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The relationship between wealth or income and time preference is empirical, not apodictic: a critique of Rothbard and Hoppe

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Abstract There is no doubt that when income or wealth increases, impatience for present goods declines. When time preference for the present falls, interest rates decline as well. But is this phenomenon a necessary condition of human action as Rothbard and Hoppe contend? This is widely thought to be true when a man is on the very verge of death. There is an aphorism according to which "a drowning man will grasp even at the blade of a sword." In this view, someone who is starving will not postpone the consumption of food for tomorrow that is necessary to keep him alive today. But we disagree. And what is the situation under more ordinary circumstances far removed from starvation? We argue in this paper that, contrary to Rothbard and Hoppe, under these conditions it is a reliable but only a broad empirical generalization that time preferences and interest rates are inversely related to wealth or income, it is not a matter of praxeology.

Keywords Wealth · Income · Time preference · Praxeology · Empirical · Interest rates

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I. Introduction: time preference and wealth

It is a commonplace that individuals' time preferences decrease[1] as they become wealthier. An interesting issue is whether this is an empirical regularity or a matter of praxeology. If it is praxeological in nature, then there could *never* arise a counterfactual. A simple thought experiment suggests that this is not the case.

Imagine an individual, A, who is 65 years of age, and not particularly well-off financially; he is a "cautious hedonist." An independent contractor, as such he has no fringe benefits other than those A provides for himself. His gross receipts from his labor were $50,000 last year. In addition, his net worth of $50,000 at the beginning of last year yielded him a cash equivalent return of $3,500. Net of FICA, Medicare, and income taxes, his available cash was $40,000. Because of a family history of long life, a desire to retire at age 67, and an expectation that social security can not be relied upon to provide much, if anything for his retirement, he spent $25,000 on consumers' goods and bought various financial assets with the other $15,000, his plan being to refrain from liquidating those assets until he retires and to reinvest any dividends and interest earned thereon. Thus only 62.5% of his available income was spent on consumers' goods. He plans to repeat the same pattern this year. The only difference is that A's cash equivalent return is expected to be $4,550, so that, after taxes and FICA and Medicare "contributions," he has $40,785, of which he intends to spend 62.5% ($25,490) on consumers' goods (including that already so spent this year) and 37.5% ($15,295) on financial assets (including that already so spent this year).

A then spends $1 on a lottery ticket.[2] Amazingly, he wins $100,000,000, after taxes. Now that his ship has come in, he decides to enjoy all the pleasures of life that money can buy. He puts aside $10,000,000 to provide for his old age, now figuring that his new pattern of riotous living might shorten his life span, but that, in any case, $10,000,000 will be more than enough to provide all the purchasable pleasures relevant to him in his old age. A has no living relatives, no friends, no acquaintances, and no charities of any kind to whom he wants to leave an economic legacy. He therefore undertakes to spend the entire remaining $90,000,000 this year.[3] Therefore his ratio of expenditures on consumers' goods to available

[1] It is indeed a "commonplace" in the economics profession that time preference can increase and decrease, rise and fall, and that the "time preference rate" is a valid concept. While the first two mentioned authors of the present paper at one time in their careers accepted this viewpoint, (one of them did so in print; see Block, 1978) they no longer do so. The reasoning of the first two mentioned co-authors is that a preference, any preference, whether across time or between items at a moment in time such as apples and bananas, is essentially an ordinal phenomenon. As such it cannot have a "rate" and cannot "rise and fall," at least not as a matter of praxeology. In preferences, one can only prefer and set aside, and this choice is not praxeologically compatible with cardinal and objective dimensions such as "rates," or "increasing" or "decreasing." For more on this point see Barnett and Block (unpublished). Nevertheless, for purposes of the present paper, we adopt, arguendo, the widely accepted notion of time preference rates that is contrary to the position of these first two authors.

[2] The following is included for the sake of completeness. Because A thinks it déclassé to play the lottery, he sneaks in once a year and spends a dollar of his non-consumers' goods funds on one $1 lottery ticket. He considers this to be a financial security, and he gets no pleasure from it, directly—sort of like those people who know big business is immoral, but hold their noses and buy stocks and bonds for investment purposes. Of course, praxeologically, we know he prefers his action of spending his $1 on the lottery ticket to any other action he could have taken at the time he did; nevertheless, he does not consider it an act of consumption.

[3] So that there be no problem arising from his spending any of the money on durable consumers' goods, and therefore, having an element of provision for the future thereby, we note that A spends the entire $90,000,00 on "wine, women, and song." That is it is all spent on consumers' services and non-durable consumers' goods.

income has increased from 62.5% to, approximately, 90%. Certainly his time preference has risen with, and as a result of, the increase in his wealth.

Other people may think him profligate or a fool, but, *de gustibus non est disputandum*. To wit: although a positive rate of time preference is indeed a praxeological necessity (Mises, 1999, 488–490), the specific rate thereof, and changes in it, for any individual, are not a matter of apodictic certainty. The internal rate of discount typically falls as income rises, *ceteris paribus*, but this is a broad empirical generalization, not an apodictic claim.

Let us consider a second case in point. A man with no relatives or friends, save for one young daughter, and no life insurance, becomes terminally ill with cancer and loses his job. He receives assistance in the form of periodic money grants equal to one-half (1/2) his former wages. Also, a charitable organization, with his concurrence, takes custody of his daughter promising to maintain her in genteel poverty, taken to include a basic education. Although he has some wealth accumulated while he was healthy, he is obviously poorer than before he lost he lost his job and attendant wages. However, because he wants his daughter to be able to go to college, he does not spend any of his accumulated wealth *or even any of his periodic money grants—not a farthing*- on food or medicines, including painkillers. Rather, he allows his wealth to continue to accumulate, adding to it not only the accretions from interest and profits thereon, but also his periodic grants. Of course, he dies an agonizing death from a combination of cancer and starvation. Nevertheless, his choices bespeak his values. And his choice was to lower his purchases of consumers' goods relative to (claims against) capital goods in order to provide for his young daughter's future college education.

The point is, given his values, in the face of decreased wealth he increased his utility, relative to what it otherwise would have been, by reducing his purchases of consumers' goods in order for his daughter to be able to purchase more of a capital good (college education) in the future. These actions are only explicable if his time preference decreased when his wealth was reduced. So here we have a second example of positive, but decreasing, time preference with respect to wealth.

We venture to tax our readers' patience with yet a third example. We do so, first, because this is a conceptually difficult point, easy to misconstrue, and, second, because we are going to use this analytic framework as a basis for calling into question the work of two very prominent Austrian economists, and in our view we are still very far from entering that realm of negative marginal returns to numerical examples. Accordingly, here is our third attempt to put this point into "other words," the better to achieve clarity:

There is an inverse relationship between price and quantity demanded of a particular good, all other things equal, which is apodictic and can be derived from praxeological reasoning. But there is no praxeological law that specifies a determinate relationship between the size of one's income[4] and the proportion of income spent on any particular good or category of goods even at a given point in time. The reason is that value scales are autonomously determined and therefore are given data to the economist. Suppose that an individual has the following ranking of present and future goods, and let us assume that each increment of goods has a total market price of $20,000.

1st	food, clothing and shelter for family for a year
2nd	saving for child's 1*st* year's college tuition 15 years hence
3rd	saving for child's 2nd year's college tuition 16 years hence
4th	saving for child's 3rd year's college tuition 17 years hence

[4] Rothbard (1993 [1962], pp. 350–57) calls this the "post-income" stock of money assets.

5th	saving for child's 4th year's college tuition 18 years hence
6th	lease Ferrari for a year
7th	Carribean cruise, one-month lease on Swiss ski chalet, fine wines and theater tickets for the year
8th	annual country club membership

The point is, if the individual earned $20,000 per year, then his consumption/saving ratio would be infinite and then progressively decline to .25 (=$20,000/$80,000) as his income reached $100,000 per year. As his income increased further beyond $100,000 his time preference would begin to increase until at $160,000 his consumption/saving ratio would reach 1.0 (=$80,000/$80,000). At even higher incomes this individual's time preference may either rise or fall depending on the configuration of his value scale. So, ceteris paribus, taking his value scale as given and constant, there seems to be no determinate praxeological relationship between income or wealth and time preferences. We do not deny that there is a direct praxeological relationship between time preference and the pure rate of interest, and that the lower are autonomously chosen time preferences the lower is the pure interest rate, again ceteris paribus. We merely assert that there is no ceteris paribus praxeological relationship linking income or wealth to the height of the pure interest rate. This seems to be Mises's[5] position on the matter:

"The quantity of the available supply of capital goods influences neither the rate of originary interest nor the amount of further saving. Even the most plentiful supply of capital need not necessarily bring about either a lowering of the rate of originary interest or a drop in the propensity to save. The increase in capital accumulation and the per capita quota of capital invested which is a characteristic mark of economically advanced nations does not necessarily either lower the rate of originary interest or weaken the propensity of individuals to make additional savings... It is therefore impossible to formulate any praxeological theorem concerning the relation of the amount of capital available in the whole nation or to individual people on the one hand and the amount of saving or capital consumption and the height of the originary rate of interest on the other hand. The allocation of scarce resources to want-satisfaction in various periods of the future is determined by value judgments and indirectly by all those factors which constitute the individuality of the acting man (as summed up in his value scale)."

In our view, then, the graph relating an individual's time preference on the y axis, and wealth on the x axis, typically has a general downward trend, but it would not be totally unexpected to find rising portions of this curve throughout its length.

Some argue, however, that there is one exception to this general rule: at *very* low levels of income, when one is near death due to extreme poverty, then time preference rates must necessarily decline as income increases, e.g., the interest rate must rise as wealth falls to very low levels. At such a level of penury, unless the person receives food immediately, he will die. Thus, his willingness to exchange expected future consumption for present (i.e., a meal *right now*, in time to save his life) would have to be indefinitely large.

Rothbard states:

> "... praxeological analysis can supply some truths about time preferences, using *ceteris paribus* assumptions. Thus, as we have seen above, each person has a time-preference schedule relating to his money stock. A lower money stock will cause a higher time-preference rate for any unit of money remaining in his possession, until finally his time-preference rate will rise to infinity when the money

[5] Mises, 1963, pp. 533, 534, material in brackets supplied by present authors.

> stock—or rather, the money for consumption—is low enough. Here, one element, a man's money stock, is varied and his value scale is otherwise assumed to remain constant"
>
> (Rothbard, 1993 [1962] 380).

There is a modicum of truth in this, *if* it can be assumed that the goal of the man necessarily is to live. Unfortunately, we cannot fully rely on any such assumption. There is, after all, such a thing as suicide. A plausible counterargument to support the Rothbard hypothesis in this regard is the following: all people who act in such a manner soon die, and are no longer around to undermine this explanation. What they do no longer counts as "human action" since they are deceased. The problem with this retort, however, is that *during* the time such a person is still alive, it simply will not be true that his time preference rate will rise to infinity, or even be indefinitely large. If he is in the process of committing suicide through starvation, he would not at all be willing to give up almost anything in the future for a little bit of food, now. In fact, he would not be willing to give up anything in the future for food at present. Praxeology must account for such actions, too, no matter how abhorrent.

II. Hoppe on the relationship between income and time preference

Now that we have stated what we believe to be the true state of affairs in this regard, e.g., that time preference rates typically fall as income or wealth increases, but not necessarily so[6], it behooves us to uncover economists who have rejected this view. Otherwise, we are in danger of being (correctly) accused of beating a dead horse: insisting upon a bit of basic economic analysis with which no one disagrees. So, are there any economists of note who take a different perspective on this matter?

First out of the starting blocks on this matter is Hoppe, who states: "With real incomes rising, the effective rate of time preference falls. . . " (Hoppe, 1993, 119.)

To be sure, this cannot be counted as definitive support for the notion that there is a *necessary* connection between higher income and lower time preference rates, as opposed, merely, to an empirical one, but it is at least strongly suggestive of this view, in that the bare statement is not modified in any way at all[7]. Certainly, Hoppe here does not disassociate himself from the view that increased income necessarily reduces time preference rates; rather, were we to strictly interpret it, and how, better, else, to treat material of this sort, we can perhaps best say that this statement is ambiguous with regard to the two positions.

What are we to make, then, of the following: "In accordance with the law of marginal utility, each individual time preference curve . . . slopes downward as the supply of present money increases" (Hoppe, 2001, 8).

Here, it would appear, the only possible interpretation is that it is a matter of praxeology that time preference rates decline as wealth increase. Why so? Because it is an established axiom in Austrian economics that diminishing marginal utility stems from economic principles, not psychological states[8]. Given that Hoppe likens time preference curves to marginal utility curves, and the latter *necessarily* decline in the face of increased income, it would appear

[6] For a fuller articulation of this view see Block (1998).

[7] The quote continues, irrelevantly for our purposes, since we agree with the remainder of it, as follows: "(without, however, ever reaching zero or even becoming negative), adding still further increased doses of investment, and setting in motion an upward spiraling process of economic development."

[8] Rothbard (1993 [1962], 324) speaks of an "individual (who) has, of necessity, a diminishing marginal utility of money, so that each additional unit of money acquired ranks lower on his value scale. This is necessarily true."

to be definitive that he maintains that the same relationship also holds in the case of time preference.

On the other hand, there are reasons to believe that this is not the case, despite the foregoing. This is because Hoppe often, and continually, elsewhere modifies the seeming apodictic relationship between wealth and time preference with qualifications. For example, he states:

"In the course of becoming an adult, an actor's initially extremely high time-preference rate *tends* to fall," (Hoppe, 2001, 4, emphasis added). This statement is only peripheral to our concerns at best, since it bespeaks not the relationship between income and time preference, but rather between age and this rate. Nevertheless, it does establish that the concept "tendency" is very much within Hoppe's lexicon; so much so that when it is not mentioned, this suggests that he sees a praxeological, not an empirical, relationship between two variables.

Next, consider this statement:

"Finally, becoming old and approaching the end of one's life, one's time-preference *tends* to rise. The marginal utility of future goods falls because there is less of a future left. Savings and investments will decrease, and consumption—including the nonreplacement of capital and durable consumer goods—will increase. This old-age effect *may* be counteracted and suspended, however" (Hoppe, 2001, 5, emphasis added).

Here, again, we find the use of the tendency qualifier as evidence of the fact that Hoppe sees the relation between wealth and internal discount rates as non-apodictic. This is strengthened by the juxtaposition of the second sentence in this quoted paragraph where this author adds no such qualifiers to his perceived relationship between marginal utility, and (implicitly) wealth. Most definitive in this surmise is the following:

"Simultaneously, the saver-investor initiates a 'process of civilization.' In generating a *tendency* toward a fall in the rate of time preference, he—an everyone directly or indirectly connected to him through a network of exchanges—matures from childhood to adulthood and from barbarism to civilization," (Hoppe, 2001, 7, emphasis added).This "tendency" would appear to be definitive: here, civilization only generates a *tendency* toward reduced time preferences, not at all a necessary move in this direction.

Elsewhere, Hoppe appears to discern a praxeological relationship in this matter: "... for with rising real incomes, the marginal utility of present money falls relatively to that of future money, and hence under the *ceteris paribus* assumption of a *given* time preference *schedule* the interest *rate* must fall" (Hoppe, 2001, 63). This is evidence that this author sees the relationship not as a tendency, but as an apodictic one, since we can rely on the time preference schedule to impart a negative impetus from rising incomes to the time preference rate only if it is everywhere a declining function. This must be necessarily so if Hoppe's conclusion is to make sense.

To summarize to this point: despite, perhaps, some slight failure to be crystal clear on this relationship, a "failure" which could easily be attributed to being concerned with other issues, and despite in one case likening this relationship to that which obtains between wealth and marginal utility, which *is* apodictic, the most reasonable conclusion is that it is unclear from the quoted passages whether or not Hoppe sees only a tendency in the negative linkage between income and personal discount rates.

If there is a certain amount of uncertainty regarding the views held by Hoppe with regard to the relationship between income and internal rates of discount in ordinary circumstances, matters are far different when it comes to taxation, and its relationship to time preference. Here, this economist clearly sees a necessary connection between more of the former and a higher rate of the latter.

States Hoppe: "... if taxation reduces one's income (which includes that derived from present consumption and leisure) and given the universal fact of time preference, that is, that human actors invariably prefer present goods over future goods (i.e., that they cannot do without continuous consumption and can engage in lengthier productions processes—more roundabout methods of production—only if a provision in the form of consumption goods has been made for the corresponding waiting period), *then it follows with logical necessity* that a person's effective rate of time preference must have been raised through this very act (the disutility of waiting must have increased), and hence that he will have to shorten the length of the structure of production as compared to the one that he otherwise would have chosen, and his output of valuable assets available at future dates accordingly will have to be lower than would be the case otherwise (Hoppe, 1993, 32, emphasis added).

Here, at last, we have a definitive statement to the effect that, it is a matter of praxeology, not an empirical generalization, that time preference rates *must* rise when incomes fall due to taxation. There is no possibility of misinterpretation in the face of so stark a claim. In the light of these remarks, we are inclined to discount, somewhat, Hoppe's previously examined "tendency" language, and impute to him the view that it is a matter of praxeology that incomes and interest rates are negatively related to one another.

III. Rothbard on the relationship between income and time preference

What are the views of Rothbard on the relationship between wealth and time preference? Given a negative relationship between them, is this an empirical generalization, from which there can be exceptions, or is it an apodictic one, from which exceptions are inconceivable? Our claim is that, as in the case of Hoppe, while there is indeed some ambiguity involved in how Rothbard answers this question, the evidence seems to point in a praxeological direction.

Based on some readings, it is possible to interpret Rothbard's views as lending support to the empirical hypothesis. He states: "Praxeology can never furnish an ultimate explanation for a man's time preference. These are psychologically determined by each person and must therefore be taken, in the final analysis, as data by economists." (Rothbard, 1993 [1962], 380).

However, Rothbard then launches into an explanation that can be interpreted in the very opposite manner on this issue. In his view: "... praxeological analysis can supply some truths about time preferences, using *ceteris paribus* assumptions. Thus, as we have seen above, each person has a time-preference schedule relating to his money stock. A lower money stock will cause a higher time-preference rate for any unit of money remaining in his possession, until finally his time-preference rate will rise to infinity when the money stock—or rather, the money for consumption—is low enough. Here, one element, a man's money stock, is varied and his value scale is otherwise assumed to remain constant" (Rothbard, 1993 [1962], 380).[9]

A difficulty with this last quote is that there is no such thing as a "time preference schedule relating to his money stock" or to anything else for that matter *apart* from his actual choices. That is, it is *not* the case that there are two separate things: an underlying schedule which can be placed in a *ceteris paribus* assumption, on the one hand, and on the other hand, actual choices made. Rather, there is *only* the latter. There *is* no "schedule" out there, somewhere, with which to contrast the actual choice.

[9] This author goes on to clarify that "Actually, it is not his *money* stock that is relevant to his time preferences, but the *real* value of his money stock."

Mises offers the following analysis of this point:

> "It is customary to say that acting man has a scale of wants or values in his mind when he arranges his actions. On the basis of such a scale he satisfies what is of higher value, i.e., his more urgent wants, and leaves unsatisfied what is of lower value, i.e., what is a less urgent want. There is no objection to such a presentation of the state of affairs. However, one must not forget that the scale of values or wants manifests itself only in the reality of action. These scales have no independent existence apart from the actual behavior of individuals. The only source from which our knowledge concerning these scales is derived is the observation of a man's actions. Every action is always in perfect agreement with the scale of values or wants because these scales are nothing but an instrument for the interpretation of a man's acting". (Mises, 1963 [1949], 1963, 94–95).

Precisely. The point is that Rothbard, in utilizing his *ceteris paribus* assumption of a "schedule" divorced from specific human action is in effect taking back what he had previously posited. That is, Rothbard started off his analysis with the stipulation that the negative relationship between wealth and time preference was a psychological one, not amenable to the apodictic necessity of praxeology, but then, with the help of his *ceteris paribus* assumption, reversed course and came to the very opposite conclusion. For Rothbard, as with Hoppe, the *ceteris paribus* assumption depends totally upon the fact that the relationship between internal rates of discount and income or wealth is entirely a negative one. If there are any positive sloped elements of the curve relating the two, then his conclusion could not be a valid one.

Given, however, that there are two possible interpretations of Rothbard's view pertaining to this relationship between the two variables, we shall conclude, as we did in the case of Hoppe, that there is at least some ambiguity involved, and come to no definitive conclusion on this matter.

Let us now consider Rothbard's analysis of the relationship between real money income losses that result from taxation, on the one hand, and time preference rates on the other. Our conclusion in this regard is that Rothbard is still somewhat ambiguous on this issue, but that based on a weighing of the evidence, that he, too, along with Hoppe, sees the relationship more in terms of praxeology than psychology.

While there is no "smoking gun," equivalent to Hoppe's definitive claim in this matter, Rothbard (1970, 73) draws a figure 4, depicting the relationship between time preference rates and money assets, with a negatively sloped curve.[10] Since there are no sections of this curve with upward slopes, this most reasonably must be interpreted as implying a necessarily inverse relationship between the two variables. Rothbard then states: "The lower the level of a man's real monetary assets, the higher will his time-preference rate be (given his time-preference schedule) and the higher the proportion of his consumption to investment spending" (Rothbard, 1970, 72). The material in brackets about "given time preference schedules," could conceivably serve as a reservation to the stated conclusion. However, we are interpreting this as we have above, to indicate a curve *downward sloping throughout* which necessitates an inverse relationship between time preference and wealth.

Consider several other statements of Rothbard on this matter: "Of course, historically, there is no reason why his time preference *schedule* should remain unchanged. It is important to know, however, that, given an unchanged schedule, his relevant time preference rate will fall" (Rothbard, 1970, 380). This would appear to be very definitive, admitting of no other than a praxeological, not an empirical, interpretation.

But here is a longer rendition of the relationship, the first part of which appears to make a praxeological claim, and the second to be a matter of economic history:

[10] See, also, Hoppe (2001, 8) for a similar diagram.

"Suppose, for example, that people were certain that the world would end on a definite date in the near future. What would happen to time preferences and to the rate of interest? Men would then stop providing for future needs and stop investing in all processes of production longer than the shortest. Future goods would become almost valueless compared to present goods, time preferences for present goods would zoom, and the pure interest rate would rise almost to infinity.

"On the other hand, if people all became immortal and healthy as a result of the discovery of some new drug, time preferences would *tend* to be very much lower, there would be a great increase in investment, and the pure rate of interest would fall sharply" (Rothbard, 1970, 381–382, emphasis added).

Note the "tendency" language in the latter part of this quote, which is missing from the former. This, we contend, suggests that in the end of the world scenario Rothbard sees the relationship between wealth (and/or expectations, in this case) to be apodictic, while he sees it as a matter of economic history (Mises, 1957) in the new drug scenario.

IV. The views of other economists[11]

While Rothbard and Hoppe have been prominent amongst those who have mis-analyzed the relationship between time preference and wealth, they are hardly the only guilty parties.[12] This section is devoted to a critique of several other Austrian economists who have misconstrued the wealth—time preference relationship, or have come close to focusing on it, but not precisely.

a. Lewin

First, consider Lewin (1997, 7 [page on website]): "... in the actual operation of the real world economy many things will influence the degree of time preference.... Among these influences is real income or wealth. *Ceteris paribus* an increase in real income will lower the time preference rate."

There is no "tendency" language here, nor any other attempt to soften or qualify this rather definitive language. Accordingly, it is difficult to reject the supposition that this author makes the same error as Rothbard and Hoppe: he means to claim that it is an apodictic necessity, not a broad empirical generalization, for real income to vary inversely with the individual's time preference rate.

But this interpretation is highly problematic, in that, as we have seen, it is entirely logically possible for incomes to rise, and yet time preferences to increase as well. Further, it falls victim to the three numerical counter examples with which we began our analyses.

[11] In an earlier draft of this paper, we focused on Hoppe and Rothbard, since these two, far more than any others, had dealt with the relationship between income and time preference rates. A referee of this journal called for a consideration of the views of additional economists on this matter. The difficulty is that while there are several who have touched upon the subject, they have not given it anything like a direct or full treatment, and, often, their remarks on it were peripheral to their own concerns. Hence, the paucity of commentary on the part of these authors in this section of the paper.

[12] There is, of course, a large Austrian literature that addresses not the narrow issue of how changes in income affect time preference rates, but rather the more general question of the genesis of the latter. Under this rubric consider the following: Block (1978 and 1990); Bohm-Bawerk (1884); Faber (1979 and 1986); Garrison (1979b, and 2001); Greaves (1974); Mises (1912, 1999); Pellengahr (1986a, 1986b, and 1996); and, Rothbard (1962, 1987).

b. Fetter

What is Fetter's take on the issue at hand? He states: "The greater provision for present desires thus made possible [by exogenous increases in productivity] leads us to expect a reduction of the preference for present goods . . . " (Fetter, 1977, 247, material in brackets added).

In terms of our own present analysis, this is "neither here nor there." That is, Fetter vouchsafes us no answer regarding the question of whether the admittedly negative relationship between time preference rates on the one hand, and income, wealth or productivity, on the other, is a broad empirical generalization, a "tendency," or a necessary relationship, based on praxeological considerations.

c. Garrison

Garrison (1979, 221) cites this very page, 247, of Fetter (1977), and says of this latter author: "Fetter goes on to point out that an increase in productivity increases capital values and, hence, wealth. He suggests that to the extent that increased wealth is associated with a fall in time preference, a lower rate of discount and a lower rate of interest would result."

This is entirely unobjectionable. Unfortunately, given our present quest, we must consider this non-definitive. That is, neither Garrison, here, nor Fetter before him, reveals a position on whether the negative relationship between time preference and wealth is an empirical or a praxeological one.

Next, consider Garrison's (1988, 47, material in brackets inserted) later take on the matter: "The extent to which a particular individual discounts (the future) depends upon his own time preferences, which in turn depend upon his particular circumstances."

It must be readily admitted that there is no "smoking gun" here. There are numerous reasonable interpretations according to which Garrison would not be guilty of the error discussed in the present paper. For example, the "particular circumstances" could refer to nothing more than subjective tastes. If so, then time preferences would depend upon "particular circumstances" in much the same unobjectionable manner as preferences for ice cream depend upon them.

However, it is entirely possible that lurking in the bowels of this language is the claim that wealth and or real income would have a negative relationship with time preferences. This interpretation is strengthened by the consideration that it is awkward[13] to state that a man's preferences for ice cream depend upon his "particular circumstances." Yes, they do in that a person from a backward country not familiar with the delights of, say, Rocky Road Ice Cream, would not develop a taste for it (Hayek, 1967). But, given that the individual hails from these here parts, his tastes for ice cream flavors stems from nothing more esoteric than his own personal tastes. Similarly, it is our contention that while a man's time preference rate cannot be totally unrelated to his social condition, *given* its parameters, his discount of the future is entirely of his own making, as much, that is, as is his taste in ice cream or anything for that matter.

[13] Given that Garrison is anything but an infelicitous writer, one possible interpretation of this "awkwardness" would be that he is committing the fallacy of seeing a necessarily negative relationship between wealth and time preference.

d. Kirzner.

This economist states as follows: "... physical productivity may significantly affect the level of wealth, and thus *the marginal rate of time preference"* (Kirzner, 1993, 186). But this must be unacceptable, too. It cannot be denied that physical productivity may, indeed, *will,* significantly affect the level of wealth. But that this should be taken as a definitive indication that the marginal rate of time preference will change is unwarranted. In effect, we are here objecting to the "thus" in the above quotation. That is, it does not at all logically follow that the marginal rate of time preference *need* change, even by one iota, in the face of an alteration in wealth. That it is *likely* to fall is a correct broad, and correct, empirical generalization. But that this is *necessarily* so, that it is *apodictic*, is not and cannot be established. The point is, contrary to Kirzner, and as far as praxeological considerations alone are concerned, the marginal rate of time preference may rise, fall, or stay exactly the same in the face of an increase in physical productivity and hence wealth.

V. Conclusion

Based upon our examination of the record, we derive several conclusions:

When it comes to the negative relationship between time preference and wealth in the absence of taxation, while both Hoppe and Rothbard made statements to the effect that this is a matter of praxeology, they also articulate some views that might draw us to the opposite conclusion, namely, that these are only empirical tendencies based, perhaps, upon psychological considerations. However, when this relationship is explored in the context of taxation, then Hoppe is definitive, and Rothbard only somewhat less so, in maintaining that taxes, which necessarily reduce income, inevitably raise time preferences, and that this is *not* a matter of empirical generalization but rather stems from praxeological considerations.

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