

Indeed, a culture of superficial self-examination is laid bare in Jonathan Schlefer's monograph *The Assumptions Economists Make*. Moreover, he provides evidenced accounts of confirmation bias, forgetfulness, denial, indifference and outright ignorance permeating mainstream economic theory and practice. So extensive and consistent is this across both centuries and organisations that it suggests some form of institutionalised mass delusion. Neither a critic of, nor an apologist for capitalism, Schlefer is really an old fashioned seeker of truth and knowledge. He is more interested in how economists think, than in the 'causes' of the crisis. In this sense, he is taking a step back to look at how theoretical arguments are made in economics, and how the discipline functions as a crucible for truth. Schlefer is a political scientist who 'took several graduate-level courses in economics at MIT and Harvard, multivariate calculus and all'. In this way, the Harvard Business School research associate offers us the penetration of an outsider, who is nonetheless both informed and connected.

Economists, he says, form simplified assumptions which they use as the foundations for imaginary worlds. These 'models' are used to draw practical lessons: the bedrock of policy. Schlefer intends to explain to us their various structures such that we can more fully understand key disputes in economic theory. Since he does this without mathematics, he is surely translating for a non-economist audience. Instead of equations and graphs, Schlefer describes each model using simplistic metaphors and analogies. It is nonetheless complex material that requires work, so this is unlikely to appeal to the majority of the general public.

Schlefer focuses on each model through the lens of its assumptions, so he renders its structure objectively, in its advocates' own terms. Set in their historic social, political, economic and theoretical contexts, their assumptions also indicate how theorists interpret their world. Schlefer uncovers the mode in which they build from this in order to draw conclusions and make policy. He thus critiques the plausibility of their assumptions, their methods of reasoning and the validity of their conclusions. A largely chronological succession of economic models is scrutinised in this way throughout chapters three to fourteen. However, they do not form a comprehensive history of economic theory. Rather Schlefer deconstructs only a selection. Through these he traces the ancestral line of economic thought leading to those current models most pertinent to the crisis. Schlefer thus shines a light not only on individual theorists' thinking, but also on distinctive styles of reasoning across time. He peppers this chronology with copious references to economic policy and education.

Before commencing his central work, he frames it thematically with two quite explosive opening chapters. An almost always unstated assumption he says, indispensable for dominant mainstream theory and free market policies, is that Adam Smith's 'invisible hand' is an authentic mechanism which, if left alone to function, inevitably leads markets to an optimal equilibrium. For some three decades now, Dynamic Stochastic General Equilibrium (DSGE) models have dominated academic, commercial and government circles throughout the West; notably among central banks, which still use them. This is despite the fact that their 'invisible hand' foundation has been proven to be not a mechanism, but a mere metaphor. It was generally concluded in the 1970s, Schlefer says, that 'no mechanism can be shown to lead decentralized markets to equilibrium'. His opening chapter takes us through a century of failed attempts to model the 'invisible hand', examining in depth the canonical 1954 Arrow-Debreu model and its dozen preposterous assumptions, on its own terms. How is it possible, Schlefer asks, that a 'supposedly scientific theory' can be 'founded on pure faith' in a discredited metaphor?

His second chapter turns to education, arguing that while the history of economic thought has 'all but vanished from graduate programs', the most successful economics textbooks seem little more than ideological propaganda. He shows them consistently excluding facts, contradictions and complications. Those textbooks which do discuss such inconveniences are ignored or, in one shameful episode, withdrawn by university departments following financial pressure from ideologically motivated external donors. Schlefer also shows how textbooks and courses blur the distinction between two-dimensional abstract models and reality. Some students, he says, 'feel cheated, as if they were watching a magician put on a stage show, the workings for which are hidden out of sight. Others like the stage show better than the messy everyday world'.

As Schlefer works through the models, reality's 'messiness' seems to provoke two styles of theorising. It is acknowledged by classical theorists through Keynes to the structuralists and ecologists: economy is bound up with society and technology. This seems to connect with the emerging interest in complexity theory, briefly covered in the final chapter. Conversely, for the early economist-politicians, neo-classical theorists and monetarists, messiness is avoided: economy is an isolated object. Their exclusion of fuzzy interdependencies underpins today's DSGE models. These assume that economies are autonomous objects, thwarted from

reaching their mythological equilibrium by 'external' shocks.

Schlefer's fastidious dismantling of each model's nuts and bolts locates errors in reasoning across the board. However, most of many implausible assumptions, tautologies and examples of circular logic are shown to be among neo-classical models and their descendants. Despite their claims to scientific veracity, Schlefer exposes an unbroken history of convenient invention. Repeatedly, he shows exemplifies how DSGE models are constructed on an historical pedigree of unexplained workings, misrepresentation, obscurantism, bogus or bizarre claims, arbitrary labels, unexplained magical forces, misleading arguments, false conclusions and illegitimate revisions. Proofs against their invented mechanisms are routinely forgotten or ignored, which Schlefer often finds 'strange', 'weird' or 'mind-boggling'. Such practices culminate with the 'shoehorning' of Keynesianism into neo-classical models to form a basis for DSGE modelling. This assimilation is largely prompted by rational expectations thinking and constructed on the idea that 'aggregated' macroeconomic models can truly represent their microeconomic siblings. Schlefer tears it apart.

Teeming with jargon and frequently contested, misappropriated or distorted meanings, a non-economist can soon become lost. This demands exceptionally clear writing and here Schlefer could do better. His historical accounts and anecdotal examples are breezy, but his technical material requires intense concentration. This is not helped when model evaluations are interwoven with complex discussions on policy. Separating them would aid clarity. The exclusion of mathematics does make this wonderfully accessible, but Schlefer's excellent metaphorical descriptions of models might be easier to absorb with just a few simple, non-mathematical illustrations. In-text cross-referencing would help us to link together the dense tangle of concepts. This also needs clear signposting: chapter headings and sub-headings could avoid poetic summation and simply state the subject matter. There is an excellent 670 entry index, but a glossary or even additional index of differently used meanings would be practically useful. In short, this deserves to be a textbook. We are listening, but please slow down and spell this out more carefully.

Because what Schlefer says is surely important: the DSGE models, which require 'incredible' assumptions and still determine our economic fate, did not predict the crisis precisely because they cannot admit the possibility of a crisis. Moreover, models which did predict it were ignored (and remain so), the 'Great Moderation' was and is a myth (it ignores several

crashes), and the past thirty years of mainstream academic research was useless when the crisis struck. All this exposes an academic field which is not fit for purpose. Schlefer's economics is a rogue discipline of mythology and pure faith; a crucible not for truth, but for ideology masquerading as science. He calls for a tighter scientific approach and recommends four simple criteria for making good assumptions including, astonishingly, stating them. As if to confirm Schlefer's point, mainstream media reviews of this book omit any mention of these issues, as though he never wrote about them. Perhaps Schlefer's thinking can only be developed outside of economics.

References

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[1] See for example: Colander, et al., (2009); Rogoff, (2013); and University of Pennsylvania, (2009). Schlefer points out that in fact it was forecast, just not by the mainstream; see main text further down.

[2] For example, the European Central Bank and its national Central Bank affiliates continue to produce macroeconomic projections for the Euro Area using procedures and techniques that were set out in 2001. An ECB report of December 2012 states that: “The Eurosystem staff macroeconomic projections are produced jointly by experts from the ECB and the euro area NCBs. ...More information on the procedures and techniques used is given in ‘A guide to Eurosystem staff macroeconomic projection exercises’, ECB, June 2001, which is available on the ECB’s website” (ECB, 2012).