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Title:

*The Supply and Demand of
Models in Economics: Models
as a Tool for Reasoning and a
Tool to Justify the Status Quo*

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There are two kinds of economist: the student and the engineer. They approach economics with different presuppositions, and each has a different goal in mind. Their sole commonality is that they call themselves economists. Both present themselves as working under the umbrella of economic science. This creates confusion. Science, as a term, has a very narrow and specific meaning; Science is concerned with empiric measurements. Only the student economist stays true to this definition; he measures and observes. The engineer economist, on the other hand, uses the principles of economics science and wants to either persuade or to apply principles of the science to change how the economy works. Louis Pasteur, a chemist and microbiologists, summarized the dichotomy of behavior plainly when writing: “There is no such thing as a special category of science called applied science; there is science and its application, which are related to one another as the fruit is related to the tree that has borne it” (as cited in Debré, 1998, p. 84). The engineer economist distributes his fruits and calls them the tree. His efforts and work might be valuable and perfectly legitimate, but he tries to borrow the legitimacy of science when his work is in fact not scientific. The debates in economics (and, for that matter, any realm of public policy in which insights from science are brought to bear) would be clearer if this element of confusion of what is and is not science were removed.

It would be more honest if the engineer economist would simply state his case using the principles of economic science without asserting that he is acting as an economic scientist. By contrast, the student economist is observing and measuring. He might hint that some observed phenomena might cause another observed phenomena, but he does not intervene. Peter Boettke and Steven Horwitz call him a “cautionary prophet.” In their essay *The Limits of Economic Expertise*, they explain the fundamental differences of the student who observes and the engineer who intervenes with the hope of influencing social change (p. 11). The authors characterize Adam Smith as a skeptic. Smith doubted what could be known about economics and therefore advised caution

should be exercised when contemplating any public policy (p. 13). The student follows this advice and remains cautious by limiting his studies on the data that can be measured and catalogued. The engineer, though, has been the victim of the changes in the underlying philosophical understanding of how we comprehend the world during the nineteenth and early twentieth century. The writings of Karl Marx have had a crucial role in this shift from a Christian and even Humanistic view to a worldview that places the economy at the center of our existence and, therefore, elevates it to both the source of all evil and the solution to all problems simultaneously. Even those who did not embrace Marx's socialist ideas were affected by his view on history and the hand we could play in changing its course. Boettke and Horwitz point out the social changes during the Industrial Revolution that contributed to the ideological push to be an economic savior, or engineer (p. 14). The change in thinking as to what economics is and can do happened alongside other profound societal shifts.

The main change to observe is the switch of the humble view of Smith and his contemporaries, that economics could tell us more about what not to do and less about what to do, to the belief that "because they now had the tools of objective science to guide policy in ways that did not appear to invoke ideology" (Boettke and Horwitz, p. 27). This belief in action without any reference to morality is deeply mistaken. There are no actions that do not carry the weight of morality. People will judge whether outcomes are morally good or bad. Besides the good and the bad, economic theories are not universal. Boettke and Horwitz point out that Friedrich List discussed the importance of considering social context and that one theory might work in one country but not in another (p. 21). Max Weber, too, thought along these lines when discussing the importance of the protestant work ethic in creating the economic system in the West. This misleading belief in an amoral economics view was popularized during the time that John Maynard Keynes was publishing his theories. The propagators of this theory seemed to believe that because

they could measure economic indicators dispassionately, they could also manipulate them dispassionately. Keynes understood the problem conceptually when he said “the confusion between positive and normative science is common and has been the source of many mischievous errors” (as cited in Friedman, p. 3). Milton Friedman expounded on this when he discussed the dangers of those economists concerned with normative science and who shape positive economics to fit their goals: “Laymen and experts alike are inevitably tempted to shape positive conclusions to fit strongly held normative preconceptions and to reject positive conclusions if their normative implications are unpalatable” (p. 4).

Since our humanity can sometimes prevent us from making rational choices when our own interests are concerned, the founders of the United States set up the different bodies of government to keep conflicts of interest low. The founders understood the human biases and designed a system to help keep them in check. To enact good economic policies, those who measure cannot also be the ones who say what the size of something should be.

Some economists avoid this discussion by assuming that economists are in fact engineers with the prerogative to intervene in the economy. David Colander is of this persuasion. In his article *The systemic failure of economic methodologists*, he develops his argument about the mistakes which caused the financial crisis of 2008. He blames both the economics profession and economic methodology for failing to warn of and prepare for the financial crisis. His criticism that “both groups see their primary role as detached scholars, or as scientists providing abstract understanding,” is directed at the student economists. Colander contends that the primary goal of the economists should be to solve real world problems. He argues “if engineering is not applied science, and applied economics is primarily engineering, applied economists should be judged by an engineering methodology, not by a scientific methodology” (p. 57). This argument cannot stand because his presupposition that economics can be used to intervene is invalid. If he wants to write

about economics, then he has to limit his argument to the field of economic science. If he means to talk about how we act in this world, then he needs to use different terminology than that of the economics field.

Colander puts the cart before the horse. He criticizes academia for writing primarily for their peers and misses the point of dividing the tasks of collecting the data and acting upon the data. Before the economic cart can go anywhere, we need a trusty horse: a well-reasoned methodology that we can rely on to steer us in the right direction. Colander makes use of a rhetoric tool discussed by Deirdre McCloskey in her book *The Rhetoric of Economics*. She calls it, “the intent to persuade” (p. 4). Though rhetoric can be used for legitimate scientific reasons to communicate epistemological findings in a manner that will be clear to the reader, it can also be used to make bad science - that is, non-science - seem like the legitimate pursuit of a discipline. Colander attempts to persuade his readers by introducing his argument with a favorite human past-time: to assign blame. He blames economic methodologists for their problematic methodology leading to the 2008 financial crisis (p. 56). His argument falls apart after the first paragraph because he relies on inflammatory speech instead of making a concerted effort to make his case as to why the economic engineer should lead economics and society.

The main criticism of Colander’s argument about academia fails to address what Gregory Mankiw points out in the article *The Macroeconomist as Scientist and Engineer*. Namely, that undergraduates “have little interest in theory for theory’s sake” (p. 43). Since universities live by economic principles and need to please their customers they fail to teach what the undergraduate needs to learn and instead teach with a slant towards an economics engineer perspective. Boettke and Horwitz point out that universities are intellectual conduits: “It was through these institutions that the economist as savior moved from the first world to the third world” (p. 33). This transfer of ideas from universities to the whole world was true at the beginning of the twentieth century and

still holds true. Furthermore, these institutions “continue to reward disproportionately those with the engineering skills” (Boettke and Horwitz, p. 16). We can see that this is true when we consider that the economist engineer Esther Duflo received the Nobel Prize for Economics in 2019. She exemplifies the thinking of the engineer, not that of the student economists: “Many of us chose economics because, ultimately, we thought science could be leveraged to make a positive change in the world” (p. 31). This is what McCloskey might call rhetoric, it is what a thinker calls deception. An engineer might accomplish a social good through deceiving society about his role of presumed scientist. He might also cause irreparable damage. We can better understand what we want the economist engineer to do once we are clear as to his epistemic standpoint. Does he observe scientific data and craft his plan of action from a point of knowledge or is he an ideologist who hides under the mantle of science to nudge society towards what he considers a good? These are questions we need to ask. The answers we receive need to be clearly articulated and respect the meaning of words: specifically, science is objective measurement. Anything beyond that needs to clearly articulate the worldview that it assumes. Then we can draw from science and act with clear intention and shape the world for the better, or as Smith might argue, we know what we better not do because we still do not know enough.

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