

Some Problems with the Pure Time Preference Theory of Interest

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Ever since Frank Fetter's innovative work, the pure time preference theory (PTPT) of interest has been a staple of Austrian economics. Although the PTPT has had its detractors,¹ most criticism has suggested an alternative framework, or has found problems merely with a particular exposition of the doctrine. The present paper takes the PTPT on its own terms, and seeks to demonstrate its insurmountable shortcomings. To this end, the present paper will analyze the most common arguments used in defense of the PTPT, and will demonstrate that such arguments should be entirely anathema to the Austrian economist.

The Pure Time Preference Theory of Interest

The PTPT follows the insight of Böhm-Bawerk, who said that positive interest rates were caused by the premium placed on present versus future goods. However, whereas Böhm-Bawerk allowed that “roundabout productivity” could influence the magnitude of this premium, the PTPT is

¹ E.g., Pellegahr, Ingo. *The Austrian Subjectivist Theory of Interest: An Investigation into the History of Thought*. Peter Lang, 1996. Also Lewin, Peter. “Rothbard and Mises on Interest: An Exercise in Theoretical Purity.” *Journal of the History of Economic Thought*, 19, Spring 1997, pp. 141-159.

insistent that time preference alone decides the matter. This brings us to the first argument for the PTPT.

I. “*Time preference is necessary and sufficient for positive interest rates.*”

Depending on one’s definition of *time preference*, the above claim is either trivial or false. *Time preference* can mean either (i) the *actual* or *ex post* premium placed on a present versus a future marginal good, or (ii) the *exogenous* or *ex ante* premium placed on a present versus a future marginal good. Virtually all defenders of the PTPT conflate the two definitions (often within the same argument), but they must be kept distinct; an agent can exhibit TP in one sense without exhibiting it in the other.

For example, it might be that a certain man does *not* exhibit TP in sense (ii); that is, if all else were equal, he would be indifferent between a marginal present or future good. However, if in a particular scenario all else were *not* equal—if, e.g., he knew he would be very rich in the future compared to today—then the man quite reasonably could prefer a marginal present good to a future good; that is, he would exhibit TP in sense (i). Thus, we could say of this man that he does *in this particular situation* prefer present to future goods, but *not* that he does so as a general rule.

On the other hand, it might be that a certain woman *does*, as a general rule, prefer present to future goods; she thus exhibits TP in sense (ii). So if she knew she would be equally wealthy in the future as she is today, she would

prefer a marginal present good. But if all else is *not* equal, we cannot say that she will still prefer a marginal present good. Suppose that she knows she will be much poorer in the future. This effect can completely overwhelm her exogenous preference for the present, such that she actually prefers a marginal future good. This woman would thus exhibit TP in sense (ii) but not in sense (i).

We now return to analyze the common claim that TP is necessary and sufficient for interest. If TP is meant in sense (i), the claim is trivial, and merely reiterates Böhm-Bawerk's insight, that interest can be viewed as the (actual) premium placed on present over future goods.² Since virtually everyone (including neoclassicals) agrees with this view,³ the claim—in the context of debates with so-called productivity theorists—reduces to, “In order for present goods to be valued more than future goods, it is necessary and sufficient for present goods to be valued more than future goods.”⁴

If TP is meant in sense (ii), then the claim is simply false. Interest is taken to be equivalent to the premium placed on present goods. We have seen above that a man could fail to exhibit TP in sense (ii), yet still place a premium on present consumption. Thus TP in this sense is unnecessary for interest. We have also seen that a woman *could* exhibit TP in sense (ii), yet still place a premium on a marginal *future* good. Thus TP in this sense is insufficient for interest.

² We will follow Böhm-Bawerk and say that interest is equivalent to TP in sense (i). Section VI deals with Israel Kirzner's argument that the PTPT considers interest as equivalent to TP in sense (ii).

³ “Everyone” does not include the present author, as will be clarified in Section II.

⁴ Space does not permit a careful defense of this seemingly unfair accusation. The skeptical reader is urged to review the PTPT literature him or herself, keeping in mind the two senses of TP.

II. “Interest is (due to) the premium placed on present versus future goods.”

This is Böhm-Bawerk’s seminal insight, and constitutes the very foundation of the PTPT. Yet it is riddled with serious difficulties for the Austrian economist.

First, the claim involves an aggregation far greater than that performed by any mainstream macroeconomist. After all, the PTPT compares the utility received from “present goods” with utility from “future goods.” On the face of it, this approach should seem very strange indeed to the Austrian.⁵

Second, the claim completely eliminates money from the explanation of interest. Interest is seen as a “real” phenomenon; the premium in money loans is considered a symptom, not the cause, of interest. In all other respects, Austrians are mindful of the “driving force” of money,⁶ going so far as to argue that profit and loss are not really meaningful concepts in a world devoid of money. Yet strangely, this does not stop Austrians from commenting on the magnitude of time preference independent of any

⁵ If someone “explained” the higher valuation of pounds versus yen by reference to “geography preference,” or by the fact that “British goods” were preferred to “Japanese goods,” surely the Austrian would shudder. Yet this is precisely how the Austrian explains the higher valuation of present dollars versus future dollars.

⁶ “The idea implied in the inappropriate term *level of prices*, as if—other things being equal—all prices could rise or drop evenly, is untenable. Other things cannot remain equal if the purchasing power of money changes.” (Mises, Ludwig von. *Human Action*. Henry Regnery Company, 1966, Chapter XII.) This quote itself demonstrates the claim of this paper, that the PTPT is non-Austrian. In a world of change, other things cannot remain equal with the passage of time. Does this not render the idea of time preference untenable?

mention of money prices. If it is only metaphorical to speak of *profit* in a barter economy, why is it meaningful to discuss *interest* in such a world?

Third, and most important, the claim presupposes that there is a *uniform* discount rate on future goods, both among individuals and across goods. For how could “the” rate of (ordinary) interest possibly be equated with the (possibly different) *rates* of discount on various types of future goods? The PTPT proponent’s attempt to solve this difficulty leads us to the third argument.

III. *“There arises a uniform rate of ordinary interest among all individuals and across all goods.”*

As with many arguments in the PTPT literature, this one is only true in a *stationary* equilibrium.⁷ As such, the Austrian should view it with due suspicion.

Imagine a simple, two-period, pure endowment economy. There are only two types of goods—apples and oranges—which can be picked from trees each period. The fruit must be eaten during the period in which it is picked, or else it will rot. (Note that there is neither production nor physical saving.)

⁷ If there is no uncertainty, the economy must be in equilibrium. If there is no underlying *change* in the system, then the economy is in a stationary equilibrium. (This corresponds to the evenly rotating economy.) But if conditions change over time—albeit in a perfectly predictable manner—then the economy is in a dynamic equilibrium.

Further suppose that, all else being equal, consumers are indifferent between apple and orange consumption, and also between present and future consumption. (There is thus no exogenous time preference.) However, there *is* diminishing marginal utility; for example, if someone had more apples than oranges (in a given period), he would be willing to sacrifice more than one apple to receive an orange in exchange (in that period).

Although there is no production or physical saving, there are still markets in which present apples and present oranges can be exchanged for each other, and for their future counterparts. For example, Joe can pick an apple today and give it to Sally (who eats it today), then Sally can pick an orange off of her tree *tomorrow* and give it to Joe (who eats it at that time). A convenient way to effect this trade is for Joe (in the first period) to buy a claim for a future orange (from Sally) at the price of one present apple.

Now suppose that, in the first period, the total number of apples is equal to the total number of oranges, while in the second period, there will be a much greater supply of apples and a much smaller supply of oranges. Suppose that these differences result in the following real exchange ratios (calculated in the first period):

1 present apple	:	1 present orange
1 present apple	:	2 future apples
1 present apple	:	$\frac{1}{2}$ future oranges
1 present orange	:	$\frac{1}{2}$ future oranges
1 present orange	:	2 future apples

1 future apple	:	¼ future oranges
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There is nothing odd about these values, nor do they allow for any arbitrage. What then is the rate of time preference (in sense (i)) in this world? It depends on whether we look at apples or oranges; the marginal present apple is valued more highly than the future apple, while the marginal future orange is valued more highly than the present one. Indeed, the neoclassical (dutifully following Böhm-Bawerk by considering interest as a real phenomenon) would inform us that there is not one but *two* (own) rates of interest in this world: +100 and –50 percent.

Perhaps this anomalous result is an artifact of the simplistic model, which abstracts from money. Suppose then that the fruit is traded indirectly against money, and that there is also a loan market. Further suppose that the nominal money rate of interest established on this loan market is 100 percent.⁸ Thus, if someone lends four dollars today, he will receive eight dollars in the next period. In equilibrium, it must be the case that he receives the same return if he “invests” in either apples or oranges. The following price schedule (calculated in period 1) satisfies this condition, and also reflects the real exchange ratios computed above:⁹

1 period 1 apple (spot)	:	\$2
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⁸ This number is completely arbitrary, and that is precisely the point: By considering only real variables, one cannot pin down the nominal rate of interest. All one knows is the *relative* price ratios. Any nominal interest rate at all could be achieved (while still reflecting the same real exchange ratios) by appropriately adjusting the prices in the table.

⁹ Due account must be made for interest. For example, we know that a present apple must be equal in market value to two future apples. Two future apples will sell (in period 2) for a total of \$4 (since they are \$2 each). But in *period 1*, this total is worth only \$2 (because of the 100 percent interest rate). And in fact, a period 1 apple sells for \$2.

1 period 1 orange (spot)	:	\$2
1 period 2 apple (future)	:	\$1
1 period 2 orange (future)	:	\$4
1 period 2 apple (spot)	:	\$2
1 period 2 orange (spot)	:	\$8

For example, someone in the first period can invest \$4 in four claims on future apples (since they cost \$1 each). In the next period, the spot price of apples remains the same, so the four delivered apples can be sold for a total of \$8. Or, someone in the first period can invest \$4 in one claim to a future orange. In the next period, the spot price of oranges will have risen to \$8, and the person can then sell the delivered orange to reap this return.

We see that, in general, there is no reason for a uniform rate (or even sign!) of time preference to emerge across goods, since price ratios may change over time.¹⁰

IV. “Capital goods possess no independent productivity; all productive value (except for time preference) is ‘swept back’ to the original factors used in their construction.”

The “original factors” doctrine is perhaps the single most dangerous of the PTPT arguments. With equal justification, one could state: Consumer goods possess no independent value that is not swept back to the higher-order goods used in their construction. Although technically true, one wonders what the *purpose* of this statement is. Surely the claim is

¹⁰ One cannot deduce the real rate of interest from the nominal rate since, as every Austrian knows, there is no way to construct a non-arbitrary price deflator; the price of apples has stayed the same, while the price of oranges has quadrupled.

dangerous, in the sense that it might mislead one into thinking that the true source of value in a finished good derives from the value of its components, and not vice versa.

In the same way, Claim IV might mislead one into thinking that the original productive value resides in land and labor, and flows *into* a particular capital good. But this is exactly backwards. Suppose there is a particular mineral that has only *one* use, as a component in a machine. Then clearly, the mineral is productive only insofar as the *machine* is productive; the mineral has no “independent productivity” at all.

Besides this quibble, there is a much deeper flaw with the original factors doctrine; it too is only true in a *stationary* equilibrium (i.e. an evenly rotating economy).

Imagine a simple world in which umbrellas are constructed during a three-period process. In the first period, raw materials are extracted (using only labor) from the ground, forming 4th-order goods. Labor is then applied to these goods in the next period to form 3rd-order goods, to which labor is applied to form 2nd-order goods, until finally umbrellas are formed when the finishing touches of labor are applied to 2nd-order goods. Starting initially from a stationary equilibrium, the market value of the original raw materials must be equal to the market value of a finished umbrella, discounted of course by three periods at the prevailing rate of interest.

Now suppose that there is an unexpected increase in the amount of rainfall. This boosts demand for, and the price of, umbrellas. There is now a

temporary arbitrage opportunity in the price structure: Even accounting for interest, the price of 2nd-order goods and the labor needed to transform them into finished umbrellas is lower than the new market price of umbrellas. Consequently, entrepreneurs bid up the price of labor and 2nd-order goods.¹¹

The process does not stop there, of course. The prices of the goods of higher orders are also bid up. If the economy had simply moved to a new stationary equilibrium (i.e. if the rainfall settled down at this new amount forever) then the PTPT theorist would be perfectly correct: the prices of the capital goods used in the construction of umbrellas would possess no “value surplus” except that attributed to time preference. The increased value assigned by consumers to umbrellas would be entirely swept back to the original land and labor used in their construction.

In particular, the price, say, of a 3rd-order good would necessarily be equal to the price of a 4th-order good plus the price of the labor used in the fourth stage, times the gross market rate of interest. Thus, the physical productivity of the 4th-order good (i.e. its technological ability to generate a 3rd-order good) cannot explain why investment in the 4th stage yields a financial return one period later.

But this result does not hold if the increased rainfall is merely *temporary*. Suppose that meteorologists report that the amount of rainfall will return to its previous level—and remain there forever—after, say, three periods. Then

¹¹ This exposition assumes a certain myopia of the people involved, in order for the reader to better understand what is happening. It may very well be that astute entrepreneurs quickly anticipate the effects of the increased rainfall. Thus, the producer of 3rd-order goods need not wait for the price of 2nd-order goods to be bid up before realizing that his own product will become more valuable in the dynamic equilibrium.

it is no longer true that the higher price of umbrellas will be imputed entirely back into the land and labor factors. Even after everyone has adjusted to the new situation, there will remain a “gap” in prices between the 3^d and 4^h stages. That is, the price of a 3rd-order good will be higher than the prices of its inputs, even accounting for (the stationary rate of) interest.¹² The price of a 4th-order good will not be bid up, because *by the time this good produces a finished umbrella*, the rainfall will have returned to its original level. Over the next three years, the “gap” will move down the production process, until the economy returns to the original stationary equilibrium. This is illustrated in the following chart, which assumes an original 100 percent rate of interest. The shock in rainfall occurs in the beginning of period 3. (Note that the prices for period 3 are posted *after* everyone adjusts to the shock.)

Stage	Market Value (Neglecting Labor Inputs)						
4 th	125	125	<u>125</u>	125	125	125	125
3 rd	250	250	1250	<u>250</u>	250	250	250
2 nd	500	500	2500	2500	<u>500</u>	500	500
1 st	1000	1000	5000	5000	5000	1000	1000
Period:	1	2	3*	4	5	6	7
	Stationary Eq.		Dynamic Equilibrium			Stationary Eq.	

To repeat: In period 3, the 3rd-order capital goods possess a “value surplus” that would seem to be impossible according to the PTPT literature. Moreover, those who invested \$125 (in period 2) in 4th-order goods have enjoyed a return of 900 percent. It is true that this return was unexpected,

¹² We are assuming that the shock does not affect the rate of interest through any indirect effects.

and thus it would be inappropriate to classify it as interest on the capital invested; some of the return is pure profit. Nevertheless, the prices shown above (after period 3) are all *in equilibrium*; they are not mere transitory phenomena, nor do they reflect any error.

This scenario serves two additional purposes. First, it shows the corollary flaw in the PTPT claim that a uniform discount rate will emerge for the same units of time. Second, it highlights again the tremendous difficulty in equating interest with the higher valuation of present over future goods. In the stationary equilibrium, the PTPT theorist can easily deduce the interest rate simply by examining the price margins—the net rate must be 100 percent. This follows (so the PTPT theorist would say) from the fact that, for example, a 2nd-order good is really nothing but a 3rd-order good, *plus one unit of time*.¹³ So any difference in their market values must be attributed entirely to time preference, that is, the rate of interest.

But how should the PTPT theorist describe the dynamic equilibrium periods? In each period, two of the stages exhibit the original 100 percent markup, while one of the stages exhibits a 900 percent markup. In period 4, it is still the case that a 2nd-order good represents a 3rd-order good plus one unit of time, so now the difference in market values between these items would lead us to believe the net rate of interest is 900 percent. But a comparison of the differences in the other stages would lead us to believe that the net rate were still 100 percent. We thus see a difficulty similar to that demonstrated in Section III, in which it was shown that there need not arise a uniform rate of time preference across goods.

¹³ Again, we are neglecting labor inputs for simplicity.

Before closing this section, it should be noted that a scenario such as this demonstrates the truly independent nature of Böhm-Bawerk's third cause of interest, "roundabout productivity."¹⁴ To avoid confusion, let it be repeated that the present author is *not* claiming that the different price margins should be considered as interest; he is simply claiming that *Böhm-Bawerk* thought they should be (since he defined interest as the higher market value of present over future goods), and hence—as this scenario illustrates—Böhm-Bawerk must be acquitted of the charge¹⁵ that he subtly returned to the productivity fallacies.

Some Objections

V. *Identical Objects, Different Goods*

The PTPT theorist will probably find the above arguments to be unsatisfactory, and will conclude that they suffer from an incomplete subjectivism. Just because a horticulturist considers two objects to be identical oranges does not render them two units of the same *good*; only the

¹⁴ To translate the scenario into Böhm-Bawerk's framework: A 3rd-order good in period 3 is more valuable than a 3rd-order good in period 4 because the former can produce one highly-valued umbrella in period 5, or one normally-valued umbrella in period 6 (because the finished umbrella in period 5 could simply be held for one period). The latter, however, can produce *no* highly-valued umbrellas in period 5, and one normally-valued umbrella in period 6. Thus, because of its superior technical productivity, the former is valued at \$1250, while the latter at only \$250. (Admittedly, Böhm-Bawerk did not seem to realize that he needed a dynamic equilibrium to achieve this result. Thus, although he was correct in his arguments with, e.g., Fisher, Böhm-Bawerk apparently did not know *why* he was correct.)

¹⁵ Mises 527-528.

actor's subjective valuations determine *this* equivalence. Thus, the scenario of Section III misses its mark; the “orange” of period 2 offers a higher marginal utility than the “orange” of period 1, and hence the two must be treated as *different goods*. Similarly, in Section IV, the “umbrella” of period 2 is a *different good* from the “umbrella” of period 4, and thus the 2nd-order good in period 4 is *not* the 3rd-order good plus one unit of time. Once this distinction is made, all of the apparent troubles with the PTPT fall away.

There are several problems with this defense; three of the gravest will be documented below. For clarity, we will change the example to give the PTPT argument the fairest possible hearing. It is typical to “refute” the law of time preference by citing the example of a man in the winter in possession of a unit of ice. Surely the man would be willing to trade away this object in order to receive a physically identical unit of ice the following summer. Is this not, the critic of the PTPT asks, a clear and reasonable case of someone preferring a future good to a present good? The PTPT theorist responds that no, the example makes the same mistake made by the present author in Sections III and IV; because the man derives a higher utility from ice consumption in the summer than in the winter, ice-in-the-winter is a *different good* from ice-in-the-summer. This standard PTPT defense will now be criticized in the context of the ice example.

A. Constant Preferences

First, the defense relies upon a constancy in preferences. Remember, the defense runs in this fashion: The man receives a certain utility, say W , from consuming the ice in the winter. He conjectures that he *will* receive a certain

utility, S , from consuming it in the coming summer. Now, the man still experiences time preference, so in evaluating the *present* utility of the summer consumption, the man discounts S to a lower value, s . Because the man decides to postpone consumption, we know that $s > W$. But there is still time preference; that is, $S > s$. It's just that S is sufficiently bigger than W , so that, even when its utility is discounted, the future ice consumption in the summer is more attractive than present ice consumption in the winter.

The present author believes that this approach, though at first quite reasonable, should give pause to the Austrian economist. Although one needn't interpret W and S as cardinal numbers, they *are* still comparable magnitudes on some scale, a scale that is held to be constant over time.¹⁶ Again, the PTPT defender is *not* merely comparing the present utility of winter ice consumption, with the *currently anticipated utility* of future ice consumption (that is, W with s). The PTPT theorist must *also* discuss the present utility of summer ice consumption (i.e. S), *as it will be experienced in the future*.¹⁷ The difficulty with this approach will be elaborated in the next section.

B. No Relation to Action

¹⁶ At the very least, it presupposes that an object's position in the present scale of values can be compared with its position in the (possibly different) future scale of values. E.g., consider the PTPT theorist's response to a different "counterexample" to the law of time preference: A young boy, who has never tasted alcohol, would (if he were sufficiently well-informed) exchange a present bottle of beer for a future one, since presumably by that time his preferences will have changed. The PTPT theorist does not simply ask, "What is the boy's estimate of his future utility from beer consumption?" No, the PTPT theorist *first* requires the boy to imagine *how much present satisfaction the beer will give him at that future date*, and *then* the boy must discount this value because of its remoteness.

¹⁷ Neoclassical models avoid these difficulties by assuming a constant intraperiod utility function. Time preference is modeled by multiplying future utility by a discount factor. In fact, it is very problematic to even *define* time preference without recourse to a constant scale of values over time.

Simply put, the statement “present ice-in-the-summer offers more utility than present ice-in-the-winter” should be *meaningless* to the Austrian economist; there is no way to relate this proposition to one involving the actions taken by an individual.

When we say that an apple offers more utility than an orange, we imply that, if faced with a choice between the two, the individual would pick the apple over the orange.

In the same way, when the man in winter decides to postpone consumption of his ice, the economist concludes that the man values “future ice-in-the-summer” more than he values “present ice-in-the-winter.”

But we can make *no* comparison of the utility between “present ice-in-the-winter” and “*present* ice-in-the-summer,” for the simple reason that winter and summer never occur at the same point in time. An actor *never chooses* between present ice-in-the-winter and present ice-in-the-summer, and thus the PTPT theorist’s comparison of the utilities offered by the two items is nonsensical. To compare a man’s satisfaction from consumption in winter with his consumption in summer is to commit a subtle interpersonal utility comparison.

C. Inconsistent with Intratemporal Definition

Most damaging of all, the PTPT definition of a *good* in an intertemporal context differs—and absurdly so—from the definition of a good in an intratemporal context. The PTPT theorist says that the marginal utility of

the unit of ice in summer is higher than in the winter, and so the two physical items are not really units of the same good. But the Austrian considers the marginal utility of the 1st gallon of water to be far higher than the marginal utility of the 100th gallon of water; are these items then different goods (rather than different units of the same good)?

Returning to the scenario described in Section IV: The PTPT theorist would no doubt claim that the “umbrella” in period 2 is a different good from the “umbrella” in period 3. But if we accept this distinction, we are thereby prohibited from ever saying that the demand for “a good” has increased. For example, it was not the case that the price of gasoline increased during the oil shock of the 1970s; rather, the good gas-during-normalcy was transformed into gas-during-the-OPEC-crisis. The market price of the latter good was higher than that of the former, that is all.

In a related vein, the PTPT theorist would presumably claim that the original factors doctrine was not refuted by the scenario in Section IV. For “land” to the Austrian economist is not really the nature-given factors, but rather those items that are non-reproducible from the actor’s point of view. Thus, in period 3, the 3rd-order goods really are land, in the sense that they can produce a highly-valued umbrella. This effect cannot be reproduced simply by taking a 4th-order good and waiting for one time period. So, after this subtle correction, it is still true that all value is swept back into the original factors; capital goods possess no independent productivity.

This move will certainly rescue the PTPT, but at what cost? For now we must say that, in the 3rd period, those man-made items that were previously

considered capital goods have now become land, but will only remain so for one period. After that time, the identical (from a technological point of view) items will once again become capital goods. And all the while, the items are used in the same production process, with the only exception being the market price of the final product.

VI. *Exchange Ratios vs. Value Appreciation*

A related PTPT objection to the arguments of this paper might run as follows: It is true that the neoclassical defines interest as the higher market value of present goods over future goods. However, the Austrian views the “interest problem” as one of an *undervaluation* of future goods. By assuming away exogenous TP, the various scenarios of the present paper do not constitute examples of interest, at all.

It must be recognized that this definition of “true” interest differs from Böhm-Bawerk’s. Böhm-Bawerk said interest was a reflection of a higher valuation of present over future goods (i.e. TP in sense (i)). Now, one of the *reasons* for this premium was a *general tendency* for individuals to undervalue future satisfactions (TP in sense (ii)).

The PTPT advocate¹⁸ has thus subtly changed Böhm-Bawerk’s approach. The advocate claims it is completely irrelevant that, e.g., one present apple exchanges for two future apples. This exchange only represents true interest

¹⁸ Kirzner, Israel. *Essays on Capital and Interest*. Brookfield, VT: Edward Elger Publishing, Ltd., 1996, p. 142.

if the subjective value of the two future apples *increases* with the passage of time, as the future apples become *present* apples.

There are serious difficulties with this criterion of true interest. First, it is subject to the above points regarding constancy of preferences; how exactly is one to define an appreciation in subjective value *over time*?

Second, and far more important, the criterion rules out phenomena that clearly must be considered examples of interest. To repeat, the PTPT advocate says that the following situation need not be an example of interest: Joe picks an apple off of his tree and gives it to Sally, who eats it. One period passes, then Sally picks off *two* apples from her tree, and gives them to Joe, who eats them.

In the same way, the PTPT advocate must claim that the following situation *also* need not be an example of interest: Joe takes one dollar out of his income and gives it to Sally, who spends it. One period passes, then Sally takes *two* dollars out of her income, and gives them to Joe, who spends them.

Indeed, if taken seriously, this criterion of true interest leaves us with the amazing possibility that there has *never* been an example of true interest in the history of mankind. The fact that the market value of present units of money has almost always been higher than the market value of future units is completely irrelevant. For if this higher market valuation were due to income growth over time, or the brevity and uncertainty of life, or the changing composition of goods available over time, then the PTPT advocate

must conclude that there is not the undervaluation of the “same good” for which he is looking, and hence no interest.

VII. *Introspection*

The above arguments notwithstanding, it seems that the concept of time preference has a definite intuitive appeal. It may be true, as was just argued, that the observing economist can never *prove* that discounting of a future good has taken place. But surely from introspection each of us knows that time preference is a real phenomenon.¹⁹

Closer scrutiny, however, reveals the weakness in this claim. First, introspection reveals time preference in which sense? There are countless instances where the delay of a gratification enhances its appeal, so it would seem that the widespread existence of TP in sense (ii) cannot be established from mere introspection. Thus, we are left with TP in sense (i).

Even this claim, though at first glance eminently sensible, is without basis. For really, all of the “obvious” cases of time preference are merely cases where present consumption is preferred to *undue* postponement. For example, a common rhetorical device consists in asking whether the reader would prefer \$100 today or in ten years; the choice will clearly be for the former.

¹⁹ For a critique of the claimed *a priori* validity of time preference, see the present author’s *Interest in the Austrian Tradition* (unpublished).

Yet this proves nothing. Suppose we ask: Does the reader prefer \$100 now or in ten seconds? Now the answer is not so obvious.

Other seemingly clear-cut examples also wither under closer inspection. The pregnant woman craving her favorite ice cream might think *she* is exhibiting time preference in a most definite manner. But she still waits *until she gets home* before opening her purchase; she does not eat the ice cream in the checkout line. Even the heroin addict waits until he is safely indoors before administering his next fix.

Yes, the PTPT theorist can safely point out that other things are not equal in these last two examples. But other things are *never* equal in the real world. Thus, although it is true that the PTPT need never fear a counterexample, it *also* cannot appeal to “obvious” real world *examples* of time preference, since they are always obscured by changing conditions.

Conclusion

Carl Menger considered Böhm-Bawerk’s theory of interest to be “one of the greatest errors ever committed.” PTPT advocates cite this as evidence of the superior subjectivism of their own approach. However, it may very well be that Menger objected more to the time preference element of Böhm-Bawerk’s theory, rather than his emphasis on roundabout productivity.

Austrians should reject any theory of interest that deals only with “real” phenomena, to the exclusion of money. A positive interest rate is simply a

higher price for present money units versus future money units. To label this phenomenon “time preference” is entirely unnecessary and can only lead to confusion.