Economists have a long history of weighing in on policy issues. In the early 19th century, British economists Thomas Malthus and David Ricardo debated tariffs in the House of Commons. Today, economists express their views on minimum wage legislation and tax reform in newspaper op-eds and blogs. Both sides in these debates bring standard economic theory and empirical techniques to support their opposing positions, which has led critics to question just how objective economics really is.

Throughout the postwar era, economics has aspired to be scientifically objective. But some have still questioned whether mathematical modeling and scientific methodology insulate economics from ideology. In a 1948 speech to the American Economic Association entitled “Science and Ideology,” Harvard University economist Joseph Schumpeter described the challenge economics and other social sciences faced: “Logic, mathematics, physics and so on deal with experience that is largely invariant to the observer’s social location and practically invariant to historical change: for capitalist and proletarian, a falling stone looks alike. The social sciences do not share this advantage.”

This leaves more room for interpretation in the social sciences, particularly when the evidence is still developing. In a 2013 study of economists’ responses to policy questions, Roger Gordon and Gordon Dahl of the University of California, San Diego found greater disagreement and uncertainty among economists on topics with less extensive economic literature. “One of the problems is that economic evidence is rarely conclusive,” says Roger Backhouse, a professor of the history and philosophy of economics at the University of Birmingham.

Even research pertaining to extensively studied topics can be correlated with economists’ pre-existing worldviews. In a 2014 working paper, Zubin Jelveh of New York University and Bruce Kogut and Suresh Naidu of Columbia University matched data on individual economists’ campaign contributions and petition signings with the language they used in academic papers to identify words and phrases correlated with partisan political behavior. For example, “post Keynesian” was a phrase highly associated with left-leaning authors and “free banking” was a phrase highly associated with right-leaning ones. Using this information, they developed an algorithm that predicted economists’ political ideologies on the basis of their papers with 74 percent accuracy. They also found a correlation between research results and the authors’ predicted ideologies. Left-leaning economists were more likely to report results that aligned with a liberal ideology and vice versa for right-leaning economists.

Jelveh, Kogut, and Naidu note that their results do not necessarily suggest that economists are “deliberately altering empirical work in favor of preconceived political ideas.” They explain that the correlation they find may be the result of ideology driving research, research shaping ideology, or a third factor influencing both, though they suspect that ideology is the driver.

Backhouse argues that “ideologies and economic analysis are not separate.” In his 2010 book The Puzzle of Modern Economics, he discusses the evolution of economics in the 1960s and 1970s under the influences of “saltwater” economists like Paul Samuelson of the Massachusetts Institute of Technology (MIT) and James Tobin of Yale University and “freshwater” economists like Milton Friedman and Robert Lucas of the University of Chicago. Each group drew from the same underlying economic theory, but their different interpretations of evidence pertaining to the competitiveness of markets and the effectiveness of government intervention led them to develop different models and reach different conclusions.

Does this view mean economic research is tainted with hidden ideology? Not necessarily. Economists use mathematical models to craft and test theories, which presents all assumptions clearly and upfront. This makes it hard to disguise any assumptions that are purely driven by ideology. As Lucas famously said, economists “ask for equations that explain what words mean.”

Testing models is another way to expose theories that are based in ideology instead of the real world. Today, economists have access to huge public and private datasets electronically and can use computers to test theories in realistically simulated economic environments. The use of academic laboratories to conduct experiments has also become more prevalent and accepted in the profession in recent decades, providing another avenue for testing theories. As a result, economic models have become more sophisticated, and there are a number of issues where economists across the political spectrum have reached consensus. Even better, economists have become more skilled at figuring out which models should be applied to which settings.

Finally, professional peer review, as commonly employed by academic journals, can also help minimize ideological influence. On this front, the study by Jelveh, Kogut, and Naidu offers some encouragement: The authors found no correlation between the ideology of journal editors and the ideology of articles appearing in the journals they oversaw.

The problem with rejecting economics as a science, says Backhouse, is that it leads to the conclusion that “anything goes.” As MIT economist Robert Solow wryly put it in a 1970 article, “It is as if we were to discover that it is impossible to render an operating room perfectly sterile and conclude that therefore one might as well do surgery in a sewer.”