Review of Julian Reiss's *Error in economics: towards a more evidence-based methodology*. London: Routledge, 2007, 272 pp.

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The ancient debate between deduction (model-based inference) and induction (which I shall identify with evidence-based inference) is still with us. But it does not seem to take as visceral a form as it once did. Indeed, the nuances of the debate are subtle enough to escape simple characterizations, which may signal a growing consensus within the field about what good practice consists of. If so, Julian Reiss's fine new book offers a case in point.

Reiss flies under the "evidence" banner. However, the label is given a rather diffuse definition.

Evidence-based economics is the conscientious, explicit, and judicious use of sound evidence in making decisions about the welfare of societies. The practice of evidence-based economics means integrating individual socio-economic expertise with valid external evidence from systematic research relevant for the purpose at stake (Reiss 2007, 13).

No one is likely to take offense at this definition. But it is not entirely content-free, either. In the following paragraphs I shall try to give the reader a sense of the most salient characteristics of this methodology, based on—but also extending upon and intuiting from—Reiss's lucid but cautious prose.

To be clear, this book offers few grand statements about how economists should or should not behave. No general philosophy or methodology is offered. Instead, the topic is approached patiently, by way of case studies. Reiss's tour of economics is not a breezy tour, but an immensely detailed one, with a well-informed and friendly tour guide. Some might regard this as a book of essays. However, I think there is a consistent viewpoint expressed throughout and one that is wedded to the general idea of evidence-based knowledge. This will be

my focus, as I suppose it is the one of greatest interest to readers of this journal.

A recurring theme of Reiss's book is the *inextricability* of theory, values, and evidence. Each is embedded in the other. For example, in the first empirical chapter Reiss explores the conundrum of the US Consumer Price Index (CPI). Here, he shows that the debate over how to measure prices is closely entwined with the debate over how to understand the meaning and value of goods (food, shelter, et al.) to people. Thus, we shift from "what is the right index number?" to the broader question of "what is the right concept of 'cost of living'?" (p. 31). Concept and measurement, along with whatever causal theory is being tested, are wrapped up in a single index. It is no wonder that some debates are impossible to resolve in a definitive fashion.

In a wide-ranging series of case studies—e.g., on consumer-price indices, radio spectrum auctions, and the minimum wage—Reiss exposes the assumptions embedded in economic findings and shows that these assumptions are often difficult to defend. This is not to say that they are wrong, simply that they present a partial view of the subject matter. Reiss delights in opening up these boxes. One might say that he *deconstructs*, except that his purpose is clearly constructive.

The larger project envisioned here is a systematic and continually renewed critique of economics, one that involves not only professional social scientists but also philosophers, policymakers, and citizens. Reiss stands against the tyranny of experts, though he also (implicitly) acknowledges the limitations of lay citizens in directly engaging with these highly technical debates. In any case, the purpose of this critique is not to discredit economics but rather to reach better truths, and more relevant truths, i.e., truths that are relevant to the everyday needs and purposes of citizens (the ultimate consumers of economics).

Questionable assumptions are not limited to abstract ("deductive") economic models; they also inhere in empirical models, as employed to test the nature of reality. Instrumental variable analysis (the topic of chapter seven) is one case in point. Given the assumption-ridden nature of the enterprise, we ought to become comfortable with the intrinsic uncertainties of the social science enterprise, rendering the sources of uncertainty transparent wherever it is unrealistic to try to eliminate them (which is usually the situation we find ourselves in). For Reiss, "evidence-based" thus implies a triple social science immersion: in the

evidence, in the relevant theories about a subject, and in societal needs and values.

Reiss's view of evidence-based economics extends beyond the usual purview of experimental and quasi-experimental designs to include a wide variety of inferential techniques. Employing a distinction drawn from Nancy Cartwright, Reiss distinguishes between "clinchers" and "vouchers". The former (e.g., randomized trials, natural experiments) are definitive, if highly restrictive assumptions hold; however, their purview (range of external validity) is often very limited, or at least highly questionable. The latter (e.g., process tracing, pattern matching) are suggestive, but can often claim greater range of applicability (p. 122).

A principal motivator for Reiss's evidence-based economics is the need to make the field of economics relevant to policy concerns. This is not to say that theory is irrelevant, but rather that it is insufficient and often poorly suited to answering highly specific policy questions in highly specific policy contexts. Here, the weight of evidence is generally superior to whatever weight might be allocated to general theory. Given the heterogeneity of contexts in which humans find themselves, we are better advised to explore *particular* settings and *particular* questions with great care and attention to detail rather than to rely on 'general theory' to pull us through.

A final reason to treat 'general theory' skeptically is that there is usually more than one theory that can be applied to a given set of facts. To this conundrum, Reiss endorses a pragmatic solution: inference to the best explanation—which is another way of saying, use theories as tools and let the facts (such as we understand them) determine which tool is most appropriate in a given setting. This solution would make little sense if economics is viewed as an enterprise whose purpose is to develop theory. But if the purpose is to answer concrete questions of interest to policymakers and citizens, then a problem-centered (and evidence-centered) approach to theory is commonsensical.

A similarly pragmatic approach is taken to choices among methods. Here, one might begin by noting a growing rhetorical commitment to methodological pluralism within the social sciences. And yet, Reiss notes a curious division within the discipline of economics. When acting as policy advisors, economists make ample use of a wide variety of empirical approaches, including highly contextual ("a-theoretical") facts of a loose, qualitative nature. However, when acting as scientists (i.e., when publishing in academic venues), they appear to rely solely on

formal theories and formal research designs. It would appear that background knowledge of a more informal nature informs scientific practice but it does not have an honored place in the higher counsels of economics, and is therefore routinely stripped from austere academic publications. Again, the appeal to societal utility serves the function of justifying an evidence-based approach to knowledge.

Before concluding, I must reiterate that my brief review focuses on only one element of this diverse volume, which stretches across many subjects that I have scarcely alluded to: issues of measurement (chapters 2-4), the potential and limits of experiments (chapter 5), mechanism-based explanations and inferences, including social capacities (chapters 6, 8-9), natural experiments and instrumental variables (chapter 7), and policy counterfactuals (chapter 10). Since these rich and detailed chapters are not amenable to quick summary, I leave the reader to explore them.

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