

THE NEGATIVE INTEREST RATE: TOWARD A TAXONOMIC CRITIQUE

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A basic principle of Austrian economics is that the ordinary rate of interest (the rate of discount of future goods compared to present, otherwise identical, goods) can never be negative.¹¹ The reason for this arises not because capital is productive, nor out of man's psychology. Rather, it is embedded in the very concept of human action. As Professor Mises eloquently states:

Time preference is a categorical requisite of human action. No mode of action can be thought of in which satisfaction within a nearer period of the future is not — other things being equal — preferred to that in a later period. The very act of gratifying a desire implies that gratification at the present instant is preferred to that at a later instant. He who consumes a non-perishable good instead of postponing consumption for an indefinite later moment thereby reveals a higher valuation of present satisfaction as compared with later satisfaction. If he were not to prefer satisfaction in a nearer period of the future to that in a remote period, he would never consume and enjoy. He would not consume today, but he would not consume tomorrow either, as the morrow would confront him with the same alternative.¹²

Nevertheless, in spite of the foregoing, there are many benighted souls who insist upon the possibility of a negative rate of ordinary interest.¹³ They are continually discovering cases which "prove" their conclusion. The number of such examples has reached such proportions that it seems advisable to take account of them in a systematic way. Accordingly, this paper is devoted to classifying them in a manner that makes the most intuitive sense: in accordance with the economic errors which are necessarily committed in their very statements.

1. DIFFERENT GOODS

Perhaps the greatest number of attempts to disprove the necessity of a positive rate of

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interest are those that do not properly appreciate the fact that in Austrian theory, the definition of a "good" can only be made in terms of the individual actor's choices — and not based on physical, chemical, geographical or other such properties.

Perhaps the most famous of these examples is the ice-in-summer vs ice-in-winter confusion. It is often stated that a man possessing ice in the winter, in the middle of the blizzard, would prefer to consume it in the summer, when there will be very little of this commodity in existence (before the advent of modern refrigeration). This, as far as it goes, is true enough. But when it is alleged that *therefore* the man in question prefers future consumption of ice to present consumption, that he discounts the value of present goods more heavily than future goods, that, in other words, his time preference for the future is equivalent to a negative internal rate of interest, then it is time to call a halt. For it is not true that the man prefers a good receivable in the future to the *exact same* good receivable in the present. On the contrary, it is a *different* good. As Prof. Rothbard puts it: "If Crusoe has a stock of ice in the winter and decides to 'save' some until next summer, this means that 'ice-in-the-summer' is a *different* good, with a different intensity of satisfaction, from 'ice-in-the-winter', despite their physical similarities."¹⁴ If there is any question about whether "ice-in-the-winter" is the *exact same* good as "ice-in-the-summer", all one need do is ask, "If faced with a choice between the two, which would *I* choose?" As long as at least some people would prefer one over the other (presumably, the latter over the former), we can rest assured that they are not merely different elements of a supply of the same good.

This example can serve as the basis for the

generation of others: ice cream in the winter vs ice cream in the summer (before the advent of refrigeration); three hundred and sixty five cups of coffee this morning vs one cup of coffee each morning for the next year;¹⁵¹ and so on. These are all cases where even though the goods may be physically, chemically, or biologically identical, they are *economically* quite different.

Then there are cases where the good is physically as well as economically different: A professional basketball team trades a present member of the club for a draft pick next year; or trades away a draft pick in 1977 for one in 1978. Far from indicating a negative interest rate, such action is indicative of the fact that the present member of the team is a *different* individual than the athlete who may be picked in next year's draft; and it may be that the owner of the team sees a better "crop" of players coming up in 1978 than will be available in 1977.

Ludwig Von Mises points to the case of the recipient of a gift of two tickets, one to *Carmen* and the other to *Hamlet*. Unfortunately, they both take place on the same evening. The person may well feel, with regard to the show he does not see: "I wish I had a ticket to a later performance, rather than one for this evening." But this does not prove a preference for future as opposed to present goods. As Mises states: "(The person) does not have to choose between future goods and present goods. He must choose between two enjoyments both of which he cannot have together. This is the dilemma in every instance of choosing."¹⁶¹

Mises goes on to point out that even the case of the miser cannot contradict the universality of the law of time preference for the present, "for the miser, too, in spending some of his means for a scanty livelihood, prefers some amount of satisfaction in the nearer future to that in the remoter future".¹⁷¹ But then it seems as if the great Mises wanders from the path:

Extreme instances in which the miser denies himself even the indispensable minimum of food represent a *pathological* withering away of vital energy, as is the case with the man who abstains from eating out of fear of morbid germs, the man who commits suicide rather than meet a dangerous situation, and the man who cannot sleep because he is afraid of undetermined accidents which could befall him while asleep.¹⁸¹ (my emphasis)

Calling these extreme instances pathological¹⁹¹ would seem to imply that they are somehow inconsistent with the universal validity of time preference. But the suicide is not a counter-example. We cannot legitimately interpret suicide as a preference for the future over the present. (Does the suicide not realize that he will never reach the future if he does not consume, at least minimally, in the present?) Even the starving miser *acts*. He does *something* in the present, and, as such, exhibits his time preference for the present. What does he do? He sits there and refuses to eat! But he refuses to eat *now*, as opposed to *later*, when he might be dead, and no longer able to fulfill his historic mission of refusing to eat. By refusing to eat *now*, the starving miser indicates his time preference for *present* refusals to eat, as opposed to future such refusals. Suicide is an *intra* temporal phenomena, not an inter-temporal one, whether one achieves death by not eating, not sleeping, or actively killing oneself. The suicide prefers death to life, at the moment he does away with himself. He may be misguided, he may be misinformed; but these are only psychological considerations. As far as praxeology, the logic of human choice, is concerned, we must interpret the suicide as preferring the state of affairs which includes his death, to the one in which he continues to live. As such, it is purely an intratemporal choice, entirely irrelevant to time preference.

2. COMPLEMENTARITY

Another alternative interpretation in cases of seeming negative time preference is complementarity. Thus, a person may not want to consume milk now, preferring to consume milk later on, for a whole host of reasons relating to complementarity. He may have just eaten a heavy meal, and be of the opinion that milk would be discomplementarious to the other foods he has already eaten. Alternatively, he may only like to drink milk while he eats cake, and cake, for some reason, may not be available until later. He then prefers milk later to milk now not because of any time preference for the future, but because, given cake in the future, but not in the present, future milk is more of a

complementary good, for him, than is present milk. Again, he may prefer milk later to milk now because he intends to engage in strenuous physical exercise in the immediate future, and drinking milk right before athletics is harmful.

This phenomenon may play a part in examples such as drafting basketball players, which we considered above under the rubric of "different goods". A team may be willing to part with a present player in order to gain a future draft pick because the latter fits in better with other players than the former. A 1978 draft pick may be preferred to one in 1977 if he is expected to be more complementary to the 1978 team than the latter will be to the 1977 team.

3. ANTICIPATIONS

There scarcely exists a child, who, when confronted with a cream filled Oreo cookie, did not make the following analysis of the situation: (1) the cream filling is a delight beyond description ("indescribably delicious", in the felicitous phraseology of the advertisements for Mounds Bars); and (2) the path toward true joy lies in the putting off, for as long as possible, of the consumption of said cream filling.

Now, were whole generations of American kiddies secretly addicted to negative time preference, for shame? No. They all preferred cream filling later to cream filling now because, given the former, in addition to all that cream, they could also enjoy the anticipation of the future delight. They soon learned that to give in to their brutish instincts, and to gobble up the cream filling forthwith, would be to lose out on these anticipations. Thus, what was at issue was not merely present vs future cream filling; allied with future cream filling, as against present cream filling, were the *anticipations* of the former. Since these anticipations were only possible if the brutish consumption were put off, the choice came down to present consumption as against future consumption *plus* anticipation. That the latter was chosen, then, in no way implies time preference for the future.¹¹⁰

4. GIFTS

Let us suppose that, the previous analysis notwithstanding, loan contracts are consummated actually stipulating negative rates of

interest. For example, A lends \$10 to B, right now, and agrees to accept \$9, in one year from now, as full payment of the debt. Are we forced to conclude that the rate of interest is equal to minus 10%? (We make the usual assumptions of no inflation, perfect certainty of debt repayment, and all others necessary to maintain the ordinary rate of interest.)

By no means. One alternative interpretation is that there is an implicit gift being made from A to B, of an amount of \$1, *plus* the true (positive) interest payment based on the \$10 loan. That is, in lending \$10 to B, and accepting \$9 in return, a year later, A is really just *giving* B \$1, plus the amount that could have been received from lending \$10 for one year at a positive rate of interest.

5. INSURANCE PREMIUMS

Another possibility is that A, for some reason, thinks that money, all money, will be in danger for less than a year, and that after one year passes, money will suddenly become safe again. For example, A may expect an injun attack to take place sometime between the present and one year from now, and have certain knowledge that the cavalry is due in exactly one year. If the injuns attack, no money will be safe; but after the cavalry arrive, the usual conditions of safety will prevail.

The supposed negative rate of interest would then really be an insurance premium. For example, the ordinary rate of interest could be 7%, the insurance premium could be 17%; $7\% - 17\% = -10\%$.¹¹¹

Those who thought the attack was most likely (and/or who had the least tolerance for the risk) would be willing to pay the highest insurance premiums; i.e. they would be willing to offer the most present money in return for a given amount of notes payable after the one year period. Those who thought the attack unlikely, or felt that the troops would arrive immediately, would be the borrowers of present money, the lenders of future money in the form of notes.

There would have to be *some* costs to holding money for A to be willing to part with \$10 for the promise of \$9 in a year (we assume zero storage costs given an era of paper money). If it is not an implicit gift, and there are no such

costs, why then would a person such as A be willing to give up \$10 to receive \$9, when he has the alternative of waiting for one year, and having at least the \$10 he started with, at no costs to himself?

NOTES

1. For the view that the *market* rate of interest can never be negative see *Man, Economy and State*, by Murray N. Rothbard (New York: D. Van Nostrand Company, 1962), II, 693-698. For the opposite point of view, see Ludwig Von Mises, *Human Action* (Chicago: Henry Regnery Company, 1966), p. 542.
2. *Ibid.*, p. 484.
3. Robert Nozick is wide of the mark as far as time preference is concerned. In his "On Austrian Methodology" (Unpublished Manuscript), page 62, he states:
 "The time preference found in animal experiments is not, I assume, to be explained by their performing rational calculations, even implicitly. How is it to be explained? . . . (A)n organism which . . . exhibits . . . time preference will, on the average, satisfy more of its desires. Supposing that such a time preference tendency arose by random mutation and was transmitted genetically, and that the desires involved themselves were connected with survival to reproductive age, ability to protect progeny, etc., then time preference would be evolutionarily adaptive, and would be selected for in the process of evolution, once it appeared. If some such explanation accounts for its presence in lower organisms, it is reasonable to think that we too have some genetically based time preferences. The evolutionary process has built time preference into us, for within that process the rationality of time preference is reflected as adaptive value."
 The problem with seeing "time preference as evolutionarily adaptive" is that this implies that there was a time before time preference took hold; that in the past, creatures *acted and chose*, even though they lacked the capacity to prefer present action to future; which means, they lacked the ability to act in the present — a manifest impossibility.
4. Rothbard, *Man, Economy and State*, p. 61.
5. Roger Garrison, "Reflections on Misesian Time Preference" (Unpublished Manuscript), p. 6.
6. Ludwig Von Mises, *Human Action* (Chicago: Henry Regnery, 1966), p. 489.

7. *Ibid.*, p. 490.

8. *Ibid.* p. 490.

9. The word "pathological" must be meant either in a psychological sense or in an economic one. If the former, it is completely irrelevant to praxeology, our area of interest, which is concerned with the logical implications of human action, not with the psychological motivations behind it. If the latter, Mises must be interpreted as seeing the case of suicide through extreme dieting as *sui generis*, as not fitting within the usual nexus of positive time preference. It is this latter view that is criticized in the text of this paper.

10. Negative anticipations are also possible. Thus, if one is promised a public whipping, for transgressions of the criminal code, one may well wish to get it over as soon as possible. This case may be interpreted as indicating a higher time preference rate than is actually true. Here again, it is not a simple choice between whipping now and whipping later. If one chooses immediate whipping, he also gains by not having to suffer from the anticipation of the future punishment. It is only when this additional benefit is netted out of the analysis that the true rate of (positive) time preference can become apparent.

11. It must be stressed that the resulting negative number is based on insurance principles, and cannot legitimately be considered a "negative rate of interest". As Roger Garrison has brilliantly written (in personal unpublished correspondence):

"The possibility of a negative rate of interest is mentioned by George Stigler in his *The Theory of Price* (3rd edition only) on page 278. He footnotes his remark and points out that no one would accept a negative interest rate unless there were considerable *storage* costs associated with holding cash. His negative rate, then, is really the interest rate minus the storage rate. Of course, if the latter is larger than the former, the difference will certainly be negative. What is objectionable is thinking of this difference as the interest rate. The Austrians have never claimed that the interest rate minus whatever anyone might decide to subtract from it will still of necessity be a positive number! (The interest rate minus the distance to the moon is a very large negative number. It is not an extremely negative rate of interest. Rather, it is approximately the distance to the moon.) In other words, the Misesian insight that the interest rate must be positive abstracts from e.g. storage payments."