Challenges to policy-oriented modelling and model-based policy formulation during the crises: A user perspective

István P. Székely

European Commission
and
Corvinus University of Budapest

ABSTRACT

The events of the past decade have posed unprecedented challenges to economic policy making and more broadly to the design of economic systems at the national and supranational levels. First, the global financial crisis hit, which although originating in the US financial system,, spread quickly to Europe through linkages in the global financial system. This was followed by the sovereign credit crisis in Europe, which alongside revealing a serious policy coordination problem, catalysed fundamentally changed views on the growth potential of some of the European economies. Finally, just when the European economy was settling down onto a moderate recovery path, suddenly the reality of Brexit emerged. Overall, the crisis in Europe has lasted much longer than expected and longer than in past episodes. It has taken many unexpected turns and increased already heightened uncertainty. Not surprisingly, existing models that were used to support policy formulation and assessment failed to describe most of these developments. Forecasts failed to foresee many of the events and turned out to be most imprecise when they were most needed. Policy assessment became a more difficult exercise. Moreover, predictions regarding the short-term economic impact of Brexit turned out to be rather poor, at least prior to the activation of article 50.

In many areas, policy making relies on a range of models that originate from before the 2008/2009 economic and financial crisis, both at the national and the supranational levels. These models could not predict the crisis, nor could they capture the dynamics

Proceedings 31st European Conference on Modelling and
Simulation ©ECMS Zita Zoltay Paprika, Péter Horák, Kata Váradi,
Péter Tamás Zwierczyk, Ágnes Vidovics-Dancs, János Péter Rádics (Editors)
ISBN: 978-0-9932440-4-9/ ISBN: 978-0-9932440-5-6 (CD)

of the ensuing readjustment process. In fact, the crisis served more effectively to reveal many of the fundamental problems with these models. Problems that had existed before but had not been surfaced during the period of great moderation. The workhorse model of policy making, the New Keynesian DSGE model, could not capture the interaction between the real economy and the financial system, because its original version was built on the assumption that this interaction was broadly irrelevant. In fact, there were no banks or money in this model, and there was no credit default either. Moreover, this model was built on the assumption that the behaviour of a representative agent could describe the behaviour of an economy at the aggregate level. In order words, the heterogeneity of consumers or firms was also viewed as largely irrelevant. As some put it, DGSE models crashed when the crisis hit, just when they were most needed to understand the reaction of the economy and to formulate a policy response. Many of the policy coordination mechanisms in Europe, most importantly the Stability and Growth Pact also base themselves on some form of partial model, since fiscal policy effort is measured using the concept of potential output. While the model to determine potential output does incorporate hysteresis, and it did capture the increase in the NAWRU, it was still challenged in many ways by the crisis.

The keynote speech will review the ways in which the crisis has had important implications for these models and the forms in which model builders and users have reacted to such challenges. Models have been improved in several ways to address the problems that had been revealed. Nevertheless, further work is needed to ensure that the models that national and supranational policy makers rely on provide useful input into the process of policy formulation.