Deep Uncertainty and Economic Policy: Challenges and Responses

Yakov Ben-Haim
Technion – Israel Institute of Technology
yakov@technion.ac.il, info-gap.com

The Netherlands Central Bank
Amsterdam
12:30 – 13:30
Monday 3.10.2022

Abstract

Policy formulation in economics and many other disciplines should be based on both theoretical understanding and empirical knowledge. However, our understanding and models are sometimes wrong, our data can be incomplete, and surprising shocks may arise. In short, economists confront deep uncertainty as described in various ways by Knight, Shackle and Popper. In some situations one can use probability distributions to represent this uncertainty. However, this is not feasible if one faces what Knight called “true uncertainty” for which probability distributions are not known. If a worst case scenario can be reliably formulated then min-max (Wald, 1945) or robust control (Hansen and Sargent, 2008) can be employed to ameliorate the worst case. However, in many situations of Knightian true uncertainty the worst case scenario is poorly known, so min-max or robust control is unreliable. In that case one can satisfice the outcome and optimize the robustness to surprise as for instance developed in info-gap theory. We develop an example of inflation prediction under deep uncertainty.