

IN DEFENSE OF THE MISESIAN THEORY OF INTEREST

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Introduction

The recently published volume, *New Directions in Austrian Economics*,¹ consists of the papers presented at a conference held in September 1976 at Windsor Castle, England. Each paper was followed by two formal critiques. Original publication plans provided for the inclusion of these critiques, but subsequent editorial decisions resulted in the publication of the papers only.

The present article is a slightly expanded version of one of the critiques of Professor Laurence S. Moss' paper directed against the theory of interest of Ludwig von Mises. As a means of abstraction, Moss discussed the economics of a pure exchange economy in terms of the allocation of consumer goods over time in a prisoner-of-war camp. His paper is thoroughly neoclassical rather than Austrian in substance and in form, and hence does not do justice to Mises' theory of interest, which was developed within the context of his own praxeological framework of analysis. The extent of this injustice is pointed out in the present paper.

The following critical comments were originally intended primarily for those who had read Moss' paper. Even standing alone, however, this critique can give the reader a feel for the fundamental differences between neoclassical and Austrian theory—differences that are not at all made evident in Moss' paper.

It is encouraging that some present-day economists schooled in the neoclassical tradition are interested in "new directions." But the Moss paper starkly points up the fact that if they wish to embark on new directions in *Austrian* economics, they had better adopt the Austrian tradition as their point of origin.

Moss' Critique of Mises

In his paper, "The Emergence of Interest in a Pure Exchange Economy: Notes on a Theorem Attributed to Ludwig von Mises," Moss is concerned

with two aspects of Mises' theory of interest. He is concerned with the contentions that 1) "... Misesian time preference guarantees the emergence of a positive rate of interest in a pure exchange economy . . .," and that 2) this positive rate "results entirely from the interaction of valuing minds and is therefore a subjective phenomenon. . . ."² As a means of evaluating these two contentions, Moss offers us "a model of a pure exchange economy with an analysis of the circumstances under which a positive market rate of interest will emerge." Ultimately, he arrives at two conclusions: 1) that the emergence of a positive rate is not "guaranteed" by time preference alone, but depends, in part, on the existence of certain conditions and 2) that because these conditions are objective in nature, Mises' theory of interest cannot be said to be a purely subjective theory.³

If these two conclusions are correct, then Misesian interest theory differs from neoclassical interest theory only in trivial respects. A casual reading of Moss' paper leaves one with the impression that the only difference is that Mises was somewhat confused about the meaning of the term time preference. I will argue in what follows that this impression is the result of looking at Misesian theory through neoclassical glasses, and that on removing those glasses both of Moss' conclusions will be seen to be highly misleading if not wholly mistaken.

Time Preference: Neoclassical and Misesian

Moss sets out to show us "that much of the misunderstanding regarding Mises' interest theory has to do with the special meaning Mises attached to the term *time preference*."⁴ He establishes that Mises and the neoclassicals (Fisher, Becker) do in fact use this term to mean different things, but he stops just short of identifying the ultimate source and the fundamental nature of the difference. Instead, Moss attributes the misunderstanding to "semantic considerations" and claims that with regard to the concept of time preference, "there is no fundamental issue separating Mises from the remainder of the economics profession."⁵ But the difference is every bit as fundamental as the difference between praxeology—Mises' approach to economic theory—and the "pure logic of choice" associated with neoclassical theory. In fact, the concept of time preference can serve to illustrate the nature of these two basically different approaches to the study of economics.

The neoclassicals define the concept in terms of the time pattern of consumption preferred by the individual. An individual who prefers a uniform distribution of consumption over time, over all other possible distributions, is characterized as having a neutral or zero time preference. Individuals who prefer to consume relatively more now or in the near future, and those who prefer to consume relatively more in the more remote future, are characterized as having positive and negative time preferences respec-

tively. To make these characteristics “operationally meaningful” the consumption patterns are expressed in terms of units of some homogeneous consumption good. (In Moss’ discussion, for example, neutral time preference describes a prisoner of war who is “satisfied with an equal number of apples in each time period.”⁶) The use of the single homogeneous consumption good allows the alternative consumption patterns to be expressed in objective and measurable terms. And the utility that an individual would derive from the various consumption patterns can be written as a “function” of the number of apples consumed in each period. With this formulation any individual’s most-preferred pattern can be determined by solving a standard constrained-maximization problem. The individual’s utility (Moss’ Eq. 1) is maximized subject to his budget constraint (Moss’ Eq. 3). The result is Moss’ Eq. 2. The distribution of apple consumption can then be subjected to the litmus test, that is, it can be compared to a uniform distribution of apple consumption to determine whether the individual’s time preference is positive, negative or neutral. The only problem with this procedure, in the eyes of the neoclassicals, is the possibility of an ambiguous litmus test. Unless the preferred distribution is monotonically non-increasing or monotonically non-decreasing over time (to use the neoclassical jargon) the test may fail. This problem is akin to the notorious “re-switching” controversy that has plagued neoclassical capital theorists for the past several decades.

Mises’ treatment of time preference theory is fundamentally different from that of the neoclassicals. Moss points out that “(a)ccording to Mises, the very act of consuming during the planning period demonstrates (positive) time preference,” and that “. . . (s)ince any [consumption pattern] is evidence of what Mises called ‘time preference,’ he must have meant by the term something different from what has become standard terminology among neoclassical economists.”⁷ But Moss wrongly attributes the difference to semantic considerations. Mises’ theory was formulated not in terms of consumption goods or patterns of consumption, but rather in terms of *action*. That is, his time preference theory is a praxeological theory. For Mises the *act* of consuming is evidence of time preference because action *per se* is evidence of time preference. By acting now the individual reveals that such is preferred to deferring action, and as all acts are ultimately directed at achieving consumption, the individual reveals a preference for consumption in the nearer future to consumption in the more remote future. This is Mises’ time preference theorem. In his own words: “[W]hoever seeks by acting to relieve a felt uneasiness is always expressing a preference for earlier over later satisfaction.”⁸

Misesian time preference theory, having been formulated in terms of actions, can be *applied* to the category of goods. Noting that Mises included nonmaterial goods (i.e. services) in his concept of goods,⁹ it can be said that all action is directed towards the acquisition of goods. Any particular

actions taken by an individual will be associated (in the mind of the acting individual) with particular goods. By his acting, then, he reveals a preference for acquiring these goods at an earlier point in the future over acquiring them at a more remote point in the future. This holds true whether the actions consist of gathering goods, bargaining with another individual for goods, or producing goods.

It should be clear now that the difference between the neoclassical and the Misesian formulations is a fundamental and not just a semantic difference. It should be equally clear that Moss' suggestion that by time preference Mises really meant "time allocation"¹⁰ would serve only to obscure this difference and to compound rather than dispel the confusion surrounding the issue. It is the neoclassicals who are concerned with time allocation and with comparing different time patterns of consumption with a uniform pattern. This has no place in Mises' praxeological formulation. Firstly, the notion of a uniform pattern of consumption, outside the context of a one-commodity world, has no clear-cut and unambiguous meaning.¹¹ Secondly, there is no logical or necessary connection between an individual's actions and his notions about what constitutes a uniform pattern of consumption. Mises' theory is derived from the fact that man *acts*, and is independent of the particular pattern of consumption that may result from his acting.

Intertemporal Exchange and Internal Financing

Moss couches his argument in terms of the economics of a prisoner-of-war camp and considers the nature of intertemporal exchange under two different institutional arrangements. "Internal financing"¹²—a term whose meaning will shortly become apparent—is allowed in the first case he considers, but is precluded in the second. This section will deal with the case in which "internal financing" is allowed.

Mossian Apples and Fisherian Hard-Tack. In order to abstract from the heterogeneity of consumption goods and all the associated problems and ambiguities, Moss envisions a prisoner-of-war camp in which apples are the only consumption good. Each prisoner is to receive a fixed number of apples over a certain period of time. The time pattern of apple delivery is known to the prisoners in advance. Moss assumes throughout his discussion that storage costs are zero,¹³ that the apples do not spoil, and that there is no possibility of theft or accidental destruction.¹⁴ Initially, Moss supposes that each prisoner is given the option of transferring apples promised in more remote consumption periods to periods more proximate simply by so requesting.¹⁵ (This is the "internal financing.") But given this option together with Moss' assumptions it should be obvious that receiving the entire stock of apples at the outset would be as preferred or preferable to any other delivery scheme. The multi-period prisoner-of-war camp scenario with its

pre-set delivery schedule, coupled with an allowance for internal financing, is thus reduced to a scenario in which an individual finds himself with nothing but a fixed quantity of an indestructible consumption good. This situation is identical to the one envisioned by Irving Fisher in his notorious "hard-tack" illustration.¹⁶ Fisher imagined a group of sailors shipwrecked on a desert island with nothing but 100,000 pounds of "hard-tack." (Hard-tack is a very hard marginally edible biscuit made of flour and water without salt.) "A little reflection will show," Fisher tells us, "that in such a [situation] the rate of interest *in terms of hard-tack* would necessarily be zero."¹⁷ (Emphasis in original.) Similarly, Moss' discussion indicates that with internal financing allowed, the rate of interest *in terms of apples* would necessarily be zero.¹⁸

The Mossian apples are logically equivalent to Fisherian hard-tack. The reasoning applied to both scenarios can be understood in terms of the neoclassical orthodoxy. Neoclassical theory focuses on the physical good itself, and on the (technologically determined) rate of transformation of a unit of the good today into a unit of the good tomorrow. While the mere passage of time will transform one piece of hard-tack (or one apple) today into one piece of hard-tack (or one apple) tomorrow, no other (more productive) intertemporal transformations are possible. Therefore, the rate of interest is zero. This conclusion seems to follow almost in independence of the existence of shipwrecked sailors or prisoners of war.

Neither scenario makes much sense in terms of Misesian theory, which focuses not on the goods themselves, but on the actions of individuals. (This is why it is important to rid Moss' scenario of the extraneous "actions" associated with periodic apple deliveries and internal financing.) Granted, in either of these scenarios where the individuals can only live a hand-to-mouth existence, there simply isn't much action. And to this extent the praxeologist has nothing of great importance to say. But what little action there is *does* reveal time preference in the Misesian sense. A piece of hard-tack in the hand is revealed to be preferred to a piece of hard-tack lying on the ground, and a piece of hard-tack in the mouth is revealed to be preferred to a piece of hard-tack in the hand. These revealed preferences imply value differentials between hard-tack on the ground, in the hand, and in the mouth. But the value differentials will not give rise to an intertemporal market. That is, in Fisher's and Moss' scenarios there is no room for interpersonal exchanges: There are no market prices. There is no market rate of interest. There is no market. The shipwrecked sailors are engaging in what Mises termed "autistic exchange." They are foregoing leisure in order to consume hard-tack. It may seem trivial to point all this out, but the triviality should be attributed to the scenarios themselves and not to Mises' theory. If the plight of the shipwrecked sailors were truly the plight of mankind, Mises no doubt would not have bothered to formulate his time-preference theory of interest. Instead he would have spent his ninety-two years devouring hard-tack along with the

rest of us. But such is not the plight of mankind. In a market economy man's actions, far from being trivial, are of great significance to the economic theorist. The diverse actions of market participants reveal their time preferences, which in turn imply value differentials between the objects of their actions, and these value differentials are expressed in the intertemporal market as a positive rate of interest.

Fisherian Figs. Throughout Moss' discussion the assumption that the apples do not spoil is never relaxed. Presumably, had he allowed for spoilage he would have had to conclude that a negative rate of interest is possible. Thus, the notion of a negative rate attributable to the spoiling of the one and only consumption good deserves some comment here. Fisher held that negative interest is possible, and to illustrate the possibility he modified his shipwrecked-sailor scenario, replacing the indestructible hard-tack with rotting figs.¹⁹ Again, Fisher focused on the figs themselves and couched his argument in terms of the (technologically determined) rate of transformation between figs today and figs tomorrow. The deterioration of the figs was assumed to proceed at a fixed and foreknown rate of fifty percent per annum. After stating this assumed rate of physical deterioration, Fisher leaped to the conclusion that the rate of interest in terms of figs would necessarily be minus fifty percent.²⁰ This is his conclusion in spite of the fact that (as Fisher himself recognized) there would be no intertemporal (or interpersonal) market for figs. His negative rate of interest is virtually independent of the plans and actions of the shipwrecked sailors. The absurdity of the notion of an interest rate divorced from an intertemporal market and from the actions of market participants can be demonstrated by applying Fisher's reasoning to other technologically determined rates. Suppose there are no figs at all on the desert island and that the island itself is washing away into the sea at the rate of twenty percent per annum. Would the rate of interest in terms of the island be minus twenty percent? Or suppose the sailors themselves were losing weight due to malnutrition at the rate of thirty percent per annum. Would the interest rate in terms of the sailors be minus thirty percent? If it is the physical characteristics of reality rather than the "interaction of valuing minds" that determine the rate of interest, it would be difficult not to answer these questions in the affirmative. Of course, all that need be recognized here is that *all* rates are not rates of interest.

The praxeologist's analysis would be little affected by the substitution of rotting figs for indestructible hard-tack. The sailors would still be doomed to living a hand-to-mouth existence. If anything, their time preferences would be higher now since their rotting food supply would cause their world to come to an end sooner.²¹ But there would still be no intertemporal market and hence no market rate of interest.

Storage, Theft, and Accidental Destruction. The allowance for spoilage even

in a one-commodity world does not imply a negative rate of interest. Nor is a negative rate implied by the relaxation of Moss' other assumptions. While it is perfectly acceptable to make the simplifying assumptions that storage and the prevention of theft and accidental destruction are costless, the impression that these assumptions are necessary to preclude the possibility of a negative rate of interest must be avoided. But the neoclassical formulation of interest theory leaves just this impression. One modern author writes: "The interest rate [in a one-commodity world] can be . . . negative," but "[n]o lender will pay more interest to a borrower than it would cost to store the [commodity]."²² While it is true that the payment for storage may be larger than the implicit interest payment, this payment *when understood in terms of the individual's plans and actions* is conceptually distinct from the payment of interest. That is, payment for storage should not be treated analytically as a *component* of the interest rate. Similarly, intertemporal transactions that are motivated by the desire to prevent theft or accidental destruction should be analyzed as such. In transactions of this sort the individual "lender" is, from his own perspective, purchasing theft-prevention or accident-prevention services. The payment for these preventative services must be kept conceptually distinct from the payment of interest. These important conceptual distinctions are virtually impossible to maintain, though, unless the focus of the analysis is on the plans and actions of the individual market participants, rather than on the physical goods themselves. In the Misesian theory of interest the distinction is obvious; in the neoclassical theory it is hopelessly obscured.

Internal Financing Disallowed

After concluding in straightforward neoclassical fashion that a zero rate of interest would prevail in a prisoner-of-war camp where internal financing is allowed, Moss moves on to analyze the more relevant situation. The prisoners no longer have the option of simply requesting the delivery now of apples scheduled for delivery at a future date. That is, if an individual prisoner wants to consume more apples than he now has, he cannot internally finance his consumption deficit, but must engage instead in intertemporal exchange with his fellow prisoners. Of course, if he wants to consume fewer apples than he now has, he can (costlessly) carry his surplus of apples forward in time. In this new situation where internal financing is disallowed ". . . present goods can be costlessly transferred into the future but future goods cannot be conjured into the present." "Time," to use Moss' metaphor, "is a one-way street."²³ Moss observes that it is this "asymmetry in the time market" that gives rise to the possibility of intertemporal exchange and a positive rate of interest.

I have no quarrel with Moss' reasoning to this point. In fact, strong

support can be found for it in the writings of the Austrian capital theorists. In 1956, for instance, Professor Lachmann pointed out that "the ultimate reason [that the rate of interest cannot be negative] lies in the simple fact that stocks of goods can be carried forward in time but not backwards."²⁴ Moss appears to be on solid ground. But his purpose here is not to show that the rate of interest must be positive but rather to show that Mises' theory of interest is not a purely subjective theory. It is in his attempt to demonstrate this that Moss has seriously erred.

The source of the error is the confusion of subjectivity in value theory with subjectivity in metaphysics. Moss is obviously referring to his observation about the nature of time when he says that "the emergence of interest . . . depends in part on the existence of certain *objective* conditions. . . ." ²⁵ (emphasis added). This "objectivity," however, lies completely outside the domain of value theory, and is properly the subject matter of metaphysics. That Moss is dealing with a metaphysical issue here is somewhat obscured by his use of the prisoner-of-war-camp scenario with internal financing first allowed and then disallowed. We don't normally think of the rationing policy in a prisoner-of-war camp as a metaphysical issue. But in the context of Moss' discussion it is just that. This is clearly recognized in Radford's classic account of the economics of a prisoner-of-war camp which serves as a basis for Moss' scenario. Radford tells us that the Red Cross which was dispensing the supplies "may be considered as 'Nature' of the textbooks, and the articles of trade—food, clothing and cigarettes—as free gifts—land or manna."²⁶

Moss is clearly arguing in metaphysical terms, though, in his final paragraph where he writes of "a world where the present gradually unfolds into the future rather than the other way around."²⁷ Recognizing that this is the way the world really is, Moss concludes that "Mises' attempt to present a purely subjective time preference . . . theory of interest must at the very least admit the empirical or broadly technological assumption that the transfer of goods through time is indeed a one-way street."²⁸ We can be confident, however, that Mises would never have considered this (or any other) aspect of the nature of time to be an assumption in the sense that Moss' paper suggests. He would have recognized it instead as a fundamental metaphysical relationship, and would have been happy to "admit" that not only his theory of interest but, more generally, his theory of value presupposes that metaphysical relationships are what they are. This is not an admission that Mises' theory of interest is not a purely subjective theory, however, for the simple reason that subjectivism in value theory does not imply or require subjectivism in metaphysics.

Moss' criticism of Mises couched in terms of a particular aspect of Mises' value theory and a particular metaphysical relationship may appear to have

some plausibility. The fallacy becomes more apparent, though, when the criticism is generalized:

Subjective value theory presupposes existence.
Existence is objective.
So much for subjective value theory.

This is in essence what Moss is saying, and again the error is in the mixing of value theory and metaphysics. Mises' pure time preference theory of interest is not inconsistent with the recognition of (an objective) existence. Mises was *not* a solipsist; he *was* a thoroughgoing subjective-value theorist.

Concluding Remarks

I have attempted to criticize Moss' paper from a Misesian perspective. I would have given him a higher mark had he more fully presented Mises' position that a positive rate of interest will emerge even in a pure exchange economy, related it to Mises' general theoretical framework, and evaluated Mises' arguments in the context of that framework. But instead, Moss couched Mises' position in neoclassical terms, spelled out the conditions under which neoclassical theory would support this position, and then criticized Mises for not recognizing these conditions. Because of this approach Moss' paper helps us very little in understanding Mises' theory of interest as applied to a pure exchange economy. It does, however, help us to understand why neoclassical theorists are characteristically baffled by the Misesian theory of interest.

NOTES

1. Louis M. Spadaro, ed., *New Directions in Austrian Economics* (Kansas City: Sheed Andrews and McMeel, 1978).
2. Laurence S. Moss, "The Emergence of Interest in a Pure Exchange Economy: Notes on a Theorem Attributed to Ludwig von Mises," in Spadaro, *New Directions*, p. 157.
3. *Ibid.*, pp. 163-164.
4. *Ibid.*, p. 158.
5. *Ibid.*, p. 162.
6. *Ibid.*, p. 161.
7. *Ibid.*, p. 161.
8. Ludwig von Mises, "A Critique of Böhm-Bawerk's Reasoning in Support of his Time Preference Theory," in Percy L. Greaves, Jr., *Mises Made Easier* (New York: Free Market Books, 1974), p. 156. Also, for similar statements see Mises, *Human Action: A Treatise on Economics*, 3rd rev. ed. (Chicago: Henry Regnery Co., 1966), pp. 483-490.
9. Mises, *Human Action*, p. 94.
10. *New Directions*, p. 161.
11. On the difficulties of the notion of a uniform pattern of consumption see Israel M. Kirzner, *An Essay on Capital* (New York: Augustus M. Kelley Publishers, 1966), pp. 68-71. Also Friedrich A. Hayek, *The Pure Theory of Capital* (Chicago: The University of Chicago Press, 1941), p. 159.
12. *New Directions*, p. 158.

13. *Ibid.*, p. 159.
14. *Ibid.*, p. 165.
15. *Ibid.*, p. 159.
16. Irving Fisher, *The Theory of Interest as Determined by Impatience to Spend Income and Opportunity to Invest It* (New York: Macmillan Co., 1930), pp. 186-191.
17. *Ibid.*, p. 186.
18. *New Directions*, p. 162.
19. Fisher, *Theory of Interest*, pp. 191-192.
20. *Ibid.*, p. 191.
21. See Murray N. Rothbard, *Man, Economy, and State: A Treatise on Economic Principles*, 2 vols. (Los Angeles: Nash Pub. Co., 1971), pp. 380-381.
22. George J. Stigler, *The Theory of Price*, 3rd Ed. (New York: Macmillan, 1966), p. 278.
23. *New Directions*, p. 164.
24. Ludwig M. Lachmann, *Capital and its Structure* (London: London School of Economics, 1956), p. 78.
25. *New Directions*, p. 158.
26. R. A. Radford, "The Economic Organization of a P.O.W. Camp," *12 Economica* (November, 1945), pp. 192-193.
27. *New Directions*, p. 164.
28. *Ibid.*, p. 164.