An economist is someone who sees something happen in practice and wonders if it would work in theory.
—Ronald Reagan

Does economics have any real value?
That blunt question has been voiced with greater frequency in recent years. After all, mainstream economics, with its cherished theories and complex mathematical models, failed to predict or to prescribe adequate remedies for the economic meltdown that began in 2007. These failures led liberal columnist Paul Krugman, the 2008 winner of the Nobel Prize in economics, to call the previous thirty years of macroeconomics “spectacularly useless at best, and positively harmful at worst.” Similarly, Willem Buiter of the London School of Economics described the past three decades of macroeconomics training at American and British universities as a “costly waste of time.”

It’s not just macroeconomics that has been called into question. Financial economics was another key culprit in the crisis. The Economist observes: “Convenience, not conviction, often dictates the choices economists make. Convenience, however, is addictive. Economists can become seduced by their models, fooling themselves that what the model leaves out does not matter.” Wall Street fell in love with “the quants,” the math whizzes who devised new investment technologies to slice, dice, and repackage all sorts of different asset classes. Wedded to its mathematical models, mainstream economics became “a poor guide to the origins of the financial crisis, and left its followers unprepared for the symptoms.”

Investment wizard Warren Buffett put it even more succinctly: “Beware of geeks bearing formulas.”

Claes Ryn, a professor of politics at the Catholic University of America, goes further, explaining how the embrace of models and formulas led to a decline in morality: “In finance, rationalism and mathematicization inspired trends towards ever-more abstract, amoral operations. It assisted the progressive fiscalization of the economy. Not only equities but also the creation of intricate new fiscal instruments, such as derivatives and, most recently, ‘credit default swaps,’ created opportunities for shifting assets and control to financiers far removed from the people actually running the business or lending money.”

Harry C. Veryser is professor of economics at University of Detroit Mercy and is author of the forthcoming It Didn’t Have to Be This Way (ISI Books, 2012). This essay is adapted from chapter eight of that book.
But the practitioners of strictly mathematical economics had the utmost faith in the wisdom of their approach. Several years ago a dean at one of the schools at which I taught economics and finance criticized our department for its lack of “rigor.” He advocated a heavily mathematical approach (he used phrases such as “mezzanine financing,” and “subordinated debt”) and challenged us to teach something called “financial engineering.” Asked what financial engineering was, he said that it gave one the ability to transform what might be called dodgy debt into AAA bonds by the use of sophisticated statistical tools. When I replied that I thought this method would simply cheat a lot of little old ladies out of their money, he became incensed and told me that he had letters from companies who would not hire our graduates because they were not sufficiently trained in such alchemy.

That was 2005. Today, many of those companies are gone, and they have left a lot of empty retirement accounts. The little old ladies were cheated out of their money as the world economy suffered a multitrillion-dollar meltdown.

While the technologies that allowed the proliferation of mathematical models were new, the attitude underlying them was not. For centuries economists have tried to imitate methods from the physical sciences. They have tried to put economics on par with the hard sciences, to afford themselves the lofty status of “scientists.” The Austrian economist F. A. Hayek explained how this process played out in the first half of the nineteenth century:

The term “science” came more and more to be confined to the physical and biological disciplines which at the same time began to claim for themselves a special rigoroussness and certainty which distinguished them from all others. Their success was such that they soon began to exercise an extraordinary fascination on those working in other fields, who rapidly began to imitate their teaching and vocabulary. Thus the tyranny commenced which the methods and techniques of the Sciences in the narrow sense of the term have ever since exercised over the other subjects. These became increasingly concerned to vindicate their equal status by showing that their methods were the same as those of their brilliantly successful sisters rather than adapting their methods more and more to their own particular problems.⁶

Therein lies the flaw that has led so many commentators to question the value of economics. The problem is not with economics per se but rather with a distorted understanding of economics’ role and ambitions. Economics is not like physics or chemistry. One of the fundamental contributions of Austrian economics is to remind us that economics is a science of human action, which is something very different from the growth of cells or the movement of the planets. As Hayek put it, the vigorous attempts to mimic the methods of the physical sciences have “contributed scarcely anything to our understanding of social phenomena.”⁷ The failure to predict or to solve the economic crisis is only the latest and most dramatic example of the lack of understanding that the modern scientistic approach to economics yields.

To get the economy back on the right path requires a proper understanding of the role, and limits, of economics.
Economics as a Science:
Two Paths

When Hayek refers to “the Sciences in the narrow sense of the term,” he reminds us that the sciences have traditionally been understood more broadly than they are today. Writing more than two thousand years ago, Aristotle divided the sciences into three categories: speculative, practical, and productive. Speculative science is pure or theoretical science that seeks truth for truth’s sake, such as mathematics, physics, chemistry, biology, and astronomy. Practical science seeks general principles to obtain the goals—and understand the actions—of human beings; ethics, politics, and economics are the most important of the practical sciences. Productive science explores how things are to be made; architecture, for example, is a productive science.

In modern times, we generally distinguish between the physical sciences and the social sciences. Both types share certain characteristics that qualify them as scientific: they deal with universal principles; they are logically organized; and they are tested against the real so as to have a degree of predictability.

Universal principles are essential. When a medical student examines a body in anatomy class, he is studying not just that particular body but the general principles that apply to every human body. The same holds for social sciences as well as physical sciences. When Aristotle presents his case for the achievement of human happiness in The Nicomachean Ethics, for instance, he is laying out principles that apply to every human person. Likewise, certain general principles of economic action apply to every person.

Every science must be logical as well. That is, it must tell a straight story about some aspect of reality. When facts appear that contradict the accepted explanation, the theory must be reworked to explain the new facts in a consistent way. Consider physics: Einstein and other scientists were faced with facts that seemingly could not be explained by Newtonian physics; they had to adjust the theory to account for these facts. In economics, the classical school had to confront inconsistencies in its explanation of value—namely, how could the prices of goods in the marketplace be so much more or so much less than the cost of the labor needed to produce those goods? A consistent explanation of value requires close observation of actual market participants.

Finally, because the value of any science lies in its ability to describe or explain an aspect of reality, it should be able to predict certain outcomes. For example, an engineer constructing a bridge must be able to predict accurately the load that the building materials will be able to carry once assembled. Such predictions rely on knowledge of the nature of physical things.

In the modern understanding of science, this element of predictive ability has become enormously important. Note the distinction
between the following definitions of science, the first reflecting a traditional view and the second reflecting a modern view: The Dictionary of Scholastic Philosophy defines a science as “the certain intellectual knowledge of something in its causes; universal, demonstrated, organized knowledge of facts and truths and the reasons or causes of these”; The New Merriam-Webster Dictionary explains that science is “knowledge covering general truths or the operation of general laws especially as obtained and tested through the scientific method.”

The latter’s emphasis on the scientific method—precise experimentation to test hypotheses and measure exact physical outcomes, usually using statistical methods to assemble data—reflects the narrowing of which Hayek wrote. In The Philosophy of Science, Fulton J. Sheen sums up the matter well when he writes that in “the traditional view . . . science meant knowledge” but “it means experiment and observation for the modern mind.”

Economics has taken to emphasizing the testing of hypotheses to try to ensure its predictive ability. In a famous essay entitled “The Methodology of Positive Economics” (1953), the eminent twentieth-century economist Milton Friedman lays out a framework for economics as science. By itself, the essay’s title suggests the scientific rigor Friedman is aiming at. The “methodology” he attempts to establish borrows from the scientific method of the hard sciences. Meanwhile, he uses the term “positive economics” to explain how economics can be an objective science. In the essay he notes that positive economics explains “what is” and is thus distinct from “normative economics,” which concerns itself with judgments about “what ought to be.” Friedman makes his goal explicit when he writes: “In short, positive economics is, or can be, an ‘objective’ science, in precisely the same sense as any of the physical sciences.”

How can economics claim the mantle of the hard sciences? By taking an empirical approach that makes prediction the central test of its worthiness. The performance of positive economics, Friedman explains, “is to be judged by the precision, scope, and conformity with experience of the predictions it yields.” He expands on this point with a broader statement about the role of theory in the sciences:

Viewed as a body of substantive hypotheses, theory is to be judged by its predictive power for the class of phenomena which it is intended to “explain.” Only factual evidence can show whether it is “right” or “wrong” or, better, tentatively “accepted” as valid or “rejected.” . . . The only relevant test of the validity of a hypothesis is comparison of its predictions with experience. The hypothesis is rejected if its predictions are contradicted (“frequently” or more often than predictions from an alternative hypothesis); it is accepted if its predictions are not contradicted; great confidence is attached to it if it has survived many opportunities for contradiction.

Friedman was one of the most influential economists of the twentieth century. Not surprisingly, then, these arguments have had a lasting impact. As noted in a 2009 book dedicated to assessing “the impact and contemporary significance of Friedman’s seminal work,” the 1953 essay “has shaped the image of economics as a scientific discipline, both within and outside of the academy.” Those who took up Friedman’s charge tried to match the hard sciences in methodological rigor. That meant establishing mathematical rigor, and this has been a major reason why we have seen the headlong push toward strictly mathematical economics.
Friedman himself was not a proponent of some of the complex mathematical systems that became so prevalent. As Johan Van Overtveldt writes in his study of the Chicago School of economics, Friedman was “suspicious of econometric forecasts based on multiple regressions and statistical mathematical economic models.” But many who followed Friedman took his call to put economics on par with the physical sciences as a mandate for precisely the sort of models and formulas of which he was suspicious.

Friedman was not alone in casting economics in the mold of physical sciences. Another proponent, at least early on, was Joseph Schumpeter. As a student at the University of Vienna and later a distinguished economist at Harvard University, Schumpeter argued that by using mathematics and the physical sciences as a model, economics could claim objectivity. He later reconsidered the value of this approach, but not before the line of thought he initiated helped lay the foundation for so many present-day problems.

Those problems resulted despite—or more precisely because of—the widespread conviction that the economy could be carefully planned and that mathematics could be used as a reliable guide to government and private-sector policy. The Federal Reserve thought that it could use sophisticated mathematical models to influence the economy through monetary policy. The private sector thought that it could minimize or even eliminate risk doing the same thing. Following the positivist approach, most schools and universities became highly mathematical in their presentation of economics and finance.

This is the path that led to the loss of jobs, homes, and trillions of dollars. Even by its own measure—that of exact prediction—the attempt to force economics into the realm of the physical sciences has been an abject failure. The economic meltdown that began in 2007—which the “rigorous” and “predictive” methodologies of modern economics rigorously failed to predict—clearly reveals the problems associated with going down that path. Again, however, the problems lie not with economics properly understood, but rather with the path down which modern economics has traveled.

There was a second path that modern economics could have taken. It is the path that economics should have taken earlier, and the one we need to take now if we hope to avoid another economic disaster in the future.

The Second Path

The second path represents a road back—back to the traditional position of economics among the sciences of human action. Striving to match the methodologies of the physical sciences has only pulled economics away from its core competencies and led to economic catastrophe.

Aristotle pointed out the fatal flaw in trying to force economics into the realm of the speculative sciences. Although in mathematical sciences we can operate with a great deal of precision, in matters of human action, he wrote, “we must be satisfied to indicate the truth with a rough and general sketch: when the subject and the basis of a discussion consist of matters that hold good only as a general rule, but not always, the conclusions reached must be of the same order.”

Economics is, as Aristotle knew, most certainly a science of human action. In fact, the term economics comes to us from the ancient Greek oikonomia, which refers to the management of a household, that core element of human life. From the management of the family and the home, economics expanded outward.

For nearly 150 years the Austrian School of economics has argued for taking the sec-
ond path. Austrian economists have repeatedly denounced efforts to emulate the methods and ambitions of the hard sciences, calling attention to the dangers of ignoring crucial social contexts. Decades before F. A. Hayek wrote of the “tyranny” of the physical sciences, Austrian pioneer Friedrich von Wieser observed: “None of the great truths of economic theory, none of their important moral and political applications, has been justified by mathematical means. . . . If we succeed in presenting convincingly the meaning of the economy and, concurrently, the significance of the method of economic computation, we shall have accomplished far more toward understanding quantitative economic relations than the most far-reaching employment of the mathematical method could ever achieve.”

In the mid-twentieth century, Wilhelm Röpke deplored macroeconomics for treating the economic process “as an objective and mechanical movement of aggregate quantities, a movement being quantitatively determined and eventually predicted by appropriate mathematical and statistical methods.” Röpke also condemned “the mechanistic and centrist approach in economic forecasting,” declaring that its failures “are so numerous and blatant that it is astonishing that the underlying theory seems to digest these failures without losing prestige. It is even more astonishing that the protagonists of this approach are so utterly unrepentant.”

Several years later, Ludwig von Mises, among the most influential Austrian economists, said that “hosts of authors” were “deluded by the idea that the sciences of human action must ape the technique of the natural sciences.” Trying to “imitate chemistry,” these thinkers “fail to realize that in the field of human action statistics is always history and that the alleged ‘correlations’ and ‘functions’ do not describe anything else than what happened at a definite instant of time in a definite geographical area as the outcome of the actions of a definite number of people. As a method of economic analysis econometrics is a childish play with figures that does not contribute anything to the elucidation of the problems of economic reality.”

The idea that there is a major difference between human beings and the physical world was fundamental to Mises’s approach. He used the term methodological dualism to refer to the distinction between the realm of the material, which can be studied by the methods of the physical sciences, and the “realm of human thought and action.”

Drawing on Aristotle’s concept of a final cause—that is, the ultimate purpose for which something is done—Mises wrote: “What distinguishes the field of human action from the field of external events as investigated by the natural sciences is the category of finality. We do not know of any final causes operating in what we call nature. But we know that man aims at definite goals chosen. In the natural sciences we search after constant relations among various events. In dealing with human action we search after the ends the actor wants or wanted to attain and after the result that his action brought about or will bring about.”

The Austrian School has proven remarkably consistent on the question of the place of economics among the sciences. To the Austrians, economics is an objective but practical science, necessarily different from the physical sciences. The Austrian School also has been proven right in its warnings about attempts to force economics into the structures of the physical sciences. The economic chaos that began in 2007 demonstrated the prescience of the Austrian critique of the financial and economics establishment. Suddenly the models and formulas that had seemed like magic were revealed to be the source of so much disarray in the financial sector and the broader economy.
But we shouldn’t have had to wait until disaster struck to see the flaws in the modern approach to economics and finance. Plenty of failures occurred earlier that should have at least slowed the rush down the path toward strictly mathematical economics. To take just one example, the spectacular collapse of Long-Term Capital Management in 1998 revealed that not even the most sophisticated statistical models can eliminate risk, regardless of what celebrated financial minds would like to think. Long-Term Capital Management was a hedge-fund management firm boasting some of the best mathematicians, economists (including two Nobel Prize winners), and bond traders on Wall Street. This dream team of professors and practitioners developed complex mathematical models to guide the firm’s investing. The rule of thumb in finance and economics is that risk and return are twins: the more the risk, the greater the return. But the minds at Long-Term Capital Management tried to eliminate the risks of investing while generating extremely high returns.

For a while, the game worked. For four years in the mid-1990s, Long-Term Capital Management generated annual returns of more than 40 percent. But then, in quick succession, financial crisis struck the Far East and the Russian government defaulted on its debt. Long-Term Capital Management’s intricate equations and computerized models could not keep pace with the unexpected changes. Everything fell apart.

Although Long-Term was just one of many firms, its collapse threatened to bring down the entire global financial sector. It had borrowed billions of dollars in assets from the major investment banks. Moreover, as financial journalist Roger Lowenstein notes in his account of Long-Term’s rise and fall, “the firm had entered into thousands of derivative contracts, which had endlessly intertwined it with every bank on Wall Street.” At one point Long-Term’s exposure totaled more than $1 trillion. Fearing that the firm would bring down the entire global economy, the Federal Reserve finally had to step in to bail out Long-Term Capital Management. Virtually all the top Wall Street banks contributed to the multibillion-dollar bailout.

The fall of Long-Term Capital Management should have been a warning to the entire financial community about the dangers of embracing strictly mathematical economics. But the lessons were quickly forgotten. A decade later many of the same factors behind Long-Term’s collapse—the belief that mathematical models could eliminate risk, the spread of risky derivative contracts throughout the financial system, overleveraged banks—led to a far more extensive and damaging collapse.

Aristotle, as we have seen, laid out the traditional understanding of the sciences. Like Aristotle, the great eighteenth-century British statesman Edmund Burke understood politics, ethics, and economics to be sciences
of human action. Burke expert Peter Stanlis summarizes: “According to Burke the chief strength of mathematics and of logical disquisitions consisted in considering one thing at a time, but the best judgments and results in moral and political problems came from having in one view the greatest number and variety of circumstances.”

Countless Austrian economists have sounded the same refrain: economics is a human discipline that cannot be reduced to mathematical formulas or scientific theories. In the early nineteenth century Jean-Baptiste Say observed: “The values with which political economy is concerned, admitting of the application to them of the terms plus and minus, are within the range of mathematical inquiry; but being at the same time subject to the influence of the faculties, the wants and the desires of mankind, they are not susceptible of any rigorous appreciation, and cannot, therefore, furnish any data for absolute calculations.”

In the early twentieth century Alfred Marshall offered another economist this advice: “(1) Use mathematics as a short-hand language, rather than as an engine of inquiry. (2) Keep to them till you have done. (3) Translate into English. (4) Then illustrate by examples that are important in real life. (5) Burn the mathematics.”

After initially calling for economics to use the physical sciences as a model, Joseph Schumpeter concluded, in the words of biographer Thomas McCraw, “that exact economics can no more be achieved than exact history, because no human story with the foreordained plot can be anything but fiction. . . . The best mathematics in the world cannot produce a satisfactory economic proof wholly comparable to those in physics or pure mathematics. There are too many variables, because indeterminate human behavior is always involved.”

Keynesian “fine-tuning” of the economy in the mid-twentieth century became the most obvious example of the conviction that economics could be a hard science. As Jane Jacobs wrote, Keynesian economists “concentrated on creating a science of fiscal intervention—a real science, like chemistry and physics, in which one can count on precise, quantifiable interventions yielding predictable, quantifiable results.” Consequently, the movement to treat economics as a physical science has often been attributed to John Maynard Keynes. But Keynes himself expressed doubts that the methods of the physical sciences could capture “the complexity, and reflexive nature, of social life.” Keynes biographer Robert Skidelsky notes that “Keynes’s skepticism about the use of mathematics in economics grew rather than diminished with age.” The great economist conveyed this skepticism as early as the 1920s, writing that mathematical economics breaks down because “we are faced at every turn with problems of Organic Unity, of Discreteness, of Discontinuity—the whole is not equal to the sum of the parts, comparisons of quantity fail us, small changes produce large effects, the assumptions of a uniform and homogeneous continuum are not satisfied.”

While Keynes’s most influential followers did not follow this advice, the Austrian School of economics has always recognized that discreteness and that heterogeneity. Indeed, the very foundation of the Austrian theoretical approach is the concept that economics is a precise analysis of individual human action. The Austrians’ contributions—and warnings about the mainstream approach—have been underappreciated for too long. Perhaps this most recent economic catastrophe will cause the establishment to recognize the Austrians’ contributions and heed their warnings at last.
Harry C. Veryser • Recovering Economics

Notes
3 “The Other-worldly Philosophers.”
7 Ibid.
15 In the introduction to Xenophon’s work Oeconomicus, translated as The Estate Manager, Robin Waterfield writes: “The Latinized Greek title of the Estate Manager is Oeconomicus. The Greek oikonomikos means ‘one skilled at managing an oikos,’ where oikos means first a ‘house,’ and then by extension all the people and things which occupy a house—a ‘household’—and then by a little further extension all one’s property—an ‘estate.’” Xenophon, Conversations of Socrates, trans. Hugh Tredennick and Robin Waterfield (New York: Penguin Classics, 1990), 271.
22 Ibid., xix.