

**OPENING REMARKS AT THE EUROPEAN  
SUMMER SYMPOSIUM IN MACROECONOMICS**

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It is a pleasure for me to welcome you on behalf of the Banco de España to the CEPR European Summer Symposium in Macroeconomics, which we are hosting for the ninth time here in Roda de Bará.

Let me start by thanking the organisers for their kind invitation to make the opening remarks at this Symposium. As some of you may know, the previous eight symposiums were opened by the Director General of Economics, Statistics, and Research at the Banco de España, Mr. José Luis Malo de Molina, who has been a great supporter of this Symposium ever since its inception. Unfortunately, today he is taking part in a meeting of the Governing Council of the ECB, so he is unable to be here this time. He asked me to transmit his apologies and his best wishes for this year's conference.

While I have not been able to attend the ESSIM conference as often as Mr. Malo de Molina, I also have some familiarity with these meetings myself. I attended the first four ESSIM meetings and even had the privilege of being the local organizer many years ago, in 1996. The quality of the papers presented in those conferences was really impressive but looking at this year's programme, I see that the level has not decreased at all. Quite the contrary.

I would like to stress how much the Banco de España values its role in this Symposium, because we believe that involvement in fundamental research is an integral part of our policy mission as central bankers. Involvement of course implies keeping informed of the latest academic developments, but it also means making our own contributions, so I am glad to see researchers from our staff actively participating here this year.

As you may know, the Banco de España maintains close links with the research community through a variety of channels, including presentations at academic seminars, meetings and conferences; participation in research networks, like the ongoing Wage Dynamics Network of the Eurosystem; publication of our work in various series, including our externally-refereed Working Paper series; regular external visitors' and fellows' programs; regular production of macroeconomic and financial statistics; and organizing training courses on statistics, and on statistical and econometric software. Among all of these research-related activities, we believe our support of the ESSIM conference is one of our most important contributions.

While the Banco de España sponsors conferences on many economic topics, a macroeconomics meeting like this one is especially interesting for us

as a central bank, charged with monitoring Spanish and European economic performance and producing economic forecasts on which to base our policy positions. Engagement with cutting-edge macroeconomic research helps us further improve the set of analytical tools, including wide-ranging statistical indicators and theoretical and empirical models, that we require for these tasks.

To understand the importance of contact with the research community, it is essential to realize that the policy environment is constantly evolving. The development of our analytical arsenal has run parallel to shifts in our institutional functions and also to changes in international macroeconomic conditions. This means that the analytical methods we use need to be in permanent evolution, with the aim of incorporating advances at the forefront of economic research to meet the challenges posed by new types of macroeconomic problems.

Few moments could better illustrate the unending change in the challenges facing central banks than the present. Unfortunately, these are exciting times for monetary policy. I say "unfortunately", because as we all know, central bankers consider their job most successful when it is most boring.

In contrast, not too long ago, there was frequent discussion in the press about the possible "end" of macroeconomics. Indeed, strongly activist monetary and fiscal policies with a view to fine-tuning the economy have proved impractical and misguided. Instead, we have seen that the most successful periods of monetary policy in many countries can be roughly

described by simple rules that set the nominal interest rate primarily in response to changes in inflation. Therefore, many central banks have formally adopted inflation-targeting interest rate rules, with little if any attention paid to the evolution of other aggregate variables.

Given these developments, some went on to argue that the major problems of macroeconomics were solved, and that further progress in economic policy-making would come only through improvements in "micro" policy. That is, substantial improvements in tax policy, labour market regulation, and product market regulation remain essential, but it was argued that optimal macroeconomic policy was already understood and had largely been implemented in OECD countries. Both in the financial press, and in the academic literature, various authors advocated moving still closer to an entirely rule-based monetary policy framework, targeting inflation or possibly the price level by means of a simple automatic rule linking interest rates to a series of fixed statistical indicators.

Suddenly, however, macroeconomics appears to have returned, and returned with a vengeance. Interestingly, the sparks that ignited the current situation were by no means unforeseen. For an example close at hand, the opening comments of the last two ESSIM conferences repeatedly warned of the dangers of overvaluation in housing markets and other asset markets, as well as of wide-spread imbalances in current accounts and the risks these posed for exchange rates. Other central banks and multinational institutions like the IMF have also been making the same points for a long time. Still, the

scale and suddenness of the episode and its consequences came as a huge surprise to markets and policy-makers alike.

As a result, central bankers have been forced to innovate quite rapidly and to put in practice new policy approaches. Some may argue that it remains to be seen whether these bold and decisive actions have achieved the right balance between short-term stabilisation and the maintenance of long-term credibility, but it is clear to me that without substantial policy innovation current macroeconomic troubles could have become much worse than they actually are.

Policy-making in the current context has called for creative thinking, which requires both historical insight and also openness to a variety of available theoretical perspectives. I must stress that the hard lessons learned during the inflationary spiral of the 1970s have not been forgotten, and central banks understand better now the dangers of an overly accommodative response to changes in inflation. But recent events cannot easily be classified as simple exogenous demand or supply shocks like those that appear in the models we usually use to analyze interest rate policies.

Given the unusual nature of the current shocks, there has been a need for different types of policy instruments, including those related to the central bank's role as the system's liquidity provider. Thus we have seen some central banks changing their operational frameworks and others, like the ECB, making a more intensive use of some of the procedures available for providing banks with the liquidity they were unable to obtain in distressed markets. Close cooperation among central banks has also been crucial to avoid a

systemic liquidity crisis that would have had serious macroeconomic consequences.

I believe one of the lessons to be drawn from the current situation is that it is important for a policy-making body to remain well aware of existing competing theories and methodologies and to be prepared to make quick use of them under rapidly changing environments. But I think it is also essential for policy makers to challenge the academic community with direct questions related to the problems that they need to address on the basis of solid theoretical and empirical fundamentals. Thus, in the closing portion of my remarks, I will pose some questions closely related to the topics you are about to discuss in several of your sessions, which moreover have obvious practical importance for monetary policy.

To start with, let me say that in the present circumstances some could find more than a little irony in the fact that this morning's first session is devoted to the Great Moderation. To be sure, at the Banco de España we are proud that our researchers have been involved in the earliest identification and analysis of this phenomenon. But recent events clearly demand another critical look at the changes in macroeconomic fluctuations in developed countries.

The relevant questions here are quite obvious, but let me repeat some of them. So, has there in fact been a decrease in macroeconomic volatility in recent years, or have macroeconometricians simply been misled by a series of statistical blips? Has the Great Moderation just been a short period of "good luck", as a number of economists have suggested? Or if the decrease in

volatility has been something more than an illusion, did monetary policy play a role in achieving this period of stability? Or has central banks' success in avoiding serious real consequences after several recent episodes of financial instability simply stored up greater trouble for the future?

I am really looking forward to learning more about all these questions - one more reason to be brief in my remarks- but I won't refrain from mentioning that the papers to be presented in this session were selected in January, on the basis of abstracts submitted last fall, describing research that began more than a year ago. Perhaps current events will make it somewhat too easy for the discussants this time.

The appropriate regulation of financial markets is another topic of debate that has intersected with the analysis of the Great Moderation. Many economists have maintained that innovations in financial derivatives have permitted greater risk sharing. Is that true? Has risk sharing smoothed macroeconomic fluctuations, contributing to the Great Moderation? Or has the complexity of financial derivatives made it harder for market participants to detect and measure risks, potentially increasing vulnerability to contagion across a global and internationalised financial system? I notice with some regret that financial contagion is one topic of current policy relevance that seems to be absent from this year's ESSIM programme. Don't we have macro models that could help us study how crises spread through the financial system?

Working in a central bank, I find it especially striking to consider the current crisis in the light of the state-of-the art models for monetary policy

analysis: dynamic, stochastic New Keynesian general equilibrium models. In this context, perhaps the main question is simply how to characterize the type of shock that has hit the economy. Should we consider this financial turmoil a supply shock, because it increases the cost of capital for the business sector? It certainly doesn't seem to resemble the productivity shocks in the earliest DSGE models. Or should we instead consider it a demand shock, in which investors suddenly lose confidence in the profitability of further expenditure on equipment and structures, or consumers lose confidence in their ability to pay back their debts? If so, can the available demand shocks in current DSGE models--- like shocks to utility, discount rates, or to government spending--- really capture the wide-ranging effects of the current episode? Should we perhaps think in terms of a jump to a different equilibrium, in some class of models with multiple equilibria?

Like many central banks, the Banco de España is allocating an important part of its analytical resources to developing DSGE models of sufficient accuracy and detail for practical application in forecasting and policy evaluation. Judging by the conference programme, DSGE modelling also remains a central concern among macroeconomic theorists. Thus allow me to add a few questions regarding these models.

The role of expectations in general equilibrium models is still a central area of research. I have already mentioned the possibility of modelling the current turmoil as a change in expectations about future economic conditions; some papers on the programme seem to suggest that this may be a fruitful modelling approach. More generally, orthodox DSGE models based on entirely

rational expectations are often found to give quicker and more transitory impulse responses than those observed empirically. Why is this, and are there tractable alternatives to rational expectations which could help us to understand some of the lags we observe in the response to macroeconomic shocks? On a related note, are there alternatives to the Calvo model of sticky prices that could help us to better understand the persistent effects of monetary policy on real economic outcomes?

Other developments of special interest for central bankers involve the incorporation of additional elements, like involuntary unemployment, that were missing from the earliest, simplest DSGE frameworks. Another missing element of particular interest in the European context is the international dimension. Most early DSGE models studied closed economies, or a single, small open economy in isolation, but more recently, there has been an explosion of research in multi-country DSGE models. In our own work, modelling the Spanish macroeconomic environment has forced us to build a three-region model, treating Spain as a small country without an independent monetary policy, inside Europe, which itself interacts with the rest of the world. But I believe we are still searching for answers to some basic questions in the international context. For instance, what are the main factors that determine the evolution of the current account balance over time? And how do savers allocate their portfolios across assets from different regions, or why do they avoid foreign assets altogether?

But I think I am starting to abuse your patience, so I will cut off my questions here and simply express my sincere wish that you may return home

with further insight into these issues or other related questions. I also trust that you will enjoy your time in this quiet, warm corner of the Mediterranean. While I expect that your enjoyment here will not derive primarily from the weather and the views, my past experience in the Symposium is that many of the most intense discussions take place outside of the plenary and parallel sessions. They tend to happen in the hall, or on the terrace overlooking the Mediterranean, or even walking on the beach. I'm sure we agree that Roda de Bará is a beautiful place to begin to form new research partnerships.

Thank you very much for your attention, and my best wishes for your time here in Roda de Barà.