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The Myth That Mises Employed Extreme Apriorism

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Murray Rothbard is solely responsible for the myth that Austrian economics employs extreme apriorism. According to this myth, all of economics can be deduced entirely from fundamental axioms and subsidiary assumptions. He advanced this myth in an article that he purported to defend Ludwig von Mises's approach to economics entitled "In Defense of Extreme Apriorism" (1957 – DEA). Although doing

Myth of extreme apriorism: All of economics can be deduced entirely from fundamental axioms and subsidiary assumptions.

economics requires aprioristic reasoning, it does not entail “extreme apriorism.” By claiming that it does, Rothbard made a serious error.

This essay begins in Part One by showing how Mises used aprioristic reasoning. Then, in Part Two, it shows how Rothbard’s confusion led him to misinterpret Mises and to misrepresent Mises’s economics and the methods he used to deduce its theorems. Part Three presents a brief conclusion.

1. MISES ON METHODOLOGICAL APRIORISM

Mises introduces aprioristic reasoning when he uses the term “methodological apriorism” in chapter two of his treatise *Human Action* (HA). The point at which he introduces this term is significant. In his chapter 1, he identifies the prerequisites of action (see below). In his chapter 2, he tells the reader that the mental process he had to use for this purpose is aprioristic reasoning. He entitles his chapter 2 “The Epistemological Problems of the Sciences of Human Action.” Aprioristic reasoning is required, he says, because “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...” (HA: 35).

This statement is not easy to grasp. It seems to explain why a person must use a particular mental process because he *cannot* achieve his goal by using his mental powers in a different way to accomplish the same goal. It is certainly not a positive program or plan for producing knowledge. What, then, a reader might ask, is Mises’s plan for using methodological apriorism? What task does he assign to aprioristic reasoning and how does he expect to accomplish it? His first answer in the context of his statement is broad indeed.

The significant task of aprioristic reasoning is on the one hand to bring into relief all that is implied in the categories, concepts, and premises and, on the other hand, to show what they do not imply. It is its vocation to render manifest and obvious what was hidden and unknown before (HA: 38).

This statement does not seem to help much. Moreover, it raises further questions. What does he mean by “bring into relief.” And what does he mean by “all that is implied in the categories, concepts, and premises?” To make sense of these words, a reader would have to recognize that Mises is referring, at a minimum, to the method of counterfactual imaginary constructions that he had *already used* in his chapters 1 to identify the prerequisites of action. Later, in his chapters 4, 5, and 6, he again uses this method.

To say that one can identify the prerequisites and necessary characteristics by means of aprioristic reasoning implies that these concepts already exist in the mind before an individual decides to bring them into relief by means of counterfactual imaginary constructions. The reasoning enables the individual to identify them and to give them names.

The Example of the Prerequisites of Action

To better understand what Mises has in mind consider how he identified the *prerequisites of action*, which I described in my essay “[The Methodology of Economics: Mises vs. Rothbard.](#)” These are (1) the want to achieve greater satisfaction than otherwise, (2) the imagination that perceives the prospect of attaining greater satisfaction, and (3) the specific behavior that he can

perform to cause that greater satisfaction. Mises presents these prerequisites in the following statement:

Acting man is eager to substitute a more satisfactory state of affairs for a less satisfactory. His mind imagines conditions which suit him better, and his action aims at bringing about this desired state. The incentive that impels a man to act is always some uneasiness (HA 13).

The method used by Mises to identify these prerequisites is the method of imaginary constructions, as I pointed out in my essay cited above. To use this method involves building contrasting imaginary constructions such as an image of an actor who is not aware of a means to achieve a more satisfactory state. With this method, the praxeologist helps to bring “into relief all that is implied in the [category of action]” or to “render manifest and obvious what was hidden and unknown before” (HA 38, as quoted above). The task is complete when the praxeologist proceeds to identify and articulate what I called in my other essay the “necessary characteristics” of action. These are the concepts of means and ends, time and uncertainty.

These necessary characteristics of action are implied by the prerequisites. This description of how Mises uses aprioristic reasoning is consistent with Mises next statement about aprioristic reasoning.

Aprioristic reasoning is purely conceptual and deductive. It cannot produce anything else but tautologies and analytic judgments. All its implications are logically derived from the premises and were already contained in them (HA: 38).

The praxeologist identified all of these prerequisites and necessary characteristics of action entirely by means of mental operations. The term “methodological apriorism” is simply a term used to describe this process that emphasizes the a priori nature of the operations.

These prerequisites and necessary characteristics of action are the “core” of human action. They are not even a part of the physical objects and hypothesized entities that are studied by natural scientists. Actors choose; atoms and molecules do not. Thus one can say that the prerequisites and necessary characteristics of action are part of the subject matter of praxeology but not of the subject matter of the natural sciences.

Apriorism in Economics

What about apriorism in economics? In what sense does the economist employ methodological apriorism? In his section “The Procedure of Economics,” Mises writes about what happens when the praxeologist dons the hat of an economist. He says that “the end of science is to know reality...Therefore praxeology restricts its inquiries to the study of acting under those conditions and presuppositions which are given in reality” (HA: 65). He gives the example of the disutility of labor (*ibid.*). That a person experiences the disutility of labor is not implied by the category, concept, or premises of action alone. A second example is the “theory of indirect exchange” – the theory of exchange in which money is used as a medium. That people exchange using money under capitalism is obvious (HA: 65-6). Yet this proposition is not implied by the prerequisites of action.

These examples are meant to show that the economist employs specific subsidiary assumptions when he builds economic theorems. In deriving the prerequisites and necessary characteristics of action, the pure praxeologist does not make subsidiary assumptions. In building economic theorems, the economist does. He uses them to build the imaginary constructions required to evaluate intervention arguments. I describe those constructs [here](#). To say that economics is a branch of praxeology is to say that it is a set of theorems that are deduced from a combination (1) of the

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vocabulary used to articulate the prerequisites and necessary characteristics of action (pure praxeology) and (2) of particular assumptions about the conditions of experience. Mises demonstrates this in his discussion of indirect exchange. Thus Mises writes:

The fact that praxeology, in fixing its eye on the comprehension of reality, concentrates upon the investigation of those problems which are useful for [the analysis of interaction in which people have a demand for money], does not alter the aprioristic character of its reasoning (HA: 66).

To present his initial set of economic theorems, Mises used the imaginary construction of the [pure market economy](#). This construct is marked by a particular set of conditions of experience: a division of labor, a complete set of private property rights, free enterprise, use of money, and a government that limits its operations to the facilitation of market interaction. I have called these “the conditions of capitalism.”¹

The Higher Physical Productivity of the Division of Labor

The higher physical productivity of the division of labor cannot be traced to the concept of action. Indeed, it applies to animals and plants. For example, ostriches have comparatively keen eyesight, while zebras have a comparatively keen sense of hearing and smell. By traveling together in the African grasslands and reacting to each others’ behavior, they reduce the threat from dangerous predators.

Zoologists refer to such a relationship as “commensal.” It is a product of evolution. The survivors of past encounters with predators tend to have the characteristics required to survive in the future, provided that there are no changes in the situation they face or that the change is slow. No one asserts that such higher productivity of the commensal relationship is discovered and *chosen*, as the classical economists assumed it is in market interaction.

The higher physical productivity of the division of labor in the case of plants and animals occurs only after a long period of evolution by survivors. Among humans, it can occur within a period of months and years. The historian recognizes it as an historical fact and explains it by referring to the discovery by distinctly human actors of the prospective benefits of exchange and specialization. The discovery is followed by decisions to take actions in order to partake in those benefits.

All of the economic theorems assume the higher physical productivity of the division of labor. They are deduced from this assumption and the prerequisites and necessary characteristics of action. They are “a product” of (1) this assumption and other assumptions about reality and (2) aprioristic reasoning.

If the real world was not characterized by the higher physical productivity of the division of labor, there would still be opportunities for entrepreneurs to profit, owing to the fact that the sum of the strength or prowess of more than one individual can cause goods to be produced that could otherwise not be produced.² But the great gains from specialization and the division of labor about which the classical economists marveled would be non-existent. Economic knowledge, as we have come to know it, would be far less important to the future of humankind.

¹See Part Two of my essay “[The New Science of Economics in Mises's Treatise](#).”

²Examples are lifting, pulling, and looking out for danger.

One can summarize by saying that the economist uses methodological apriorism in building his economic theorems. However, the economist must decide which theorems to build. This decision guides his choice of subsidiary assumptions and, correspondingly, the imaginary constructions that he employs in building the theorems. For example, the economist is guided to build an image of interaction under the assumption that there is a division of labor.

2. ROTHBARD ON EXTREME APRIORISM IN THE DEDUCTION OF ECONOMIC THEOREMS

Rothbard writes that his 1957 article is a defense of Mises's apriorism against attacks from modern professional economists. He seems most concerned about the positivist, or scientific, tradition in "economic methodology" (Rothbard 1957: 1). This tradition, he believes, is represented by a recent controversy in which both "disputants are eager to test economic laws empirically" (*ibid.*). He writes the following about what Mises, the praxeologist, believes:

[A] *praxeologist* believes (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 (*ibid.*: 2).

Rothbard provides few references in his article to specific passages in Mises's works.³ A reader can presume, therefore, that his aim is not to defend his interpretation of Mises to scholars of Mises's writings. It is to present his interpretation to the readers of a journal who know little or nothing about Mises. The editors of the journal seem to have taken it for granted that Rothbard was an expert on or surrogate for Mises.⁴

Regarding the quoted statement, Rothbard is surely correct to say that it is fruitless to attempt to "test" the theorems deduced by means of logic. Nevertheless, what he says is incomplete. The economist must also verify that the subsidiary assumptions conditions are consistent with the goal that he aims to accomplish. First, the economist must make an assumption that reflects his unique knowledge, inherited from the classical economists, about the higher physical productivity of the division of labor. Second, he must assure that the imaginary constructions he builds in order to construct his theorems are relevant to his goal as an economist.

³Indeed, aside from a general reference to Mises's treatise, he provides only two sets of references in a single footnote on the same subject – value freedom. Ironically, as I have argued elsewhere, even these references constitute a misinterpretation. I present Mises's view on value freedom in my essay "[Mises on Value Freedom in Economics and the Practical Significance of Democracy](#)." I have discussed other aspects of Rothbard's false claim about Mises's value freedom in my [2005 article](#) (8-10) and in my essay "[Rothbard's Flawed Critique of Mises's Value Freedom](#)."

⁴My choice of the 1957 article is based largely on its title. The substance of the article reflects reasoning that Rothbard expressed in a number of places. See, for example, Rothbard 1951: 945; and Rothbard 1960: 11-13 (pagination is from the online version in the section entitled "Axioms and Deduction").

Deducing Economics

Rothbard begins his exposition of the theorem-deducing process by introducing his readers broadly to what he regards as the theorem-building process:

[P]raxeology contains one Fundamental Axiom – the axiom of *action* – which may be called *a priori*, and a few *subsidiary postulates* which are actually empirical. Incredible as it may seem to those versed in the positivist tradition, from this tiny handful of premises the whole of economics is deduced – and deduced as absolutely true (DEA: 3, italics added).

In this quotation, he contends that the whole of economics can be deduced from the action axiom and subsidiary postulates.⁵ This is comparable to Mises’s remarks about the procedure of economics. As pointed out in the Appendix to my essay “[The Methodology of Economics: Mises vs. Rothbard](#),” Mises wrote that once the work of the pure praxeologist is finished, the economist directs his attention to various “problems” and away from other problems. He introduces assumptions into his reasoning. That reasoning can still be called *a priori*, since it begins with the prerequisites and necessary characteristics of action. However, its theorems consist of a combination of action in the abstract and assumptions that help the economist deal with particular problems.

In the quoted statement Rothbard uses the term “postulate” as opposed to Mises’s “assumption.” It is nevertheless evident that Rothbard attaches the same meaning to both.

Rothbard breaks his postulates into two classes. He continues to call the first class “postulates.” He calls the second class “limiting conditions.” Consider his following statement.

We may consider [the postulates] in decreasing order of their generality: (1) the most fundamental – variety of resources, both natural and human. From this follows directly the division of labor, the market, etc.; (2) less important, that *leisure is a consumer good*. These are actually the only postulates needed. Two other postulates simply introduce limiting subdivisions into the analysis. Thus, economics can deductively elaborate from the Fundamental Axiom and Postulates (1) and (2) (actually, only Postulate 1 is necessary) an analysis of Crusoe economics, of barter, and of a monetary economy...

When we analyze the economics of indirect exchange...we make the simple and obvious limiting condition (Postulate 3) that indirect exchanges are being made...The fourth – and by far the least fundamental [is] that firms always aim at maximization of their money profits (DEA: 3-4).

Such sketches do not provide the reader with a means of determining whether Rothbard had a clear vision of the economic theorem-deduction process. It is possible that he was merely parroting some of the remarks made in Mises’s treatise. If he had cited Mises, one could learn more about his meaning. But he did not. Due to the lack of citations, one who wants to compare Mises with Rothbard on their use of the procedure for building economic theorems can take only one approach. It

Rothbard’s Postulates and Limiting Conditions:

1. Postulate 1: There is a variety of resources.
2. Postulate 2: Leisure is a consumer good.
3. Limiting condition 1: Individuals make indirect exchanges.
4. Limiting condition 2: Firms maximize profit.

⁵He makes a similar statement in MES, referring to the “postulates” as “subsidiary axioms.” He writes that “[p]raxeology asserts the action axiom as true, and from this (together with a few empirical axioms – such as the existence of a variety of resources and individuals) are deduced, by the rules of logical inference...” (MES: 75).

is to compare the two writers on how they actually used the subsidiary assumptions and their statements on why the assumptions are needed.

Such a comparison is relatively easy to make because in HA, Mises discusses each of these “postulates.” Mises did not identify the first postulate. Nevertheless, he did assume a variety of resources in all of his images of market interaction. Moreover, he wrote a section on how actors come to comprehend these resources and their use in production. Mises directly employed the assumption that leisure is a good and explained why he used it. In addition, he wrote a chapter entitled “Indirect Exchange.” Finally, he labeled one of the subsections in his book “The Maximization of Profits.” Thus the comparison can be made by closely examining the two authors’ treatments of the assumptions and the theorem-building process. The aim of this chapter is to make such a comparison.

This part of the essay demonstrates that in his DEA defense of Mises’s theorem-building process, Rothbard showed little understanding of the relationship between the numerous subsidiary assumptions that an economist must make in order to deduce theorems for pure capitalism. He also showed little understanding of the complex chains of reasoning that are required to build a theorem depicting interaction under realistic capitalist conditions. As a result, his references to Mises’s discussions of theorem-building were misleading.

A Variety of Resources is Implied by a More Fundamental Subsidiary Assumption

Rothbard’s first subsidiary postulate is that there is a “variety of resources, both natural and human. From this follows directly the division of labor, the market, etc.,” as quoted above. Mises shows that the variety of resources is, in fact, a concept that is built, by means of [ratiocination](#), from a more fundamental action concept and a subsidiary assumption. The subsidiary assumption is about the reality of action in the world. The division of labor, the market, etc, are best regarded as vocabulary words that the economist uses to present economic theorems.

The concept of a resource in its broadest sense (i.e., the word “resource”) represents the means that an actor uses to attain her ends. In this sense, the word is superfluous. But economists use this term in a narrower sense to refer to the means used in market interaction, or factors of production. In its narrower, economic sense, resource implies (1) entrepreneurial knowledge of how the means can be used to produce material consumer goods and (2) entrepreneurial calculation of monetary cost. Any means that is exchangeable for money is a candidate. This may include a person’s self-owned labor time, which may exchange for wages.

The Assumption of Quantitative Determinateness

According to Mises, actors quantify their factors of production due to their interaction with the external world. The external world is characterized by relations among quantities of different objects. “In this world there exist quantitative relations between cause and effect...[T]he external world to which acting man must adjust his conduct is a world of quantitative determinateness” (HA:119).⁶ In other words, as actors act in the real world, they develop the mental characteristic of

⁶“Cause” in this context does not mean human cause. It means relations among material objects or hypothetical entities that affect material objects. The materials can be sensed (HA: 25). “This world” is a world in which the laws of the natural sciences apply. In such a world, human beings classify, sort and count things, including the things that they come to regard as means of causing material consumer goods to be

counting quantities. It follows that among the means of achieving ends, there are sub-classes that individuals count by the numbers. For example, the baker counts the kilograms of flour that she has in her inventory. She also counts the number of hours of labor she employs, although she recognizes that the effort, energy or results of each labor hour may differ from those of the other hours.

Sorting and Grading

To say that acting man must adjust his conduct to quantitative determinateness is to say that the actions he takes – the choices he makes – account for these quantities of things and the relations between them. Each individual must take account of what, in a broader sense, would be called the laws of the natural sciences if he wants to best attain his ends. Recognizing this, Mises says that the actor “sorts and grades” (HA: 120). The idea that actors sort and grade can be conceived as a deduced characteristic of action. It is a combination of the prerequisites and necessary characteristics of action and a subsidiary assumption about the nature of the material world.⁷ One might wish to say that acting man “learns” to sort and grade. But to characterize an actor in this way would imply that a person might be able to achieve her ends in the world without such learning. In any case, it is evident that the assumption that individuals sort and grade is logically prior to the assumption that there is a variety of resources.

One might be inclined to say that quantitative determinateness, like the causal relations of the material world, is revealed to the normal actor by the senses. However, humankind has discovered no way, except by the use of imaginary constructions, to disentangle the prerequisites and necessary characteristics of action from the sense experiences that co-develop with them.

An Optimum Combination of Factors of Production

The result of this mental activity of sorting and grading is the concept of different types of the human and non-human factors of production. Mises goes on to say that quantitative determinateness implies that the actor conceives of an *optimum* combination of factors (HA: 126-8). When an actor is deciding whether to employ a unit of a factor to help produce one type of consumer good, she pays attention to the satisfaction she could receive if she used it to produce another type. She conceives of that factor unit by thinking simultaneously of (1) the additional satisfaction it could generate in one use and (2) the opportunity cost of employing the unit in that use. She knows that if she employs too few or too many units, she will not maximize her satisfaction. In defining the “optimum” amount of a factor to use in the production of a single material good, the praxeologist, or economist, takes account of the actor’s anticipated satisfaction from other consumer goods that an additional unit of the factor could help produce.

produced.

⁷More specifically, the economist assumes that to achieve ends in the material world, individuals must produce material consumer goods. In the process of doing this, they recognize quantitative determinateness and proceed to “sort and grade.”

Law of Returns

An implication of the existence of an optimum is what Mises calls the law of returns.⁸

The law of returns asserts that for the combination of economic goods of the higher orders (factors of production) there exists an optimum. If one deviates from this optimum by increasing the input of only one of the factors, the physical output either does not increase at all or at least not in the ratio of the increased input. This law...is implied in the fact that the quantitative definiteness of the effects brought about by any economic good is a necessary condition of its being an economic good (HA: 128).⁹

Conclusion

It follows from this discussion that, for Mises, both the variety of factors and the law of returns are deduced from (1) the prerequisites and necessary characteristics of action and (2) the proposition that human actors conceive of their actions in the material world in terms of quantitative determinateness.¹⁰ The concept of quantitative determinateness develops in the minds of normal distinctly human actors whose aim is to satisfy their material wants. In describing the postulate, Rothbard says nothing about this concept. One can conclude on this basis that Rothbard's claim that the variety of factors of production is a fundamental subsidiary postulate is incomplete.

The Division of Labor Law and the Theorem of How Market Phenomena are Determined

Rothbard says that the assumption of a variety of resources leads directly to "the division of labor, the market, etc." He does not directly say that the division of labor is a theorem or the outcome of a theorem. Nor does he characterize "the market" as the law of consumer sovereignty. Yet this is what a student of traditional Austrian economics would presumably mean by these terms. In any case it is evident that additional subsidiary assumptions are necessary in order to produce the theorems that must be produced to interpret Rothbard's remarks as a statement about Mises's economics. Accordingly, what is noteworthy about the remarks are the omissions of these implied assumptions and theorems. With regard to the division of labor, the economist must assume that individuals recognize a variety of resources, that they can gain from exchange and specialization, and that the conditions of capitalism are present. An economist must first deduce Ricardo's theorem that under the conditions of free exchange, individuals have an incentive to specialize and trade.

⁸Rothbard also discusses the law of returns in MES. He writes that this law "is based on the very fact of the existence of human action" (MES: 320). This statement is not wrong so long as it refers to action in the abstract (i.e. to pure praxeology and therefore to the law as it is conceived for the isolated actor); but it tells the reader nothing about how an actor comes to possess the knowledge expressed in the "law." In fact, however, Rothbard is writing not about the law as conceived by the isolated actor but the law as it pertains to market interaction. To describe the operation of the law in market interaction, the economist must also assume that the conditions of capitalism prevail and he must use a theorem-building process that entails making the assumptions required to build the imaginary constructions required to deal with [complexity](#).

⁹The term "economic good" means an item or action that an individual expects (1) will satisfy her wants directly (a good of lower order – a consumer good) or (2) will help satisfy her wants indirectly (a good of higher order – a factor of production, or resource) after being combined with some other good of higher order. This definition comes from Menger (1871).

¹⁰Note that Mises interchanges the term "quantitative determinateness" and "quantitative definiteness."

Then he must extend the theorem in such a way that he can illustrate how entrepreneurs deal with scarcity according to the [law of consumer sovereignty](#). This entails adding the assumption of competition among specialists and a tendency toward a final state of rest. Thus economic theorem building is required as described in my essay "[The Imaginary Constructions of Economics](#)." To build economic theorems entails making a number of assumptions and imaginary constructions. The economist must assume the conditions of capitalism, a state of rest starting point, competition among prospective specialists, and a final state of rest. In either case, he must assume the presence of economic calculation. He could do this by employing the image of indirect exchange or by assuming that economic calculation is possible even in an image of direct exchange. But he ought to tell his readers that the choice depends on the goal he aims to achieve. In this sense, the image of indirect exchange is an essential part of any explanation of the method of producing economic theory.

Conclusion

In light of these considerations, the most appropriate description of Rothbard's statement about his first subsidiary postulate seems to be that it is not very helpful in showing how to deduce economic theorems. Whether Rothbard's failure to develop the theorem-production process further is due to his misunderstanding of Mises, to his intention to be brief, or to some other factor is difficult to say. Nevertheless, since Rothbard had already completed his final draft of MES when he wrote the article, a reader is left to wonder whether he misconstrued the theorem-deduction process. It is true, as Mises had effectively written in HA, that all theorems are deduced from the prerequisites and necessary characteristics of action and subsidiary assumptions. Rothbard's repetition of this idea, however, does not show that he understood how to deduce a theorem.

Leisure Is a Consumer Good

Rothbard writes that a less important subsidiary postulate is that leisure is a consumer good. This is an assumption about the particular wants of individuals. It corresponds to Mises's assumption that there is disutility of labor (HA: 132). But there is a big difference between the two authors' use of the assumption. Rothbard says that he uses it because it is realistic. "[T]he real world is conditioned by the disutility of labor. Only theorems based on the assumption that labor is a source of uneasiness are applicable for the comprehension of what is going on in this world" (HA: 65). However, he does not tell his readers any theorems that can be deduced with its help. He says only that it is required in order to "explain the real market" (see below) or, what amounts to the same thing, to interpret capitalism historically.

Mises uses this assumption because it is required in order to evaluate intervention arguments. Of particular interest is the argument that intervention can achieve the aim of reducing or moderating technological unemployment without unduly reducing individuals' standards of living. To evaluate this argument, the economist regards the disutility-of-labor assumption not only as realistic but also as one of a series of assumptions that must be made in the step-by-step process required to evaluate arguments that favor or oppose policies relating to technological unemployment.

Scarcity of Labor

Suppose that leisure was not a consumer good. Then a person would be willing to work twenty-four hours a day. One can imagine a situation in which an additional minute of work today would reduce a person's alertness on the job to such an extent that the return to her work through time

would be lower than if she did not work the additional minute. In fact, however, practically all individuals regard their labor as scarce not only because they must allocate a fixed amount as among the different uses but also because they regard leisure as a good.

Even the isolated actor is likely to regard leisure as a consumer good and to regard her labor as scarce. Nevertheless, it is possible that the actor's labor would remain idle even if she did not regard leisure as a consumer good. It is possible that she would not know a way to employ the materials at hand to produce additional material consumer goods. Her knowledge of how to use materials to produce consumer goods may be limited. Or the materials themselves may be limited. A desert may provide scant opportunities to find food and water. But a person who knows where to look may be able to survive and have plenty of opportunities for leisure. A person who lacks such knowledge will perish.

In any case, the world as we know it is not a desert. Under the conditions of capitalism, individuals have organized their production and consumption in accord with the division of labor. Under the conditions of pure capitalism the entrepreneur role has no difficulty finding and utilizing additional material factors of production to such an extent that the vast majority human beings can satisfy their material wants and still take plenty of leisure.¹¹

Having provided a rationale for regarding labor as scarce, Mises compares the scarcity of labor with the scarcity of material factors of production. The two types of factors, taken together, constitute the "primary factors."

In our world...[l]abor is more scarce than material factors of production. [T]here is no abundance, but a shortage of manpower, and there are unused material factors of production, i.e. land, mineral deposits, and even plants and equipment (HA: 136).

Labor is the most scarce of all primary means of production...It is the supply of labor available that determines to what an extent the factor nature in each of its varieties can be exploited for the satisfaction of needs...The serviceableness of capital goods also depends on the supply of labor available. It would be wasteful to use the capacity of existing facilities if the labor required could be employed for the satisfaction of more urgent needs [i.e., for the satisfaction of wants through time] (HA: 135).

Here he is writing about a tendency. Materials that were discovered or produced in the past in order to profit from their use may become obsolete. Capital goods that were produced in the past may now be regarded as useless. In this case, the materials are no longer regarded as factors because changes have occurred that the economist conceives as tending toward a new final state of rest.

Non-specific Character of Labor

Mises is not referring in this statement to a single type of labor or a single type of material factor of production. Specialization and the division of labor implies numerous types of labor and material factors of production. He assumes that each type is linked to every other type through markets and through supply. Thus he writes that

the lines between the various sectors of the labor market are not sharply drawn. There prevails a continuous tendency for workers to shift from their branch to other similar occupations in which conditions seem to offer better

¹¹Of course, there are also dependents whose labor is not appraised at a positive price. But there would be no added material goods from their employment under any circumstances.

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opportunities. Thus finally every change in demand or supply in one sector affects all other sectors indirectly. All groups indirectly compete with one another. If more people enter the medical profession, men are withdrawn from kindred occupations who again are replaced by an inflow of people from other branches and so on. In this sense there exists a connexity between all occupational groups however different the requirements in each of them may be (HA: 593).

The deduction that the markets for different kinds of labor are connected can be attributed, roughly speaking, to an assumption that labor has a non-specific character. The non-specific character of labor refers to the entrepreneurial character of the prospective employers, the worker herself, and others. In the short run, during a period of adjustment, a normal human actor may not possess the knowledge required to earn income in a particular specialization. However, she and prospective employers have incentives to find some specialized work for her to perform in the long run. If they do not find it at first, they have incentives to explore. They may explore for ways to develop new skills through training. Or they may explore the possibility of employing other factors of production in new ways in order to adapt to the skills that the worker already possesses. In addition to these, prospective middlemen have incentives to develop knowledge about the different types of work that are demanded by employers in different locations, the different types of training available, and the location of prospective employees. Mises writes that “[t]he unique position which the factor labor occupies in our world is due to its nonspecific character” (HA: 133). By this he means that the “supply of every kind of specialized labor could be increased by the withdrawal of workers from other branches and their training” (HA: 135).

The assumption that labor has a non-specific character is based partly on the assumption that normal distinctly human actors can learn a skill that is new to them. Thus he writes that work “which various people are able to perform is different because men are born unequal and because the skill and experience they acquire in the course of their lives differentiate their capacities still more” (HA: 134). If the performance of a task for which a person has a specialized skill becomes obsolete, she can identify ways to improve her ability to perform other specialized tasks that are not obsolete. “Thus the potential supply of labor available for the performance of each particular kind of work exceeds the actual demand for such labor” (HA: 134-5).

The Theorem of Technological Unemployment

These theorems imply a further theorem about the consequences of an invention, the introduction of machinery that an employer uses to replace some of his labor, and the introduction of labor-saving devices. Such changes do not cause technological unemployment in the long run. Mises states this theorem as a counter to the Ricardian proposition that new machinery is a substitute for labor. What happens, he says, “is that labor is rendered more efficient by the aid of machinery. The same input of labor leads to a greater quantity or a better quality of products” (HA: 774).

The technological improvement in the production of *A* makes it possible to realize certain projects which could not be executed before because the workers required were employed for the production of *A* for which consumers' demand was more urgent. The reduction of the number of workers in the *A* industry is caused by the increased demand of these other branches to which the opportunity to expand is offered. Incidentally, this insight explodes all talk about ‘technological unemployment’ (*ibid.*).

His point is that the lower wages in *A* cause the entrepreneurs who supply other products to demand more labor in order to supply the wants of marginal consumers whose demands are now greater than the marginal consumers of *A*. The labor can shift because (1) there is a scarcity of labor relative to

the material factors and (2) labor has a nonspecific character in the sense described above. As a result, machines and also labor-saving “devices increase supply. They do not bring about ‘technological unemployment’” (HA: 136-7).

Rothbard's Treatment of Technological Unemployment

Rothbard takes a very different approach to unused material factors of production and technological unemployment. He writes that it “is a fundamental, empirically derived postulate of this book that there is a great variety among men in labor skills, in insight into future events, in ability, intelligence, etc” (MES: 576-7). Here he treats the “variety among men” not as a consequence of the assumption that labor is non-specific but as an assumption with a status that is similar to the assumption that leisure is a consumer good. In other words, he treats it as necessary to describe action in the real world.

He writes nothing about learning, adaptability, or entrepreneurship. Accordingly, he does not direct the reader’s attention to the knowledge required to profit by shifting from one specialized job, occupation or business venture to another. He does assume that labor is nonspecific, meaning that it can shift. But this assumption, like the others, stands alone. It is not a deduction based on the assumption that individuals have the unique capacity to learn, adapt and act entrepreneurially.

Similarly, he assumes that labor is more scarce than the material factors of production. He writes these words as a basis for concluding that technological advance cannot cause technological unemployment (MES: 587). But he does not refer to the assumptions required to deduce that labor is more scarce. Referring to land, he writes that it is an “empirical fact” that labor

has been more scarce than land factors. A corollary of this is that labor is preeminently the nonspecific factor, which is applicable to all processes of production, whereas land tends to be far more specific...The fact that labor is scarcer and nonspecific means that there will always be unused land (MES: 567).

He does not try to identify a combination of the prerequisites and necessary characteristics of action and subsidiary assumptions that would enable him to deduce labor’s nonspecific character. He just takes the non-specific character of labor for granted, as if he regards it as an empirical fact that is unworthy of explanation. Basically, he treats it as an historical observation. He also does not refer to Mises.

It follows that he does not fully develop the more fundamental assumptions that must be employed to deduce the technological unemployment theorem. “Labor needs to be ‘saved,’ he writes, because it is the pre-eminently scarce good and because man’s wants for exchangeable goods are far from satisfied” (*ibid.*). He does represent the idea that labor has alternative uses in market interaction. But he does not tell the reader the more fundamental assumptions that are required to support this idea. Most importantly, he omits the link between the reduced wages caused by the technological advance and the incentives of entrepreneurs who produce other goods to find employment for the lower-priced labor.

It is evident that Rothbard utilizes the theorems that Mises built. It is doubtful, however, that he could have traced these theorems back to the prerequisites and necessary characteristics of action. Being able to trace these theorems back is the only check that the economist has against errors in his chains of reasoning. It is not surprising that from the standpoint of Mises's economics, some of Rothbard's theorems are incomplete, while others are erroneous.

Indirect Exchange

Rothbard's third postulate – his first limiting condition – is that “indirect exchanges are being made.” His only comment on this condition is that “by making this simple identification we are not ‘testing the theory’; we are simply choosing that theory which applies to *the reality we wish to explain*” (DEA: 4, italics added). He is referring to the choice between the alternatives of using an image of direct exchange or indirect exchange.

If Rothbard's reference to “testing a theory” means only that the economist wants to match the theory to reality, Mises would agree. The economic historian must “test” whether the situation he is studying is one of indirect exchange. Yet Rothbard is obviously confused about the reality that economists aim to study. In the reality of capitalism, individuals use money, they hold balances of it, and they calculate benefits and costs in terms of it. Economists recognize that monetary exchange under capitalism is highly complex. So the economist follows a step-by-step procedure in which he first builds theorems for the imaginary and impossible image of direct exchange. His goal in studying this image is not to elucidate barter. It is to elucidate the [division of labor law and the law of consumer sovereignty](#). He delays the study of the indirect exchange image – i.e., of a more realistic image of capitalism – until he has elucidated these ideas and theorems.

The brevity of Rothbard's discussion can be explained by referring to his goal of producing the ethical theorems that he uses to judge government action. In MES, he introduced the non-invasive society and the “hegemonic society” in his chapter 2 which he entitled “Direct Exchange” (MES: 91). He did not introduce the image of indirect exchange until his chapter 11. In that chapter he mainly uses the case of government control over the supply of money as an example of how the government can cause harm through its intervention in the otherwise noninvasive society (MES: 989-1021). Since the ethical theorems can be illustrated for an image that does not include money, he may regard the image of indirect exchange as one of many possible “limiting conditions.” This suggests that when Rothbard writes about the “reality we wish to explain” (as quoted above), he is really referring to his imaginary construction of the noninvasive society, which enables him to distinguish good actions from bad actions.

Incidentally, the same reasoning can be used to reach the conclusion that catallactics – the study of the relationship among money prices that are established through distinctly human action – is unnecessary. In other words, Rothbard does not need catallactics to promote his ethical theorems. It is true that when the student of catallactics builds the image of interaction under pure capitalism, he assumes that market participants only engage in voluntary actions. He deliberately excludes the coercive actions of government. Yet, to avoid error in describing real interaction or in evaluating intervention arguments, he must not forget that government coercion is required, in reality, to

establish and enforce the conditions of capitalism. The voluntary action described in the image comprised of catallactic theorems performs functions for the economist that are completely different from the function of the image of voluntary action in Rothbard's ethics.

Comparison with Mises

Compare this use of the indirect exchange image with that of Mises. Mises's aim in part 4 of HA is to build an image of pure capitalism. He realizes that one of the conditions of pure capitalism is the use of money. But he also knows that the economist must proceed to the point where he is in a position to evaluate intervention arguments pertaining to monetary intervention. Later, he can go on to make specific assumptions about entrepreneur role expectations and the sequence of actions that would occur during the property of adjustment toward a new final state of rest. Thus, he begins by producing theorems for an image of direct exchange. In this image, money is used to calculate but its supply and demand are "neutral factors" with regard to the determination of the economic phenomena. The assumption about money and economic calculation that he makes in building the image of direct exchange enables him to incorporate the [division of labor law and the law of consumer sovereignty](#) into the image of pure capitalism. Thus, he begins by presenting the consumer sovereignty law (the elementary, modern, subjective theory of value and prices – HA: 201-2). In other words, he produces theorems for the image of direct exchange. In this image, individuals can engage in economic calculation even though the economist assumes that the conditions required for economic calculation are absent. The competing individuals acting in the entrepreneur role are incentivized by the money price signals they receive to employ what they regard as the most profitable means of production. He produces the theorems in his chapters 15 and 16.

Once Mises has more or less completed his use of the image of direct exchange, he adds the deduction that individuals have a demand to hold money and the assumption that a given quantity of money exists. This enables him to produce theorems for an image of pure capitalism (HA: chapter 17). He thereby completes the image of the pure market economy.¹² He employs this image to produce theorems about the effects of changes in the demand for and supply of money.

In light of Mises's aim and success in achieving it, it is easy to understand why he wrote that in "our actual world...[a] theory of indirect exchange and all further theories built upon it...are applicable...[Thus the theory is] an essential part of economic theory" (HA: 65-66).

Firms Maximize Money Profit

Rothbard's last subsidiary postulate, or limiting condition, is that "firms always aim at maximization of their money profits" (DEA: 4). He seems to include this postulate because it was of interest to the mainstream economics writers who were disputing positivism. He writes that it is "by far the least fundamental..." (*ibid.*). In his discussion of it, he begins by referring to "psychic

¹²The image of the pure market economy and of indirect exchange is not complete until one forms a proper image of time, capital goods, and interest; which Mises presents in his chapters 18 and 19. The culmination of the step-by-step process is the Austrian theorem of the trade cycle, which he presents in his chapter 20.

profit.” For both Mises and Rothbard, psychic profit is a synonym for utility and for “uneasiness removed.” Rothbard writes:

From our Axiom is derived this absolute truth: that every firm aims always at maximizing its *psychic* profit. This may or may not involve maximizing its money profit. Often it may not, and no praxeologist would deny this fact (*ibid.*).

To say that the firm maximizes psychic profit is another way of saying that the individual whose action is represented by the term “firm” makes utility-based choices. It is an extension of the prerequisite of action that an actor employs perceived means to attain expected ends.

Next Rothbard illustrates the difference between psychic profit and money profit by discussing the businessperson, or manager of the firm. In doing so, he uses the term “entrepreneur.”

When an entrepreneur deliberately accepts lower *money* profits in order to give a good job to a ne’er-do-well nephew, the praxeologist is not confounded. The entrepreneur simply has chosen to take a certain cut in monetary profit in order to satisfy his consumption – satisfaction of seeing his nephew well provided (*ibid.*).

Here he raises the following question. If the real owner of a firm may maximize psychic profit, why then do economists assume in their images or models that the owners maximize money profit? His answer is that it is “convenient” to do so but that the economist never forgets that this assumption may not be realistic.

The assumption that firms aim at maximizing their *money* profits is simply a convenience of analysis; it permits the elaboration of a framework of *catallactics* (economics of the market) which could not otherwise be developed. The praxeologist always has in mind the proviso that where this subsidiary postulate does *not* apply – as in the case of the ne’er-do-well – his deduced theories will not be applicable. He simply believes that *enough entrepreneurs* follow monetary aims enough of the time to make his theory highly useful in explaining the real market (*ibid.*, some italics added).

In this passage, Rothbard provides two explanations for the profit-maximizing assumption. The first is that the assumption is required in order to present the “economics of the market.” This is correct insofar as “the market” refers to capitalism as conceived by the individualist economists and Mises. If it refers to the imaginary capitalism of the noninvasive society, it is irrelevant; since the [noninvasive society is itself not feasible](#) and, therefore, unrealistic. The second explanation is that economists want a theory of interaction among the owners of firms and consumers in order to *explain the real market*. This is a statement about the task of the economic historian. I discuss each in turn.

Presenting the Economics of “the Market”

If one’s goal is to produce the theorems of catallactics in this sense, the assumption of money profit maximization is more than a convenience. It is absolutely essential in light of the complexity

of market interaction. It is an assumption that characterizes the [image of integrated functions](#).¹³ The imaginary individuals who exclusively act in the entrepreneur role are motivated by the money profit incentive to identify discrepancies between the expected prices of the factors required to produce goods and the expected revenue from sales. They are, among other things, arbitragers. If, net of pure interest on the investment money they must borrow, their expected revenue exceeds expected costs; they proceed to bid for the factors, produce the consumer goods and offer them for sale.

It follows that the assumption of profit-maximization is not a convenience insofar as one's goal is to build an image of market interaction either under Mises's definition of capitalism or in the imaginary capitalism of Rothbard's [noninvasive society](#).¹⁴

Profit-Maximization is Not Required to Produce Ethical Theorems

Rothbard's statement that the profit maximization "postulate" is a limiting condition can be explained in the same way as the image of indirect exchange. The ethical theorems can be deduced and applied without assuming that all firms exclusively maximize profit.

3. THE DIFFERENCE BETWEEN MISES AND ROTHBARD

Rothbard uses the term "extreme apriorism" to refer to the assertion that economists have combined the "action axiom" and postulates to deduce "theorems and conclusions" by means of the "laws of logic." Because the action axiom is necessarily true and because logic is used, he asserts, the theorems and conclusions must be "absolutely true" (DEA: 3, as quoted above). Apparently, Rothbard uses the term "absolutely true" to mean that the rules of logic assure that specific conclusions can be drawn by combining the "action axiom" with subsidiary assumptions. He cannot mean that his subsidiary assumptions must be realistic. Yet, if all he is saying is that the rules of logic apply to all theorem building, his "absolutely true" statement is redundant and trivial. It is sufficient to say building the theorems of economics is a logical process. They follow the same format as all if-then statements follow.

The non-trivial claim that Rothbard seems to make, although it is implicit, is that the economist needs only the prerequisites and necessary characteristics of action, along with a small number of non-objectionable subsidiary assumptions, to deduce all of the theorems that have, traditionally, made up the body of economic theory. To help evaluate this claim, I have drawn on the theorems contained in Mises's treatise. By comparing Mises's theorems and theorem-building with

¹³For Mises, the subject matter of catallactics is "all market phenomena with all their roots, ramifications, and consequences" (HA: 233). Market phenomena refers to money exchanges under the conditions of capitalism.

¹⁴In fact, Rothbard's statement about a the profit-maximization assumption being a convenience is contradictory since he also says that without it, there could be no catallactics.

Rothbard's theorem-building in MES, I showed that Rothbard did not appreciate the role of subsidiary assumptions or the hierarchy of such assumptions that the economist must specify in order to trace the economic theorems back to the prerequisites and necessary characteristics of action.

One can only conclude that Rothbard's 1957 explanation of the relationship between praxeology and economics was incomplete and that he had little understanding of the theorem-building process in economics. Moreover, his emphasis on reality indicates a troubling diversion from the scientific economics that Mises sought to teach. In this essay, I have examined the four cases he presented in his article. His first subsidiary postulate on the variety of resources is best regarded as a deduction based on the prerequisites and necessary characteristics of action and a more fundamental subsidiary assumption, which he does not identify. His second subsidiary postulate that leisure is a consumer good hangs in thin air, since he did not identify the theorems that it helps to produce or other subsidiary assumptions that are required to deduce them. His first limiting condition – the image of indirect exchange – is the image of capitalism that economists ultimately aim to build. They must build this image before they can either evaluate the full range of intervention arguments or interpret the full range of historical events. Yet Rothbard conceives of the conditions of indirect exchange as just one set of circumstances with respect to which he can apply his ethical theorems. His second limiting condition – that firms maximize profit – is a characteristic of the imaginary construction of the entrepreneur role. As such, it is an essential part of the mental toolkit required to build an image of interaction under capitalist conditions. The reality of capitalism cannot be comprehended without it. It is not a subsidiary assumption at all.

In sum, as far as the careful reader of his article can determine, Rothbard lacked a basic understanding of the praxeological foundations of economics that Mises sought so meticulously to build in HA. Correspondingly, he did not understand the step-by-step process of building economic theorems to elucidate market interaction under the conditions of capitalism. He did not fully grasp the vocabulary that praxeology helps the economist build.

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