

From the Lab to the Field: History and Methodology of Field Experiments in Economics

Judith Favereau & Michiru Nagatsu

February 3, 2017

Abstract

While the history and methodology of lab experiments in economics have been extensively studied by philosophers (e.g. Guala 2005), those of field experiments have not attracted much attention until recently. Although practitioners have provided useful overviews of their history (Levitt and List 2008) and typologies (Harrison and List 2004; Charness, Gneezy and Kuhn 2013), philosophers and historians have not attempted systematically to place field experiments in their well-developed narrative and methodology of the lab counterparts. What is the historical context in which field experiments have been advocated? And what are the methodological rationales for conducting experiments in the field as opposed to in the lab? This paper addresses these questions by combining historical and methodological perspectives on field experiments in economics.

Historically, we ask whether economists followed a trend towards field experiments in the social sciences in general, or they created such trend themselves. We identify the evidence for both cases: on the one hand, the movement to use randomized field experiments in economics (e.g. behavioral public policy, poverty alleviation policy, etc.) has a root in the general orientation of medical and social sciences to the evidence-based policy evaluation. On the other, however, awareness of several methodological limitations of lab experiments in economics required practitioners to go out from the lab into the field. In these senses, the movement is a consequence of influences from both outside and inside economics: the general evidence-based trend in policy science and an internal methodological development of experimental economics.

We provide a methodological analysis of what these limitations are that were recognized by the practitioners. Critics argue that the lab experiments lack "external validity," but what this means is often unclear. A typical reading is that the artificially tight control in the lab makes the results less relevant or applicable in the real-world situations. On this view, it is tempting to interpret the experimentalists' move from the lab to the field as an attempt to be more directly inform policy by compromising its purity, or ability to guide reliable causal inferences. We resist this reading, and provide an alternative rationale for the field experiments. That is that the field experiments extend the methodology of lab experiments, which is the analysis of what Sugden (2005, 2008) calls *exhibits*, to enrich

the knowledge of the experimental system. The obtained knowledge is still about the experimental system, and therefore an inductive problem of extrapolation from it to the target system still remains to be addressed. Drawing on Steel's (2008, 2010) and Guala's (2010) method of analogical reasoning, we show that well-designed field experiments do this, guiding causal inferences about the processes underlying the target system.

The evaluation of the two strands of field experiments in economics—one coming from the evidence-based approach, and the other from experimental economics—may well depend on the domain and goal of their specific application. However, for such evaluation a clear recognition of their methodological rationales is prerequisite. This paper aims at providing this by combining historical and methodological approaches to economics.

References

- Charness, G., Gneezy, U., & Kuhn, M. A. (2013). Experimental methods: Extralaboratory experiments-extending the reach of experimental economics. *Journal of Economic Behavior & Organization*, 91(0), 93–100.
- Guala, F. (2003). Experimental Localism and External Validity. *Philosophy of Science*, 70, 1195-1205.
- Guala, F. (2005). *The Methodology of Experimental Economics*. Cambridge: Cambridge University Press.
- Guala, F. (2010). Extrapolation, analogy, and comparative process tracing. *Philosophy of Science*, 77(5), 1070–1082.
- Guala, F., & Mittone, L. (2005). Experiments in Economics: External Validity and the Robustness of Phenomena. *Journal of Economic Methodology*, 12(4), 495-515.
- Harrison, G. & List, J.A. (2004). Field experiments. *Journal of Economic Literature*, 42(4), 1009–1055.
- Levitt, S., & List, J. (2008). Field Experiments in Economics: The Past, The Present, and The Future. *NBER*, Working Paper, 14356.
- Steel, D. (2010). A New Approach to Argument by Analogy: Extrapolation and Chain Graphs. *Philosophy of Science*, 77(5), 1058–1069.