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A Note on Two Erroneous Ways of Defending the Pure Time Preference Theory of Interest

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ABSTRACT: The present paper aims at showing that two particular types of arguments in favor of the pure time preference theory of interest (PTPTI) are mistaken. First, the idea that the logical opposite of time preference consists in the proposition that, other things equal, one must *always* prefer the future (and that therefore one would *never* consume or act), is problematic. The negation of a universal affirmative proposition is not the universal negative, but the particular negative. Therefore, the opposite of time preference is rather the thesis that man at least once prefers the future, other things equal. This has to be proven absurd for time preference to be

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established as a praxeological (and not just as a fairly general empirically true) law. Second, it is here argued that the idea that the rate of interest as it emerges in the exchange of present money for future money simply reflects pure time preference is problematic. Money holding and spending is—like all other goods—affected by the problem of timing. Moreover, to say that pure interest is isolated by money interest which, in turn, is a composite magnitude which cannot be grasped unless one already operates with the concept of pure interest, is to argue in a circle.

KEYWORDS: time preference, pure time preference theory of interest *IEL CLASSIFICATION*: B13, B25, B53, E43

INTRODUCTION

The aim of the present paper is specific and narrow. Never-L theless, the issue it tackles is one which should be of general interest both from a narrower, technical perspective and a liberal arts educational perspective. The complex world in which we live is hardly intelligible without sound economic theories in general, and at least some view on the problem of interest. As interest rates are among the key elements for a proper understanding of the crisis in which the world has found itself in the last few years, this is probably a good moment to pause and contemplate anew that fundamental phenomenon. But, as Mises says somewhere, there are no shortcuts to wisdom. Understanding a phenomenon of reality usually implies the readiness to go through the painstaking process of following theoretical debates, some wider, some narrower. And of following arguments—some straightforward, some more cumbersome—for and against one theory or another. A bit of this is proposed below.

Although the authors consider the pure time-preference theory of interest (PTPTI) to be the valid theory of interest, the focus here will be on two arguments in favor of it that we consider problematic. After a brief restatement of PTPTI, we will proceed to analyze the first argument: namely, that by performing a *reduction ad absurdum* on the time-preference principle we obtain the unacceptable result that man must *never* act or consume, or, which is the same, man must *always* prefer the future (other things equal). After critiquing this argument and offering a possible modified correct version of it, we will proceed to the second (problematic, in our

view) argument in favor of PTPTI—namely, that thinking in terms of money succeeds in isolating pure (time-preference determined) interest. After offering a criticism of this view also, we conclude.

One last point for this introduction: even though the contribution of this paper—if indeed there is one—is mainly negative, we are confident that it can help more forcefully restating PTPTI and defending it against its critics. Nevertheless, we think that task should be relegated to a future article.

THE TIME PREFERENCE PRINCIPLE AND THE PURE TIME PREFERENCE THEORY OF INTEREST, IN BRIEF

The pure time preference theory of interest is one of the core elements of Austrian economics. One can say it is almost a signature of this way of doing economic analysis. It is also implied to a great extent in sub-domains such as capital theory, the analysis of the structure of production or the theory of the business cycle. It is, therefore, rather difficult to overestimate its importance. Nevertheless, it has constantly spurred controversy both at the time of its first more systematic exposition at the hands of Böhm-Bawerk¹ and more recently.² While one cannot do justice to it in a few paragraphs, we must nevertheless attempt a brief presentation for the purpose of establishing the theoretical context of the arguments discussed. We take as canonical the Mises-Rothbard version of PTPTI,³ as it can be found in their two major works, namely *Human Action* and *Man, Economy, and State*. We proceed in two steps, first presenting their concept of time-preference and then its immediate result, interest.

Thus, pertaining to time-preference itself, for Mises: "Other things being equal, satisfaction in a nearer period of the future is

¹ The *locus classicus* is Eugen von Böhm-Bawerk. 1959. *Capital and Interest* (3 vols.). South Holland, Ill.: Libertarian Press.

² See, for instance: Pellengahr (1996), Hülsmann (2002), Murphy (2003), Cwik (2003), Gunning (2005), Herbener (2011) or Latham (2012).

³ We are aware of the opinions which consider that there are significant differences even between Mises and Rothbard in the way they present PTPTI (Pellenghar, 1996). We consider those differences to be significantly less important than usually considered, but for the purpose of analyzing the two arguments which constitute the focus of the present paper there is no need to settle this issue.

preferred to satisfaction in a more distant period; disutility is seen in waiting" (2008, p. 480). And, "Satisfaction of a want in the nearer future is, other things being equal, preferred to that in the farther distant future. Present goods are more valuable than future goods" (2008, pp. 480–481).

Likewise, for Rothbard:

A fundamental and constant truth about human action is that *man prefers* his ends to be achieved in the shortest possible time. Given the specific satisfaction, the sooner it arrives, the better. This results from the fact that time is always scarce, and a means to be economized. The sooner any end is attained, the better. Thus, with any *given end* to be attained, the shorter the period of action, i.e., production, the more preferable for the actor. This is the universal fact of time preference. At any point of time, and for any action, the actor most prefers to have his end attained in the immediate present. Next best for him is the immediate future, and the further in the future the attainment of the end appears to be, the less preferable it is. The less waiting time, the more preferable it is for him (2009, p. 15; italics in original).

Time preference may be called the preference for present satisfaction over future satisfaction or present good over future good, provided it is remembered that it is the same satisfaction (or "good") that is being compared over the periods of time (2009, p. 15, n. 15; italics in the original).

For Mises and Rothbard, there is no question that the immediate (and somehow obvious or self-evident) consequence of time-preference is the existence of (originary) interest. Thus, Mises says:

Time preference manifests itself in the phenomenon of originary interest, i.e., the discount of future goods as against present goods (2008, p. 521).

Interest is a homogeneous phenomenon. There are no different sources of interest. Interest on durable goods and interest on consumption-credit are like other kinds of interest an outgrowth of the higher valuation of present goods as against future goods (2008, p. 523).

Originary interest is the ratio of the value assigned to want-satisfaction in the immediate future and the value assigned to want-satisfaction in remote periods of the future. It manifests itself in the market economy in the discount of future goods as against present goods. It is a ratio of commodity prices, not a price in itself. There prevails a tendency toward the equalization of this ratio for all commodities. In the imaginary construction of the evenly rotating economy the rate of originary interest is the same for all commodities (2008, p. 523).

And for Rothbard, again:

It is this *time element*, the result of various individuals' time preferences, and *not* the alleged independent productivity of capital goods, from which the interest rate and interest income arise (2009, p. 352; italics in original).

...the interest rate ...is the agio, or discount on future goods as compared with present goods, i.e., the premium commanded by presents goods over future goods. ...[T]his exchange rate between present goods and future goods is not only uniform in the production process, but throughout the entire market system. It is the "social rate of time preference." It is the "price of time" on the market as a resultant of all the individual valuations of that good (2009, p. 353).

The interest rates discussed here are simply hypothetical schedules, and they indicate and reveal the time-preference schedules of each individual. In the aggregate ... the interaction of the time preferences and hence the supply-demand schedules of individuals on the time market determine the pure rate of interest on the market. They do so in the same way that individual valuations determine aggregate supply and demand schedules for goods, which in turn determine market prices. And once again, it is utilities and utilities alone, here in the form of time-preferences, that determine the market result; the explanation does not lie in some sort of "mutually determining process" of preferences and market consequences (2009, p. 382).

This pure rate of interest, then, is determined *solely by the time preferences of the individuals in the society, and by no other factor* (2009, p. 389; italics in the original).

We have here in brief, the essence of the pure time-preference theory of interest. Apart from the fact that it has many important general implications (that interest is a price or price-ratio, or a market phenomenon not some *fiat* or convention; that it is not the price of money; that it is not the fruit of exploitation but of inter-temporal, mutually beneficial, exchange; that it cannot therefore be abolished, or manipulated without suffering the natural consequences; or that it cannot be conceived as falling, in real terms, below zero) this theory of interest has also some more technical consequences which are, again, very important in the Austrian paradigm. Thus, the disentangling of profit from interest is dependent (so far, at least) on this way of seeing interest; this in turn opens up the way of understanding profit, entrepreneurship and the firm. But probably the most spectacular implication of the time-preference theory of interest is the Austrian business cycle theory which is, mainly, a theory of the

inter-temporal dis-coordination of the structure of production caused by the manipulation of interest rates by governments. Loaded with consequences, PTPTI is neither an easy thing to swallow, nor some chaff to be dusted off one's analytical toolbox. That is why debate is crucial. Let us now proceed to the two arguments in favor of PTPTI and their critique.

THE FIRST ERRONEOUS DEFENSE OR THE PROBLEM OF THE LOGICAL OPPOSITE (THE NEGATION) OF TIME PREFERENCE

One of the most forceful and elegant arguments in favor of PTPTI is the—we think we can say famous—Misesian *reductio ad absurdum*. Mises delivers it in *Human Action* (in the chapter preceding the one dedicated to interest proper):

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 nonperishable 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 remoter period, he would never consume and so satisfy wants. He would always accumulate, 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 (2008, p. 481; italics ours)

We must conceive that a man who does not prefer satisfaction within a nearer period of the future to that in a remoter period would never achieve consumption and enjoyment at all (2008, p. 483).

If acting man, other conditions being equal, were not to prefer, without exception, consumption in a nearer future to that in the remoter future, he would always save, never consume. What restricts the amount of saving and investment is time preference (2008, p. 487).

The main idea of the above selections is that trying to negate the principle of time preference, gets one to an absurdity. And this absurdity is the "indefinite" postponement of consumption: man "would never consume and so satisfy wants." Two observations are in order here. First, Mises frames his expositions of the time-preference principle mostly in terms of *consumption*, even though it can also be put in (more general) terms of *action*, as we will see below that other Austrian authors do. So, one could say there is room for clarifications: is time preference grounded in consumption—a particular type of action, as not all actions are acts of consumption—or in action in general? Even though this might not be inconsequential, it does not affect our argument.

Second, what Mises does is logically peculiar. He negates a general statement—man always prefers satisfaction/consumption sooner—and arrives at a general statement—man always prefers future satisfaction/consumption (which equals never to consume/enjoy the satisfaction)—which he finds, justifiably, absurd. But from the general principles of logic and reasoning we know that the negation of a general statement must be a particular one. Therefore Mises must have made a mistaken *reductio ad absurdum*. What would be, then, the right way of negating the time preference principle? Before turning to this question let us see a few more instances where Austrian authors reason like Mises.

Rothbard more or less restates the Misesian argument:

If man, other things being equal, did not prefer satisfaction in the present to satisfaction in the future, he would never consume; he would invest all his time and labor in increasing the production of future goods. But "never consuming" is an absurdity, since consuming is the end of all production (2009, p. 51).

Huerta de Soto also employs the same argumentative turn, albeit doing it in terms of action rather than consumption:

[I]t is impossible to imagine a human action to which the principle of time preference does not apply. A world without time preference is inconceivable and would be absurd: it would mean people always preferred the future to the present, and objectives would be postponed, one after the other, just before they were reached, and therefore no end would ever be achieved and human action would be senseless (2009, pp. 271–272).

⁴ We owe this point to Flaviu Iepure.

Professor Block gives what I would probably choose as the canonical version of this argument (especially the last phrase):

If this were not so [time preference], we could never act in the present, for every action done now *could* have been done in the future. The fact that we choose to act in the present, when we could have waited, shows that we prefer the present; that we enjoy goods, the sooner, the better. But the future will present the same alternatives: action and non action. *Future* action will thus *also* imply time preference for the present, paradoxically. By acting in the immediate future, instead of waiting for the even more distant future, we also show ourselves as present oriented. The only way to illustrate a lack of preference for the present is never to act at all—a manifest impossibility for human beings (1990, p. 199; underlining ours; italics in original).

One more thing before we proceed further to what we consider to be the proper way of negating time preference. If above, where we presented the PTPTI in brief, we were able to provide quotes both about the time-preference principle as such and its crucial consequence/manifestation (originary interest), we should be able to contemplate the implications of negating time-preference in terms of interest (not only action, or consumption). Otherwise put, if negating time-preference leads to absurdities in terms of action, it should at the same time lead to absurdities (or at least just oddities) in terms of interest. And indeed one can find in Mises passages which can be interpreted in this way, such as the following:

[T]he fading away of originary interest would mean that people do not care at all for want-satisfaction in nearer periods of the future. It would mean that they prefer to an apple available today, tomorrow, in one year or in ten years, two apples available in a thousand or ten thousand years (2008, p.524).

We cannot even think of a world in which originary interest would not exist as an inexorable element in every kind of action (2008, p. 524).

Originary interest cannot disappear as long there is scarcity and therefore action (2008, p.525).

If there were no originary interest, capital goods would not be devoted to immediate consumption and capital would not be consumed. On the contrary, under such an unthinkable an unimaginable state of affairs there would be no consumption at all, but only saving, accumulation of capital, and investment (2008, p. 529).

The disappearance of originary interest would be tantamount to the disappearance of consumption. The increase of originary interest beyond all measure would be tantamount to the disappearance of saving and any provision for the future (2008, p. 530).

A quick observation: in the quotes above, the second and the third imply that (positive) originary interest cannot disappear unless together with all action and scarcity, while the first, fourth and fifth state that its disappearance would be equivalent to the disappearance of consumption (but not all action, as saving, investment, and accumulation would somehow continue, albeit absurdly). There we have again that (seeming) ambiguity of the Misesian conception of time-preference and interest: is it in terms of consumption, or more general, in terms of action?

Arguably, the spirit of the *reductio ad absurdum* argument is kept in these statements in terms of interest. Both a world without time-preference (as stated by Mises) and a world without interest—unsurprisingly—imply the disappearance of consumption or action altogether. And this can fairly be accepted as absurd. Nevertheless, the flaw of the previous arguments remains: the negation of a general proposition is conceived as another general one, which is incorrect.

Now let us turn to the question we suggested above. What would be the negation or logical opposite of the time-preference principle? We already hinted that it has to be a particular proposition, not a general one. That is the negation of "all p are q" ("all swans are white"; "man always prefers the present") must take the form "there is (at least) one p which is not q" ("there is one swan which is not white"). Applying this insight to time-preference, the proper negation should sound somewhat like this: "man sometimes (at least once) prefers the future" (other things equal, of course). If one feels at this point that "this cannot be!", that is precisely the point of contention: why can this not be? While the idea that man always prefers the future is more readily and immediately rejected as ridiculous, the one that he might now and then prefer the future does not immediately strike one as absurd.⁵ After all, do we not continually make plans

⁵ We should always be interpreted as saying *ceteris paribus*. We leave it out sometimes not to make the discussion more cumbersome than it already is.

for the more or less remote future, which intuitively demonstrates a preference to do some things sometime in the future, rather than right now (at the moment of planning)?⁶

Here, the Mises-Rothbard Austrian time-preference theory of interest has its (valid, in our opinion) answers. When one seems to prefer the future, there is one of the two: (1) other things are not equal (in most places one cannot or does not want to plan a ski vacation in July, or an outdoor swimming one in December); or (2) if the postponed enjoyment seems to be readily and identically (except for the time element) available at the moment of planning, one probably has more urgent or important enjoyments to satisfy (or other urgent future enjoyments to prepare) in the meantime, and *there* is the proper place to look for the impact of time-preference, which is still present.

We are now in a strange position. The theoretical, *reductio ad absurdum*, justification for time-preference as stated by Austrian authors is inadequate, while every seeming counter-example to it can, arguably, be squared with. In our opinion, the way out is to think through this idea that man could, other things equal, prefer sometimes the present, sometimes the future (at least once). Properly understood, it is absurd, because it implies—and this would be the crux of our argument—the contradictory concept of *conscious non-action*.

The opposite of time-preference would have to be manifested by man in a peculiar state. Contemplating the drinking of a glass of wine half an hour from now, man would have to be conscious, as preferring otherwise than the time-preference principle stipulates is a preference nevertheless. But this state could not be an action because if man would act in the meantime, we would have to shift our focus to that action, which could very well be driven by time preference. And the situation could not be considered a counter-example for time-preference (or an instance of the manifestation of the opposite of time preference).

⁶ Seeing things this way has an additional appeal as it would unite Austrians with other authors, such as Irving Fisher, making them less "parochial/isolated" and severed from the mainstream.

Therefore, to negate the principle of time-preference as theorized by Mises and Rothbard, one would have to think through the concept of conscious non-action, and would have to be able to illustrate it with realistic examples.

Can there be such a thing as conscious non-action? The short answer to this is no, as Mises defines action as purposeful, conscious behavior. So, conscious non-action is a contradiction in terms, an absurdity. And there we have it—the proper way to defend by reduction to the absurd the principle of time-preference: if man were not to always prefer (*ceteris paribus*) the present, he would have to exhibit moments or short periods of conscious non-action, which is contradictory, therefore absurd.

The long answer implies a more thorough investigation of Mises's view on this, together with highlighting the implications of accepting the possibility of conscious non-action for praxeology and economics. We will try to sketch the main lines of this in the following four points.

First, Mises defines action as purposeful or conscious (he seems to equate these two) behavior:

Human action is purposeful behavior... a person's conscious adjustment to the state of the universe that determines his life... the definition itself is adequate and does not need complement or commentary.

Conscious or purposeful behavior is in sharp contrast to unconscious behavior, i.e., the reflexes and the involuntary responses of the body's cells and nerves to stimuli (2008, p. 11).

Second, he seems, sometimes, to allow for the existence of conscious moments (short intervals) of non-action:

Action is not simply giving preference. Man also shows preference in situations in which things and events are unavoidable or are believed to be so. Thus, a man may prefer sunshine to rain and may wish that the sun would dispel the clouds. He who only wishes and hopes does not interfere actively with the course of events and with the shaping of his own destiny. But acting man chooses, determines, and tries to reach an end. Of two things both of which he cannot have together he selects one and gives up the other. Action is therefore always involves both taking and renunciation (2008, pp. 12-13).

The absence of action is not only the result of full satisfaction; it can no less be the corollary of the inability to render things more satisfactory. It can mean hopelessness as well as contentment (2008, p. 416).

Action is preceded by thinking. Thinking is to deliberate beforehand over future action and to reflect afterward upon past action. Thinking and acting are inseparable (2008, p. 177).

Yet, thirdly, Mises suggests strongly that man always acts (while conscious):

Praxeology consequently does not distinguish between "active" or energetic and "passive" or indolent man. The vigorous man industriously striving for the improvement of his condition acts neither more nor less than the lethargic man who sluggishly takes things as they come. For to do nothing and to be idle are also action, they too determine the course of events. Wherever the conditions for human interference are present, man acts no matter whether he interferes or refrains from interfering. He who endures what he could change acts no less than he who interferes in order to attain another result. A man who abstains from influencing the operation of physiological and instinctive factors which he could influence also acts. Action is not only doing but no less omitting to do what possibly could be done (2008, p. 13).

Indulgence in a routine which possibly could be changed is action (2008, p. 47).

Fourth, Rothbard emphatically says that man must always act:

Before analyzing the range of alternative choices further, it is necessary to emphasize that *man must always act*. Since he is always in a position to improve his lot, even "doing nothing" is a form of acting. "Doing nothing"—or spending all of his time in leisure—is a choice that will affect his supply of consumers' goods. Therefore, man must always be engaged in choosing and action (2009, p. 71).

One additional reason for considering that the Misesian praxeological paradigm cannot accommodate conscious non-action is provided by the tremendous, systemic, reconfigurations at the theoretical level that this concept would imply. If conscious nonactions are relevant for price formation, then an economist would have to study the more general category of phenomena which might be called *human behavior* (both action and conscious nonaction), and not only action. So much for praxeology. We have thus arrived at the conclusion of the first part of our article. We have, hopefully, showed the inadequacy of an usual argument in support of time preference and PTPTI—namely, that not to always prefer the present (other things equal) would mean to always prefer the future (which would mean either of the two absurd things: never to consume or, more general, never to act)—as it constructs the negation of a universal proposition likewise as a general proposition, which is incorrect. The way of escape from this is to reframe the reduction to the absurd as a particular proposition, namely, that to not always prefer the present would mean to sometimes (at least once) prefer the future. But this would be equivalent to engaging in what could be called conscious non-action, a concept we have argued is contradictory, therefore absurd. These being said, let us proceed to the second (erroneous) argument.

THE SECOND ERRONEOUS DEFENSE

Recently, Professor Herbener (2011) has given us an important scholarly instrument in our (always difficult) pursuits into the theory of interest. There, in his great introduction, he gives us a crystallized version of the second argument in favor of PTPTI that we want to tackle here. The gist of it is that the answer to an entire group of arguments against PTPTI (what is *the* interest rate in a barter economy, where heterogeneous goods enter into inter-temporal exchanges? Is time-preference referring to goods, or satisfactions? Is it referring to *the same* goods/satisfactions now versus later, or to *similar* goods/satisfactions but at different points in time etc.) could come by thinking interest in terms of money. And that by doing this, the pure-time preference determination of interest is somehow isolated or pinned down. Thus, Herbener writes:

This discount of future money relative to present money is interest and determines the pure, or time preference, rate of interest (2011, p. 15).

The rate of interest, reflecting pure time preference, emerges in the exchange of present money for future money (2011, p.36).

And one of the main reasons for the success of this theoretical strategy stems from the fact that money does not suffer from what Professor Herbener—along the lines of Fetter—calls the "timing problem."⁷ Thus,

Unlike all other goods, the timing of holding a unit of money does not affect its usefulness as a means to the end to which it is put, i.e., as a medium of exchange (2011, p. 53).

Because the moment in time that a unit of money is held does not affect its usefulness, money serves as a common denominator in inter-temporal, as well as present, exchanges. The exchange of present money for future money, therefore, isolates the time discount or pure time preference factor and permits the emergence of a pure rate of interest (2011, p. 53).

To elaborate a bit, the above is tantamount to saying two things: (1) that non-monetary goods *always* suffer from the timing problem⁸ while (2) money *never* suffers from the same.

Let us further look into this, especially the second aspect, which is also the crucial one. Why is it that money does not suffer from the timing problem? The specific argument advanced by Professor Herbener is the inter-temporally homogeneous role of facilitating exchange. Money has a peculiar role which is preserved through time. Two things come to mind here: first, is the intuition that one needs money at certain moments for certain payments completely absurd? Contemplating the birthdays of our children or wives,

An analogy can be here suggested with the *frequency of payment* problem discussed by Rothbard in *The Mystery of Banking*, pp. 60-63. If the timing problem can be reframed in terms of the demand for money—in the sense that money not suffering from timing implies that the demand for money will not increase around winter holidays, let us say—it would be odd to accept that frequency of payment affects money (the demand for it, therefore its value or purchasing power) but timing does not. Or that the problem of frequency of payment is wholly reducible to problems of time-preference (and not at all to problems of timing).

⁷ Time raises not only the time-preference problem, but also the *timing* problem. This appears when the moment itself of consumption/action or satisfaction is an essential part of a good. A cake on the birthday date is different from a cake in a usual day. Or, with the words of Herbener discussing Fetter, "different circumstances can arise at different moments in time for using a good as a means and therefore, the value of the end satisfied by the means can differ at different moments in time" (Herbener, 2011, p. 47)

⁸ This is necessary, otherwise inter-temporal exchanges in terms of other goods (which might not always suffer from the timing problem) could presumably also isolate pure (time-preference determined) interest. And this undermines the case for the peculiar role of money in this respect.

we feel that money (and the facilitation of exchanges) should best become available in the temporal vicinity of the events. So timing might matter even for the monetary good's evaluation. And, second, can we not apply the argument from the "peculiar use" to all goods? For instance, we could say that the use of water to "quench thirst" remains the same through time. Therefore, based on this, we could analogously argue that water does not suffer from the timing problem.

Backtracking to point (1) above—that non-monetary goods always suffer from the timing problem—we could here too question whether this is not asserted too strongly. It seems to us that if we push this idea to its extreme, it blows into pieces an indispensable element of acting man's framework—namely, what Professor Salerno has aptly called, after Mises, the "real present" or "praxeological time" (1993, p. 119). Man's life is not a series of actions and choices (some inter-temporal) anymore, but some strange kaleidoscopic behavior in which the consumption or use of every (non-monetary) good is timed-in quasi-automatically.

There is another problem, though, with this second argument in favor of PTPTI that renders it problematic. Even though Professor Herbener seems to think he has avoided such a trap, the above argument—at least a certain version of it—might imply circular reasoning.

It is true that real prices are money prices. Market rates of interest are money prices too, therefore. But, as we know from Mises's important real persons versus catallactic functions distinction, all market (money) prices are composites. Pure incomes can be disentangled from these composite/gross sums only by a process of thought which already presupposes a theory of such disentanglement and of the nature of each particular share of income. Therefore, dealing with the real world gross (money) interest rates is not the beginning, but the end of interest theory. Let us provide some supporting Mises quotes:

In the changing economy interest stipulated in loan contracts is always a gross magnitude out of which the pure rate of originary interest must be computed by a particular process of computation and analytical repartition. It has been shown already that in every act of lending, even apart from the problem of changes in the monetary unit's purchasing power, there is an element of entrepreneurial venture. The granting of credit is

necessarily always an entrepreneurial speculation which can possibly result in failure and the loss of a part or of the total amount lent. Every interest stipulated and paid in loans includes not only originary interest but also entrepreneurial profit (2008, p. 533).

Originary interest can therefore in the changing economy never appear in a pure unalloyed form (2008, p. 531).

Like entrepreneurial profit and loss, interest is not a price, but a magnitude which is to be disengaged by a particular mode of computation from the price of the products of successful business operations. The gross difference between the price at which a commodity is sold and the costs expended in its production (exclusive of interest on the capital invested) was called profit in the terminology of British classical economics. Modern economics conceives this magnitude as a complex of catallactically disparate items (2008, p. 532).

The only route left—and probably the intended one—for such an argument (that with money time-preference can be isolated) to proceed is to claim that the issue can be squared with *in thought* (or, to put it otherwise, *a priori*). By joining *in thought* interest and money we can somehow arrive—by means of this particular reasoning itself—to the idea that money interest is purely time-preference determined. But the problems of this route—a couple of them, at least—have been shown above to be significant.

CONCLUSION

We have tried to contribute to the defense of the pure time-preference theory of interest not by adding bullets, but by selecting or polishing some of them. Thus, the famous Misesian reduction to the absurd, according to which the negation of time preference is tantamount to the disappearance of consumption or action altogether, has been found inadequate in that it uses a general proposition to negate a general one, when it should have used a particular. The way out has been proposed to be the absurd concept of conscious non-action to which negating time-preference must lead. Secondly, the idea that reasoning in terms of money permits the isolation of pure time-preference determined interest has also been found unsatisfactory due, especially, to the difficulties involved in defending two implied theses: that money never suffers from the timing problem; and that non-money goods always do. In the hope of having done more than just adding to the

noise, we conclude with the thought that correct theories must be defended by correct arguments.

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