**[Methodology…?! Why?](https://www.sciencedirect.com/science/article/pii/B9780128165652000014)**

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From laws to fragmentary analyses

It is a commonplace in the history of economic thought that economics inherited the extensive reliance upon mathematics from natural science. The appropriateness of mathematics in economics is still a hotly debated topic. Certain problems can hardly be analyzed with formal theories, or only inefficiently at best. However, there are theoretical problems in the case of which formalism ensures high precision and hence high depth. Just for the sake of good order, a comprehensive exploration of a complex causal structure underlying a phenomenon is not deep. By contrast, here depth refers to an exhaustive and consistent analysis of a well-isolated part or facet of the mechanisms in a complex causal structure in order to pay attention to a wide range of consequences.

The intention of applying celestial physics to terrestrial social conditions causes a lot of serious methodological problems to neoclassical economics. In order to employ the physics of heavenly bodies to our highly complex social world, it is necessary to disregard all the (social, institutional, and cultural) conditions that interfere with the fundamental economic laws. Paying no attention to a lot of social determinants, however, may deteriorate empirical performance and imply the fact that one can only infer the presence of a law underlying social phenomena from dubious numerical evidences at best.

Perhaps it is the most important message of Popper’s (1962, p. 97) commentaries that in celestial physics realist purposes lead to simpler and more accurate models, whilst in economics to more complex representations as the more realist a model is (i.e. the more mechanisms of a real causal structure are preserved), the more complex it is. As a consequence, doubt is oftentimes cast upon the realism of abstract neoclassical models as, following physics, models rest upon assumptions as few and simple as possible. In order to by-pass the debates over the gradualness of realism, clear-cut methodological guidelines are in use on the basis of which approximate truth in the relevant aspects is the norm (Psillos, 1999, p. 98) both in neoclassical orthodoxy and in physics. This is exactly the crucial point in the institutionalist critique: the belief that only something complex can be realist. Tendencies to judge by this ungrounded belief have not even been eased by the fact that neoclassical theorists oftentimes highlight that it is their explicit causalist purposes that lie behind the fragmentary or piecemeal character of their models (Phelps, 2006). In the realist neoclassical orthodoxy, as in physics (Fine, 1984, p. 87), confirmation of a suitable theory has been interpreted as the sign of an approximately true ontology.

It is a fact of life that if we are interested in universal laws we need to disregard the contingencies interfering with them (Chakravartty, 2007, pp. 212–234). Neoclassical orthodoxy is always legitimate to criticize for its blindness to some problems or for its mistakenly postulating fairly stable laws. However, it is contentious whether neoclassical economics really got into bad ways by assuming its fundamental laws to be of mathematical character. The genuine question regards not whether such laws or law-like tendencies exist but whether they can adequately be analyzed in a highly formalized way. Here we thus face two questions. The first regards whether there exist such things as economic laws, whilst the second is about their very nature. Both questions are of ontological character, though it is only the latter that takes the existence of laws for granted. Opening a debate over the nature of economic laws and hence the appropriateness of the use of mathematics in economics makes sense only if the first question is answered in the affirmative. Institutionalist by answering it in the negative have subscribed to a distinct ontological line, where the nature of laws is not a concern. Pushing formalism cannot be disapproved of by denying the existence of fundamental economic laws. Subscribing to the idea of the nonexistence of stable social laws one inevitably moves to an ontological platform where the nature of laws cannot be problematized at all. Neoclassicals and ‘anti-neoclassical’ institutionalists live in such dissimilar worlds that the adequate reply in their arguments is always ‘Who cares?’ on both sides.

If such laws exist, by all appearances they can be put into mathematical form. It is hard to believe that through a loose and anti-formalist institutional reasoning the real effects of changes in the money supply or, for instance, the nature of business cycles triggered by information deficiencies could have been analyzed in comparable precision and depth to the neoclassical achievements (Mäki, 1992b, p. 321). Formalism of modern macroeconomics is never a superfluous ornament or a characteristic we drag along out of sheer habit or because of the inertia of our scientific thinking. It is rather an instrument that renders it possible for us to answer certain questions in higher depth and with higher consistency than in any other approaches.

Admittedly, deductive reasoning does not necessarily require formalism. Rutherford (1994, p. 8) mentions Austrian economics as an example, where deductive reasoning has been performed not on grounds of symbolic logic or mathematics. This example, however, is rather in line with the details mentioned above. Even though careful deductive reasoning can be carried out in verbal form, the optimal rate of the growth of money or the slope of the Phillips-curve can hardly be calculated without any numerical data and formalism.

Formalism has its price, of course. This is the high level of isolation, to which scrutinizing some institutions and the historical context falls victim. However, these puzzles can be analyzed along other methods by which one could only clumsily enter the territory of neoclassical economics. As long as the complementarity of approaches is unrecognized and as long as we keep having debates over the primacy of certain necessarily incomplete approaches, no synthesizing achievements can be expected to occur in economics. Any specific problem requires a specific methodology the shortcomings of which we should be aware of all the time. If methodology has a message for all the schools of economics at all, then it is exactly this idea. Salvation does not come with a unique and universally applicable methodology having advantages only.

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