, the collapse of Long Term Capital Management, the 9/11 attacks in New York. The key question in each of these circumstances for the central bank was what steps had to be taken to reassure markets in order to avoid that shock turning into a cumulative downturn in the economy. Science and models simply cannot give us the answer.

A second reason why science cannot replace judgement is the behavior of financial markets. Let me just mention two examples of the kind of issues that central banks must now consider. For example now we see very low credit spreads. What is going to cause those to change? Why are they so low today and how should the Federal Reserve and other central banks respond when they do? And second, I worry a lot about the US current account deficit, the \$800 billion, rising to a \$900 billion annual rate in the fourth quarter. Who is financing that?

What will cause that willingness to finance that current account deficit to change? And how should the reaction to that be managed to minimize the damage?

Let me summarize what I have been saying. First, I think the science of monetary economics has clearly gotten better. Second, it has contributed to better economic policy, reinforcing good judgement. But, third, science cannot replace judgement because there are too many things that we simply do not understand. And finally, no matter how good the science gets, there are problems that inevitably depend on judgement, on art, on a feel for financial markets.

So just as I want pilots on the planes that I fly, when it comes to monetary policy, I want to think that there is someone with sound judgement at the controls. I cannot think of anyone who has done a better job of that than Otmar.