

Referee report on

„Escape from model-land“

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This short piece contrasts prediction from theoretical and simulation-based models with the task of predicting developments in the real world. Basically, the aim of the authors is to warn against overconfidence in the validity of models and forecasts derived from them. Reading through the manuscript I found myself nodding in agreement repeatedly: What the authors stress should indeed be well-known to any professional user of scientific models. Nevertheless, the warning might still have its value as there is no lack of examples of overconfidence in model predictions.

The authors appear to have written their paper mostly under the impression of the discussion on global climate predictions. Given that this paper is submitted to economics outlet, it would be useful to have more discussion of 'model-land' problems in economics.

For example, arguably the best-known form of economic predictions nowadays are the 'fan charts' issued by many central banks. Although the origin of the quantile predictions represented by these charts is often somewhat opaque, they most likely represent probability distributions from multi-model ensembles. Hence, many of the problems discussed in the paper apply to this case as well. It is indeed unclear from the way the charts are presented whether the authors of the fan charts are always aware of the difference between their multi-model land and real-world forecasts. At least it is unknown that any central banks had ever issued an assessment like that of the IPCC (quoted on p.8) on the limited reliability of these quantile predictions. And indeed, economics had its 'great surprise' in 2008 when GDP growth fell below what was foreseen in the broadest confidence intervals (it probably would have been outside the 100 percent quantile had central banks issued such predictions). Nevertheless, I am not aware of any discussion of the potentially illusionary accuracy if the fan-charts and the paper could be instrumental to bring this to the fore.