

THE ECONOMIC EPISTEMOLOGY OF LUDWIG VON MISES

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PROFESSIONAL economists make policy recommendations that are diametrically opposed. We produce conflicting economic forecasts. Someone, at least, must be wrong. We prescribe fiscal and monetary treatments that are designed to promote simultaneously full employment, price stability, balance-of-payments equilibrium, and sustainable economic growth. Yet the economy continues to suffer from inflation or recession (or both, a condition we call stagflation). That the policymakers and the public have begun to question our credibility is not surprising. The renewed interest in epistemology and methodology is an encouraging development, because it suggests that economists are beginning to question the ultimate foundation of their science.

One economist who wrote extensively about the epistemological problems and the ultimate foundation of the discipline of economics was Ludwig von Mises. We believe that now is the appropriate time to look beyond the unpopular political views of von Mises to his considerable contribution to the field of economic analysis.

THE EPISTEMOLOGY OF VON MISES

The study of human action comprises, according to von Mises, history and praxeology. History deals with the facts of human activity, hence is a diverse and changing record. Praxeology is the theoretical approach to human action and, as such, treats only the formal relationships between incentives and individual actions. Economic analysis (or catalactics) derives from this more general theory of human action. The economic epistemology of von Mises, then,

begins with an inquiry into the nature and origin of man's knowledge about individual human actions.

What, if anything, do we know about individual actions that is true for the actions of all individuals at all times? How do we know what we know? How did we acquire this knowledge? What is the nature of this knowledge? History records the actions of men under specific circumstances, but different men act differently at different times. Von Mises concludes that empirical data tell us nothing about the underlying consistency, if it exists, in human action. Introspection, according to von Mises, is the only valid source of knowledge of universal truths concerning human action. This knowledge precedes experience, hence is a priori.

Any theory of human action, hence any economic theory, must derive from fundamental self-evident truths that are known to every human being. These universal truths, because they hold for all individuals in every conceivable society and at every possible time, are absolute; therefore, the theorems or economic laws derived therefrom are also true absolutely. Empirical observations that seem to contradict such general theory are evidence, not of the theory's defects, but of the violation of one or more of the conditions of the theory.¹ (For example, the assumption of an inverse relationship between the price of a normal good and the quantity demanded is not invalidated by the existence of inferior goods.)

Economic predictions are unreliable, not because economic laws sometimes do not work, but because the forecaster cannot know all of the conditions under which human choices are made and because the goals toward which individuals strive vary from person to person or from time to time for the same person. Economists can, in fact, often predict correctly the directions of changes of some economic variables (qualitative predictions), but they can never predict the magnitudes of these changes (quantitative predictions). This limitation, von Mises argued, is primarily due to the lack of constant coefficients for the generally assumed economic relationships. Only by what he called "understanding," von Mises claimed, can we hope even to approximate a reliable

forecast of future economic conditions. This process of understanding involves an effort to anticipate the choices of other individuals by introspection and through the common ground of our humanity.²

But the discipline — much less an economic forecast — is not perfect.³ Human knowledge is imperfect. Economists, like those in other professions, suffer from the limitations of humanity.

The general theory of human action presented in von Mises's book by that name is derived entirely from one universal axiom: "the axiom of action," as Murray Rothbard called it.⁴ This axiom states that men act purposefully. That von Mises considered this fundamental premise to be an a priori truth is less important than the fact that he viewed it as a self-evident universal proposition.⁵ Furthermore, he held that the axiom of action is substantive — that meaningful economic theorems could be deduced from it and that analysis of empirical data could be done. (The criteria for developing what Martin Bronfenbrenner has termed an "applicability theorem" will be discussed later.)

Every science has its ultimate "givens." To confirm this fact one has only to ask a physicist to explain electricity. The outcomes of electrical experiments are predictable, but the ultimate explanation is unknown. The ultimate "givens" of economics, according to von Mises, are the actions of human beings.⁶ But the simple observing and recording of actions is the task of history — not of praxeology.⁷ Similarly, the explanation of the value judgments of individuals is the province of psychology.⁸ Economic analysis deals with the essence of human action itself. The goal of economic analysis is to understand and to explain the ultimate data: human actions. Von Mises wrote, "For the comprehension of action there is but one scheme of interpretation and analysis available, namely, that provided by the cognition and analysis of our own purposeful behavior."⁹ We know how our own thought processes work, and we can assume that other human beings think in the same way. According to von Mises, "There is only one logic that is intelligible to the human mind, and . . . there is only one mode of action which is human and comprehensible to the human mind."¹⁰

The "mode of action" mentioned involves the identification of appropriate means to achieve desired ends. In the words of von Mises, "There are only two principles available for a mental grasp of reality, namely, those of teleology and causality."¹¹ In fact, "acting requires and presupposes the category of causality," and "teleology can be called a variety of causal inquiry."¹² It is clear that von Mises considered an individual action to be both a reflection of the value judgments of the actor and an indicator of the individual's perceptions of the relevant cause-effect relationships. We are in a position to understand human actions because we are human.

The fact that man does not have the creative power to imagine categories at variance with the fundamental logical relations and with the principles of causality and teleology enjoins upon us what may be called *methodological apriorism*.¹³

According to von Mises, three conditions are prerequisite to human action. First, the individual must be in some sense dissatisfied with the existing state of things. Second, the potential actor must have some conception of a more satisfactory state of affairs. Finally, he must believe that some purposeful behavior can improve things. Without these conditions, no action would be taken.¹⁴

Concerning the action axiom, von Mises wrote,

The starting point of praxeology is a self-evident truth, the cognition of action, that is, the cognition of the fact that there is such a thing as consciously aiming at ends.¹⁵

Every action, according to von Mises's system, involves a conscious effort to achieve some objective. The means selected by the actor must be regarded as those considered by the actor to be appropriate for the purpose. It follows that human beings must universally recognize the category of causality.¹⁶ This fact has led to some confusion among economists who have adopted the scientific methods of the physical sciences in an attempt to isolate the cause-effect relationships underlying human actions. "The natural sciences are causality research; the sciences of human action are teleological."¹⁷

Individuals act in order to exchange the status quo for conditions that seem to them to be more desirable. The choices of ends are a reflection of subjective valuation; the choices of means are an indication of the individual's understanding of the cause-effect relationships. These choices depend upon the ideas of the individuals involved.¹⁸ Every action is rational in the sense that the actor utilizes the means that he believes will achieve the ends at which he is aiming.¹⁹ It was this teleological aspect of human action that von Mises regarded as the appropriate subject for economic analysis and the basis for the distinct methodology of economics.²⁰

THE METHODOLOGY OF VON MISES

If all knowledge of human action is a priori and if the universal axioms on which our economic theory rests are absolutely true, then the methodology appropriate for economic analysis is deductive logic. Only by the axiomatic method can an economist build a theoretical structure that is absolutely true for all of the actions of all persons in all societies at all times. So argued von Mises.

Any valid economic analysis must begin either with a universal, self-evident truth or with a consistent set of theorems derived from self-evident truths. Economic reasoning must be discursive in the sense that the analyst proceeds logically, step by step, from the initial assumptions to the final conclusions. Conclusions so derived can be questioned only if the reasoning can be shown to be faulty or if the assumptions can be questioned. The theory derived by the axiomatic method may or may not be applicable to a specific set of historical data. If some of the actual conditions are significantly different from those assumed, then the theory is not applicable; but it is nonetheless true.

According to von Mises, "The first task of every scientific inquiry is the exhaustive description and definition of all conditions and assumptions under which its various statements claim validity."²¹ He believed that economists should not specialize but that they should approach all problems from the perspective of the complete system. (Comparative

advantage is perhaps inoperative within the discipline.)

Some of the assumptions made by von Mises are application oriented and culture specific. These assumptions are combined with the universal a priori propositions for the purpose of analysis of a particular economy. For example, von Mises's economic system includes the proposition that human beings would prefer leisure to work. Leisure is considered "an end of purposeful activity, or an economic good of the first order."²² This does not mean that a society in which labor is preferred to leisure is inconceivable. It only means that von Mises believed that the overwhelming majority of individuals on earth would prefer leisure to labor. This assumption must have been based upon observation.

Another major premise in his system holds that all men are mortal, a proposition with substantive content.²³ Economists could develop a rational system dealing with a world populated by immortal persons, but the system would not, in von Mises's view, be of any practical value.²⁴ The point in citing such experience-based propositions is to show, first, that von Mises considered applied economic analysis to be quite legitimate and, second, to illustrate what constituted, for him, a self-evident empirical truth.

An example of the economic theory that can be deduced from the basic principles of human action is the whole structure of monetary theory. An individual living in isolation would have no need of money or credit. Self-sufficient family units would have no such need. But in a system based upon specialization and trading, a medium of exchange is necessary to facilitate exchanges between parties who would trade goods only if the acquired goods could be exchanged for other goods. The theory of money and credit follows, therefore, from the existence of specialization and trade.

In *The Theory of Money and Credit*, originally published in 1911, von Mises used the axiomatic method consistently. He began by defining the concepts of direct and indirect exchange and specifying the conditions under which a medium of exchange (money) would be required. He explained how the common media of exchange came into being due to their marketability. In challenging the

economists who considered the use of money as a medium of exchange to be only one of its many functions, von Mises showed that the other functions (store of value, standard for deferred payment, etc.) could all be deduced from the medium of exchange function.²⁵ His theory of money and credit was propounded as a completely general theory, i.e., always correct, though not necessarily applicable to every society.

One area in which the views of von Mises are likely to be misunderstood is the application of mathematics to economic analysis. His vehemence when writing about the subject is, in part, responsible for the misunderstanding.

The mathematical method must be rejected not only on account of its barrenness. It is an entirely vicious method, starting from false assumptions and leading to fallacious inferences.²⁶

One who reads no further would probably conclude that mathematical methods would necessarily lead to conclusions conflicting with those of von Mises. In the section following the preceding quotation, however, the meaning of the term "mathematical economics" is explained. For von Mises it meant either (1) a scheme for quantifying economics through statistics and measurement, or (2) an attempt to explain prices and costs by means of algebraic equations and functional relationships but *without* reference to the market process and the use of money, or (3) a treatment of economics as if it were mechanics. Of course, not everyone would agree with von Mises's rejection of these approaches to the study of economics, but at least his viewpoint on the matter seems more reasonable, given the explanation.²⁷

Most of the debates among those professionals who specialize in econometrics may be traced to the fact that they are applying to empirical data statistical tests developed for the laboratory sciences. If two econometricians perform statistical manipulations on the same set of data and draw conflicting conclusions (a not uncommon development), how should a professional economist decide who is correct (if either is)? Von Mises argued that the approach itself is illegitimate because the "experiment" is unique; it cannot be repeated. If either researcher were right it would be in spite of the method.

The second part of the definition of the term "mathematical economist" is not so clear as the first, but it can be interpreted in the light of von Mises's overall methodological approach. For example, if one specifies a functional relationship between real consumer expenditures and real income such that the average exceeds the marginal propensity to consume for all levels of real income, one can build a simple equilibrium model that supports a policy aimed at increasing the share of net national product accounted for by the government's budget. Von Mises's objection to such methods was that they obscure the essence of the market process and ignore the function of money in an exchange economy.

The third part of the definition deals with the mathematical economists who treat economics as if it were classical mechanics. They build simultaneous equations models of economic phenomena, basing their theoretical constructs on statistical (historical) series, then estimate the coefficients of the "behavioral" equations using the same empirical data. From such econometric models are generated the quarterly and yearly forecasts so familiar to everyone. The fact that these forecasting models do not predict very well is usually explained by reference to exogenous impingements, stochastic variations, policy intervention, and politics. Von Mises would have argued that quantitative forecasts are impossible because individuals change their preferences over time, because not all individuals are alike, in short, because the economy is not a machine.

Now, what about mathematical symbols, symbolic logic, and mathematics as an efficient, scientific language for expressing relationships and maintaining consistency? Would von Mises have objected? The answer is a qualified no. He admitted that correct assumptions expressed symbolically could imply only correct conclusions. But he believed that the process is, in fact, usually reversed: that mathematical economists first develop their economic theories by the axiomatic method, then translate them into a form that appears "more scientific" in order to "impress the guillible layman."²⁸

CRITICISM

The epistemology and methodology of von Mises have been briefly summarized. What about his economic analysis? Was it consistent with his stated views on epistemology and methodology? These questions are suggested by a comment of Fritz Machlup's.

It would be an interesting undertaking to show how little the methodological propositions stated by a writer are related to his own research and analysis. Many do the things they pronounce impossible or illegitimate, and many fail to do what they declare to be essential requirements of scientific method.²⁹

We find only one apparent inconsistency in von Mises's complete system. It has to do with the application of economic theory to specific empirical data. While carefully adhering to his own axiomatic methodology in most of his work, von Mises occasionally bridges the gap between theory and empirical data without a clear explanation of the process. For example, he wrote:

This [Western] civilization was able to spring into existence because the peoples were dominated by ideas which were the application of the teachings of economics to the problems of economic policy. It will and must perish if the nations continue to pursue the course which they entered upon under the spell of doctrines rejecting economic thinking.³⁰

This conclusion — true or false — attributes the material abundance and political freedom of the peoples of Western Europe and North America to the adoption of a nineteenth-century classical liberal philosophy. If the conclusion can be deduced from self-evident axioms, then there can be no disagreement among rational scholars. But, of course, many scholars do disagree, and von Mises failed clearly to demonstrate that this affluent segment of the world's population owes its material wealth to the implementation of *laissez faire* economic policies.

The second sentence of the quotation constitutes an economic forecast: our highly developed, wealthy, Western civilization will inevitably perish unless its leaders and its

peoples again espouse the nineteenth-century liberal economic philosophy. The prediction, like many of those of Nostradamus or Jean Dixon, is too vague and abstract to be tested. Those who agree with von Mises can point to the economic problems of the United Kingdom or New York City as confirmations of the prediction. Those who disagree can observe that the average American — even in the midst of an economic recession — is far wealthier in terms of material goods and services now than at the time von Mises wrote *Human Action*. The economic forecast, in fact, was not operational and not testable. And it seems to violate the Misesian dictum that the future cannot be known with certainty.

The important issue here is both epistemological and methodological. How did von Mises know that the implied cause-effect relationship existed? By what method did he establish the specific connection?

Our criticism is not that the conclusion is incorrect or that the theory does not apply in the specific instance but that the criteria for applicability are not specified. We need an “applicability theorem” by which to transform the pure economic model into a relevant theory for analysis of empirical data.³¹ As von Mises wrote, “The main question that economics is bound to answer is what the relation of its statements is to the reality of human action whose mental grasp is the objective of economic studies.”³²

A scientific analysis should be replicable by any other competent analyst. The results should always be identical. This sort of scientific evaluation of von Mises’s work would be possible only if we were clearly instructed in his criteria for the application of the theory to empirical data.

Von Mises’s certainty concerning the underlying causes of the greatness of Western civilization is puzzling in view of his pointing to

the vexatious impasse created when supporters of conflicting doctrines point to the same historical data as evidence of their correctness. The statement that statistics can prove anything is a popular recognition of this truth. No political economic program, no matter

how absurd, can, in the eyes of its supporters, be contradicted by experience. Whoever is convinced a priori of the correctness of his doctrine can always point out that some condition essential for success according to his theory has not been met.³³

Although von Mises was not attempting to establish the nexus between nineteenth-century liberalism and material prosperity by appealing to empirical data, he was doing the reverse. His conclusions that the civilization "was able" to develop because of liberal ideas and policies is equivalent to specifying liberalism as a sufficient condition for the production of material wealth and individual liberty. His prediction of the fall of western civilization "if the nations continue to pursue the course which they entered upon" implies that a laissez faire doctrine is a necessary condition for the survival of that civilization.

Another more fundamental type of criticism questions the validity of von Mises's epistemology and the usefulness of his methodology. Does praxeology constitute a valid epistemology and a useful methodology? The answer to this query must be affirmative. Professor von Mises dealt with matters that are both relevant and important. Teleology and causality, objectives and methods, and ends and means are certainly among the basic concepts in any economic epistemology and methodology. Moreover, the use of deductive logic to proceed from his action axiom through propositions to conclusions and implications appears to be an entirely valid approach to formulating economic theory.

But is praxeology the only legitimate approach to economic epistemology and methodology? Our answer is that von Mises has found an important part of the truth but something less than the whole truth in at least two respects. First, von Mises erred in rejecting the logical validity of inductive reasoning. Second, he was mistaken to the extent that he denied the need for and practical usefulness of verification procedures in economic analysis.

That von Mises excluded induction as a legitimate tool of economic analysis is evident in the following passages.

The science of human action that strives for universally valid knowledge is the theoretical system

whose hitherto best elaborated branch is economics. In all of its branches this science is a priori, not empirical. Like logic and mathematics, it is not derived from experience; it is prior to experience. It is, as it were, the logic of action and deed.

We can comprehend action only by means of a priori theorems. Nothing is more clearly an inversion of the truth than the thesis of empiricism that theoretical propositions are arrived at through induction on the basis of a presuppositionless observation of "facts." It is only with the aid of a theory that we can determine what the facts are.³⁴

Subsequently, Sir Karl Popper reinforced the already substantial authority of von Mises and extended his ban to exclude inductive logic from the empirical sciences.

According to a widely accepted view — to be opposed in this book — the empirical sciences can be characterized by the fact that they use "inductive methods", as they are called.

It is usual to call an inference "inductive" if it passes from singular statements (sometimes also called "particular" statements) such as accounts of the results of observations or experiments, to universal statements, such as hypotheses or theories.

Now it is far from obvious, from a logical point of view, that we are justified in inferring universal statements from singular ones, no matter how numerous; for any conclusion drawn in this way may always turn out to be false: no matter how many instances of white swans we may have observed, this does not justify the conclusion that all swans are white.³⁵

Popper failed to note that exactly the same objections can be raised to the conclusions or implications from deductive logic: no matter how many times they are corroborated empirically, the next test may contradict them. Future evidence yielded by some subsequent test may always contradict any general statement regardless of whether the statement was derived inductively or deduced from supposedly self-evident propositions.

The major reason, however, why Popper rejected inductive logic was his conviction that the principle of induction cannot be established through the use of inductive logic. He contended that if inductive logic were valid, then it could be used to establish the logical principle upon which it is based.³⁶ It is in terms of this issue that Popper presents the demarcation problem, which he has defined as the question of the suitable criterion for distinguishing the empirical sciences from metaphysical speculation. He believed that the "Vienna Circle" positivists had incorrectly accepted the use of inductive logic as the identifying criterion of empirical science. The correct demarcation criterion, according to Popper, is that all scientific hypotheses are capable of being falsified by empirical tests. He therefore appealed to the international scientific community for the acceptance of a conventional agreement that the correct demarcation criterion of the "falsifiability of hypotheses" should be used to distinguish between science and metaphysics.³⁷

The point that should be emphasized is that Popper accepted a conventional solution of the demarcation problem. If the problem can be legitimately solved through the use of a convention, then it is equally legitimate to seek a conventional solution for the problem of induction. If it is right and proper for Popper to rely on a convention to solve the demarcation problem, it must be equally right and proper to use a convention to establish the principle of induction. All epistemologies and methodologies require the acceptance of certain conventions or agreements concerning basic methodological principles and procedures.³⁸ That the principle of induction cannot be established by inductive logic is no reason for its rejection. There are other ways to establish this principle, including a simple convention or agreement among philosophers and scientists to use inductive logic.

Martin Bronfenbrenner has made a "plea for methodological tolerance."³⁹ Because the case against inductive logic appears to remain unproved, his tolerance seems to have a great deal more merit than methodological dogmatism. The truth is a many-faceted complexity. In order,

therefore, to achieve maximum understanding of truth, there is a legitimate, even urgent, need to use both deductive and inductive approaches and to seek both rationalistic and empirical insights into the truth.

In our judgment, Ludwig von Mises's other major methodological error is that he seems to have rejected all positive verification procedures. He explained his position in the following.

New experience can force us to discard or modify inferences we have drawn from previous experience, but no kind of experience can ever force us to discard or modify a priori theorems. They are not derived from experience; they are logically prior to it and cannot be either proved by corroborative experience or disproved by experience to the contrary.⁴⁰

Murray Rothbard has summarized the basic principles of von Mises's praxeological method very well:

(a) that the fundamental axioms and premises of economics are absolutely true; (b) that the theorems and conclusions deduced by the laws of logic from these postulates are therefore absolutely true; (c) that there is consequently no *need* for empirical "testing," either of the premises or the conclusions; and (d) that the deduced theorems *could not* be tested even if it were desirable.⁴¹

We agree, of course, that purely formal logical relationships are not proper subjects for empirical research. If A is greater than B and B is greater than C, then A is greater than C in the same sense. The problem with von Mises's system, it seems to us, is that his legitimate distrust of empirical verification of formal economic models led to an illegitimate rejection of all empirical work.

In order to analyze the verification problem, it is helpful to distinguish (as Bronfenbrenner has done) between "models" and "theories."⁴² A model is a closed system of logic proceeding from assumptions to conclusions, but a model is not necessarily related to reality. A valid model can be absolutely true; no empirical verification is required to establish its absolute truth. But, according to Bronfenbrenner, a model is not a theory unless one or more

“applicability theorems” are appended to it. An applicability theorem is a hypothesis that suggests some relationship between the model and reality. Applicability theorems, in our judgment, must be verified before they can be accepted as reliable descriptions of these relationships between models and reality. Reliability of applicability theorems cannot be assumed unless it has been demonstrated; there is no other way to demonstrate reliability than through some verification procedure.

It may be that some of the praxeologists’ criticisms of verification procedures result from a misunderstanding of the nature and purpose of scientific verification. It is sometimes supposed that the purpose of verification is to prove or to disprove a hypothesis, but this supposition demands that verification procedures perform an impossible task. Both Popper and Milton Friedman agree that no amount of empirical testing can ever prove a hypothesis conclusively.⁴³ Professor Emile Grunberg has persuasively suggested that empirical testing is equally impotent to *disprove* hypotheses. False prediction, according to Grunberg, does not disprove a hypothesis because the reasons for predictive failure can never be specified. The failure to predict might have resulted from the inaccuracy of the implied *ceteris paribus* assumption, rather than from the inaccuracy of the substantive hypothesis, in which case the hypothesis would not have been disproven.⁴⁴

Indeed, it is probably impossible either to prove or to disprove a hypothesis by any conceivable verification procedure. The purpose of verification procedures is always more limited than the proof or disproof of hypotheses in any final or absolute sense; the purpose is always limited to the corroboration or contradiction of a hypothesis through a test of its empirical relevance. To contend, therefore, that verification procedures cannot and do not prove or disprove hypotheses is not a valid criticism of these procedures; it is merely a recognition of their limited, but legitimate and proper, purpose.

It may also be that praxeologists are directing their criticisms more at faulty verification procedures than at good ones. Many statistical tests presuppose assumptions that are

so very restrictive that they become unreliable verification procedures for most applicability theorems. For example, parametric statistical methods are frequently applied to cases in which the implied assumptions concerning the parameters are entirely false. These criticisms are well founded. Unreliable procedures should not be used to test the reliability of applicability theorems. Such criticisms do not, however, constitute valid attacks on sound verification procedures; they only constitute an argument for the improvement of statistical techniques and verification tests. All of us can agree with such arguments for improvement.

Our call for methodological tolerance applies to praxeologists, pragmatists, and positivists alike. Each approach can be useful in the broad field of "political economy." And the impersonality, objectivity, and scholarly persistence so characteristic of Professor von Mises are qualities that would enhance the contribution of every researcher.

CONCLUSION

Economic epistemology and methodology, in our opinion, should be conceived as a flow of activity from pure theoretical models, through applicability theorems, verification procedures, policy formulation, and the solution of economic problems, to the achievement of economic objectives and goals. The function of praxeology is to provide pure deductive models as inputs into this process. Empirical research should provide equivalent inputs in the form of inductive models. The function of positive economics is to process these inputs through the formulation and verification of applicability theorems. Pragmatic and institutional economics performs a dual function. In addition to providing inductive inputs, the function of pragmatism and institutionalism is to formulate and to implement economic policy, to solve economic problems, and to facilitate the achievement of economic objectives and goals.

Fortunately, economists practice what they preach with respect to specialization and the division of labor. It is therefore unnecessary for any one economist to perform all of the activities that are included in the process. "Extreme

apriorists'' (to use a term coined by Murray Rothbard) formulate pure deductive models; empiricists formulate inductive models. Positive economists hypothesize and verify applicability theorems. Most of these economists are academicians who work in the universities. Other economists, mostly in government and business, develop and implement economic policy, attempt to solve economic problems, and seek to achieve economic goals and objectives.

The relationship between deductive and inductive logic is symbiotic. Insights drawn from inductive logic can suggest assumptions that become inputs into deductive models. In a similar manner, the conclusions and implications of deductive logical models can suggest categories, classification systems, and procedures for the collection and processing of empirical observations that become inputs into inductive models. But it is in positive economics that deductive hypotheses and empirical verification are brought together and integrated into the process of economic analysis.

The theoretical economists in the universities usually start with the formulation of economic theories and then proceed through verification into policy implications. The pragmatic economists in government and business usually start at the other end of the process, with economic goals and objectives, and then work backward through economic problems into policy formulation and implementation. Here, also, the positive economist serves a mediating role between the pure theorists and the pragmatic policymakers. The pragmatic economist tends to be eclectic: eager to use any theoretical or analytical technique that he believes to be useful, without a firm commitment to any theory or school of economic thought.

Our conclusion holds that, to paraphrase a bit of folk wisdom, "it takes all kinds of economists" to do all of the things that economists need to do. These economists range from extreme apriorists to ultraempiricists and from pure theorists to pragmatic policymakers. Within this milieu of the theory and practice of economics, there is certainly a place for Ludwig von Mises and other praxeologists. In this place, their epistemology is valid and their methodology

very useful. But there are also places for other economic approaches and techniques. In its place, each of these other approaches and techniques may be just as valid and useful as praxeology is in its place. Professor von Mises and some of his disciples have made very significant contributions to the economic science — so have many economists with very different epistemologies and methodologies. All of these contributions to the development of the economic science should be recognized and used wherever they are appropriate.

Epistemological and methodological pluralism is perhaps the major strength of professional economists. Anyone who reads a newspaper or watches the news on television must be aware that contemporary civilization is facing an economic crisis of very serious magnitude. If professional economists are to make an important contribution to alleviating this crisis, the maximum contribution from all economists with their varied skills and diverse approaches will be required. Let us hope that each of us can make his own contribution in his own way to the solution of these economic problems and to the alleviation of this crisis.

1. Ludwig von Mises, *Epistemological Problems of Economics*, trans. George Reisman (Princeton, N.J.: D. Van Nostrand Co., 1960), p. 14.

2. Ludwig von Mises, *Human Action*, 3d ed. (Chicago: Henry Regnery Co., 1966), p. 118.

3. *Ibid.*, p. 7.

4. Murray Rothbard, "In Defense of Extreme Apriorism," *Southern Economic Journal* 23 (January 1957): 317 ff.

5. *Ibid.*, p. 318.

6. *Human Action*, p. 17.

7. *Ibid.*, p. 47.

8. *Ibid.*, pp. 11, 12, 127.

9. *Ibid.*, p. 26.

10. *Ibid.*, p. 25.

11. *Ibid.*, p. 25.

12. *Ibid.*, pp. 22, 23.

13. *Ibid.*, p. 35.

14. *Ibid.*, pp. 13, 14.

15. Ludwig von Mises, *The Ultimate Foundation of Economic Science: An Essay on Method* (Princeton, N.J.: D. Van Nostrand Co., 1962), pp. 5, 6.

16. *Epistemological Problems*, p. 47.
17. *Ultimate Foundation*, p. 7.
18. *Epistemological Problems*, p. v.
19. *Human Action*, p. 17; *Epistemological Problems*, p. 35.
20. *Epistemological Problems*, p. v.
21. *Human Action*, p. 6
22. *Ibid.*, p. 132.
23. *Ibid.*, p. 101.
24. *Epistemological Problems*, p. 24.
25. Ludwig von Mises, *The Theory of Money and Credit*, trans. H. E. Batson (Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1971), pp. 29-37.
26. *Human Action*, p. 350.
27. *Ibid.*, pp. 350-57.
28. *Ibid.*, p. 353.
29. Fritz Machlup, "Operationalism and Pure Theory in Economics," in *The Structure of Economic Science*, ed. Sherman Roy Krupp (Engelwood Cliffs, N.J.: Prentice-Hall, 1966), p. 54.
30. *Human Action*, p. 10.
31. Martin Bronfenbrenner, "A Middlebrow Introduction to Economic Methodology," in Krupp, pp. 9-10.
32. *Human Action*, p. 6.
33. *Epistemological Problems*, p. 29.
34. *Ibid.*, pp. 12-13, 27-28.
35. Karl R. Popper, *The Logic of Scientific Discovery* (New York: Harper & Row, 1965), p. 27.
36. *Ibid.*, pp. 27-30.
37. *Ibid.*, pp. 34-42.
38. *Ibid.*, pp. 53-56.
39. Bronfenbrenner, p. 20.
40. *Epistemological Problems*, p. 27.
41. Rothbard, p. 27.
42. Bronfenbrenner, pp. 9-10.
43. Popper, pp. 33, 40-42; Milton Friedman, *Essays in Positive Economics* (Chicago: University of Chicago Press, 1953), pp. 8-9.
44. Emile Grunberg, "The Meaning and Scope of the External Boundaries of Economics," in Krupp, pp. 148-65.

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