

**Review of Dani Rodrik's *Economics rules: the rights and wrongs of the dismal science*. New York: W. W. Norton & Company, 2015, 272 pp.**

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In this review, I focus on issues that will interest philosophers of economics (for a more general review and a chapter by chapter guide to *Economics rules*, see Aydinonat 2015).

There is a cartoon that pictures a man in bed with *an* economic model. It reads: “economists do it with models!” Yes, in fact they do it with models. However, it is not entirely clear what they do with them and how. Dani Rodrik's *Economics rules* is an attempt to explain what good economists do with their models and maybe more importantly what they should not do with them.

*Economics rules* is a work in philosophy of economics, written by a prominent economist. When economists enter the domain of philosophy of economics, they commonly overlook the work of professional philosophers of economics. It is of course possible that they are not aware of the work of philosophers, but an equally likely reason for their lack of consideration is that they (probably) think that they have nothing to learn from philosophers concerning the nature of economics and economic models. They are economists after all! Nevertheless, many economists fail to give a satisfactory answer to an important question: How can economic models that contain highly unrealistic assumptions help us in explaining (and understanding) real world economic phenomena? This question is more difficult than it appears and it does not lend itself to a quick and easy answer. For example, arguing that the real world is complex and that we need simplifications does not constitute a full answer, neither does using the map analogy (i.e., models are like maps; they are useful because they simplify)!

Dani Rodrik's *Economics rules* is distinct in its attempt to provide us with a full and satisfactory answer to the aforementioned question. True, he also uses the map analogy, but he does not leave it at that. Rather, he discusses the nature and significance of economic models in detail. Providing a wide variety of examples from economic theory and

policy, he develops a new account of models and argues that the diversity of economic models is the key to solving the puzzle concerning the epistemic role of highly abstract models in economics. And a pleasant surprise for my fellow philosophers of economists: Rodrik—wait for it—utilizes philosophy of economics in his account of economic models.

Rodrik's main aim in the book is to “explain why economics sometimes gets it right and sometimes doesn't” (p. 5). On the one hand, Rodrik defends economics against popular lines of criticism of economics; on the other, he criticizes some of the practices in economics. More appropriately, he defends economics against those people—economists as well as non-economists—who, according to Rodrik, misinterpret economic models. Doing this requires an account of models that can obliterate misunderstandings shared by some economists and many critics of economics. In Rodrik's account, common misunderstandings stem from the fact that both economists and non-economists sometimes mistake *a* model, with *the* model: They overlook the fact that economics is a collection of models and assume that the model they happen to be confronted with is the only model concerning the question at hand. It is for this reason that critics fail to see how unrealistic models can contribute to our understanding. And for the same reason, economists (and policy makers) who think that the model at hand will give them all the answers concerning the real-world problem they are facing are wrong. “It is *a* model, not *the* model” is the motto of *Economics rules*. In order to fully understand what it means, we need to take a look at Rodrik's account of models.

Rodrik's account of models is similar to Uskali Mäki's account in some respects. Rodrik believes that economists use the *method of isolation* (Mäki 1992; Mäki 2010) and echoes Mäki (2005) in arguing that models are similar to experiments:<sup>1</sup>

Many assumptions that go into economic models—perfect competition, perfect information, perfect foresight—are patently *untrue*. But [...] models with unrealistic assumptions can be as useful as lab experiments performed under conditions that depart starkly from the real world. Both allow us to *identify a cause-effect*

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<sup>1</sup> The reader may be wondering whether Rodrik cites Uskali Mäki. Yes, he does. He also cites Nancy Cartwright's work. Note however that the other references in this review are not cited by Rodrik.

*relationship by isolating it* from other confounding factors (p. 180, emphasis added).

Thus, Rodrik contends that even though models misrepresent reality in many respects, they isolate real causal mechanisms. Or as he puts it “models are never true; but there is truth in models” (p. 44)—again echoing Uskali Mäki (2011). Rodrik takes it that isolating causal mechanisms and studying them (under the conditions specified by the model) helps economists in learning about “tendencies” and “likely consequences” (p. 45). Nevertheless, the isolation account of models does not fully answer how economic models that utilize unrealistic isolating assumptions (and unrealistic assumptions concerning background conditions) may help us in providing correct explanations or in understanding economic phenomena. Rodrik is fully aware of this. In fact, he is attentive to Nancy Cartwright’s (2007) warning that it is difficult to “truly isolate cause and effect in economics” (p. 44). In order to solve the puzzle presented by unrealistic economic models, Rodrik amends Mäki’s account with an additional observation: He argues that it is the diversity and the multiplicity of economic models that make economics a powerful social science. Note here that neither Mäki nor other proponents of the isolation view reject the diversity of models, it is just that they do not put enough emphasis on it.

Rodrik argues that having multiple models enables economists “to alter the background conditions selectively, to ascertain which, if any, make a substantive contribution to the effect” (p. 44). It may first seem that Rodrik is talking about the robustness of economic models. However, he takes it that non-robust models are also valuable because they teach us about the conditions under which their results would not hold (cf. Kuorikoski, et al. 2010). If a model’s results change under slightly different conditions, we learn that the results of the model are context-specific. In fact, Rodrik argues that “the correct answer to almost any question in economics is: It depends” (p.16). But “models do more than warn us that results could go either way. They are useful because they tell us precisely what the likely outcomes depend on” (p. 17). Thus we may interpret Rodrik as follows: It is not exactly true to say that models teach us about how causal mechanisms work in isolation; rather models teach us about how ‘structure’ (conditions specified by the model) affect the outcome of the isolated (set of) causal mechanisms (cf. Cartwright 2009; Aydinonat 2008; Aydinonat 2007).

The emphasis on the diversity of economic models is important because viewing economics as a collection of models facilitates a better understanding of how highly abstract economic models help us explain. Rodrik's account of models has similarities with the *cluster view of models* (Ylikoski and Aydinonat 2014). Different models are connected to each other in many ways; they may isolate different causal mechanisms and play different roles in the cluster of models that are relevant to the phenomenon at stake. If one fails to see this, Rodrik believes, one fails to see the true value of economic models. Different models provide us with different and sometimes conflicting answers. This diversity of models is valuable because the collection of these models "enable the accumulation of knowledge, by *expanding the set of plausible explanations* for, and our understanding of, a variety of social phenomena" (p. 46, emphasis added). Each model may seem limited in what it can accomplish, however each of these models increase our ability to explain by way of expanding our *menu of possible explanations* (see Ylikoski and Aydinonat 2014)—so that "we have *a menu to choose from*" (pp. 73-74, emphasis added).

Knowledge accumulates in economics not vertically, with better models replacing worse ones, but horizontally, with newer models explaining aspects of social outcomes that were unaddressed earlier. Fresh models don't really replace older ones. They bring in a new dimension that may be more relevant in some settings (p. 67).

If economics is a powerful science it is because economics is a collection of a wide variety of models that can help us explain a wide variety of economic phenomena. Rodrik claims that "just as social reality admits a wide range of possibilities, economic models alert us to a variety of scenarios" (p. 209). So, economic models "are contextual and come in almost infinite variety" (p. 114). In Rodrik's account, viewing, using or criticizing economic models in isolation from other related models is an important mistake. Similarly, disregarding the conditions under which the model results hold is a big mistake. Since these are common mistakes, what I call the cluster view of economic models helps economists defend economics against many types of criticism. In the book, Rodrik contents that the popular lines of criticism fail because they ignore the variety and multiplicity of models in economics. Critics commonly cite the representational properties of a single model and conclude that it is too unrealistic to be true. Similarly, some economists

think that their favored model is *the* model, and assume that it will give them all the answers. However, as Rodrik argues, a single model would only give us a partial answer: “They [models] provide at best *partial explanations*, and they claim to be no more than abstractions designed to clarify particular mechanisms of interaction and causal channels” (p. 114; see Aydinonat 2007, 2008 for a similar argument). In order to be able to provide satisfactory singular explanations of economic phenomena economists ordinarily utilize a set of models and try to select the right model—or, the right combination of models—for the explanatory task at hand. The isolation view helps us understand how one model is related to the real world, the cluster view helps us understand how economists explain and how economic models contribute to our understanding. In *Economics rules*, Rodrik illustrates this with many examples from economics.

Rodrik takes it that despite their unrealisticness, there should be some grain of truth in economic models. But where does truth reside in models? According to Rodrik, the explanatory power of economic models depends on the realisticness of their *critical assumptions*. Although it is not entirely clear which assumptions of a model are critical, the examples Rodrik provides imply that they are assumptions relating to applicability (i.e., helping economists decide whether the model can be utilized in explaining the particular case at hand). For example, a model that assumes perfect competition cannot explain cases of imperfect competition. Or, a model that assumes that firms have market power cannot be used to explain cases where firms do not have market power. Critical assumptions are important in using and applying models. Moreover, we understand from Rodrik’s account that the isolated causal mechanism should represent a real causal mechanism in order to be explanatory. If the proposed mechanism is nonexistent, the model cannot explain the case at hand. So, at first glance it seems that truth resides in the isolated causal mechanism and the truth of the model’s critical assumptions is important for its applicability. Nevertheless, Rodrik also argues that one of economic models’ important contributions is to “open our eyes to counterintuitive possibilities, and unexpected consequences” (p. 46). True, models help us find out that known causal mechanisms may produce unexpected, counterintuitive results. But models also help us discover new causal mechanisms and explanatory factors. This should be one of the ways in which they help us expand our menu of plausible explanations.

However, if the results of a model depend on its assumptions, it would be hard to establish that it helps us in discovering new causal mechanisms operating in the real world. This is because, it would be difficult to ascertain where the model's results are coming from: Is it the result of its (unrealistic) assumptions or, of the proposed causal mechanism? Remember that Rodrik takes it that the true answer to almost any question in economics is "it depends". The difficulty is to know what the result depends on. With so many unrealistic assumptions concerning functional forms, mathematical properties, background conditions, rationality, and so on, how can we ever know what the model is teaching us about the real world?

Rodrik's answer to these questions is that of a practicing economist. He lists four different (but not exclusive) "verification" strategies that would help us in selecting the right model. The first one is verifying models' critical assumptions and ascertaining that the model is representative of and applicable to the case at stake. The second strategy is verifying the existence and operation of the proposed mechanisms. The third strategy concerns models that are built up from basic principles: Check whether the results of the model hold in the real world. And the fourth strategy is to check whether other implications of the model are consistent with our observations. Although this broad list of principles may not satisfy philosophers, Rodrik gives examples for each strategy and demonstrates that developing and using models is a craft—requiring economic intuition, experience, etc.—and that it cannot have precise rules: "Good judgement and experience are indispensable, and training can get you only so far" (p. 83). Moreover, it all depends on the task at hand. A particular model may be useful for some explanatory tasks and not for others. The purpose and limitations of a model, as well as the aims of the economist using the model are important elements in the verification process. So the true answer to questions concerning the locus of truth and critical assumptions is: *it depends*. Rodrik argues that "the key skill is being able to move back and forth between candidate models and real world" (p. 93). Accordingly, we can know whether a model helps us in discovering new causal mechanisms only after verifying that the proposed causal mechanism exists in the real world. Once again, the proof of the pudding seems to be in the eating.

Rodrik's guidelines for "verification" are definitely useful and enlightening, particularly because he gives several examples from

economics that helps the reader get a feeling of how the “verification” process works. However, these guidelines are somewhat vague for philosophers’ taste. Thus, there is room for improvement and hence an invitation for philosophers of economics right here. We can reach a better understanding of the art and craft of verification by way of studying the process of model development and the way in which models are utilized in providing explanations. The precision in defining critical assumptions and their verification can be improved. Moreover, we need to improve our understanding of how isolation works, what it achieves, and how it relates to the aims of modelers and practitioners. Finally, if it is the case that the diversity of models is what makes economics a powerful science—and I believe it is the case—we need a better account of how models relate to each other and how their collection relates to the real world. It is time for philosophers of economists to engage in the world of models and start appreciating their multiplicity and diversity. We shall not forget: It is *a* model, not *the* model!

In sum, *Economics rules* is an excellent book on the nature of economics. It is rich with examples from history of economics and current debates in economics. It is a must read for all students, practitioners and philosophers of economics; and an indispensable guide for anyone who wishes to have a better understanding of economics and how economic models work. *Economics rules* also contains much to think and disagree about for philosophers of economics. It will spark new debates and more fine grained work in philosophy of economics. I know that the readers of this review are wondering why I did not present my own criticism of Rodrik’s account. The reason is that I wanted to use this limited space to show that it is a very interesting book for philosophers of economics. In fact, my aim was to show that philosophers of economics can only fail to read it at their own peril. I am sure that we will have plenty of opportunities to discuss Rodrik’s account of models. Let us get down to the nitty-gritties of *Economics rules* later on.

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