ABSTRACT

Introduction

Economics is a science of models. Econometrics, the principal empirical tool of economics, relies on the close integration of statistics with economic theory. Its ultimate aim is to understand causes, not merely correlations.
The proposed research is a philosophical study of how theoretical and statistical models (including models used to measure economic phenomena) interact to produce causal knowledge of the economy. It focuses on a number of issues including the following: When models that approach the same data from a variety of perspectives truly conflict, how different levels of models of the same phenomena (data models, causal model, theoretical models) are related, what standards and procedures allow economists to choose ones that are correct and useful for practical applications, and how models should be used to answer? What would happen if? Questions that is central to formulating economic policy. The study?s importance arises from the mutual illumination of the philosophical and economic perspectives. The aim is to better understand econometrics as it is practiced and to practice it better.

Potential Broader Impacts

General accounts of scientific explanation and scientific inference studied in the philosophy of science will be related to the concrete applications of applied economics. Conceptual clarification should promote more effective econometrics and allow some general lessons from econometrics to be absorbed by other sciences. The philosophy of science should itself be enriched through a deeper understanding of inference and explanation in a particular science. A deeper understanding of its empirical methods can only improve the utility of economic analysis in the design and conduct of public policy (e.g., of the continuing financial crisis or healthcare policy), since the effective use of econometrics is essential to giving good advice, soundly based in empirical evidence.

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