Dr. Hülsmann and the Pure Time Preference Theory of Interest

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One of the most vexing questions still debated by economists is the causal explanation of interest rates. Even Misesians argue about interest. Specifically, Dr. Hülsmann and Dr. Murphy have criticized the standard Austrian position, the pure time preference theory of interest. These criticisms receive special attention since they cannot be dismissed on the usual methodological grounds. Their thorough and thought-provoking critiques deserve equally rigorous responses.

Dr. Hülsmann's 2002 paper "A Theory of Interest" demands particular attention because of the radical new theory of interest he proposes to replace the pure time preference theory (PTPT). In the paper Hülsmann points out time preference as Mises conceived it cannot explain interest rates. He goes on to dismantle standard value imputation theory and construct his own theory, the ends-means theory. This paper seeks to explore Dr. Hülsmann's criticisms and interest theory. First we must discover if the problems posed are insurmountable, then we must consider the ends-means theory of interest. We will conclude that the problems do not fully unravel time preference and, despite its intuitive appeal, the ends-means theory has a significant problem.

In brief, what is the time preference theory of interest? The theory explains the permanent income gained from capital goods. People value present satisfactions over future satisfactions, so there is a discounting process that takes place between the two. This discount manifests itself in the valuation of capital goods, which produces a difference in the value of the capital good and the products sold. The realized value of the products tends to be greater than what entrepreneurs were willing to pay, even after arbitraging away any pure profit. Mises and Rothbard lay out this standard exposition in chapter twenty-eight of *Human Action* and chapter 6 of *Man, Economy, and State* respectively.

Dr. Hülsmann levels four criticisms against this theory. 1) Time preference does not get at the fundamental explanation of interest rates 2) Mises fails to explain why $104 in the future is necessarily more valuable than $100 in the present 3) Mises's defense of time preference is illegitimate 4) Time preference can only ultimately explain one action, but explaining interest rates requires two actions.

Hülsmann follows his critique of time preference with the development of his own theory of interest. He attributes originary interest to the fundamental value gap between ends and means. In doing so he discards standard value imputation which describes the value between factors and products as equal. He also considers why this explanation might have been overlooked, how originary interest combines with other factors to result in observable monetary interest, and what factors affect the market rate of interest. We will focus only on Hülsmann's concept of originary interest and value imputation.

<div align="center">Hülsmann's First Point</div>

Hülsmann's first point introduces time preference's inability to explain the interest phenomenon. As he phrases the question, explaining interest rates requires explaining the value gap between the factors of production and the products produced (Hülsmann 78). Time preference, the general preference for present goods over future goods, cannot explain this gap. This point serves as a jumping off point to show how time preference evolved and changed between economists, notably Mises and Böhm-Bawerk.

Böhm-Bawerk considered time preference a general preference for present goods over future goods, rooted in the psychology of man and the increased productivity of longer processes (Böhm-Bawerk 1959b 259-289). Hülsmann recounts how Mises and others dismissed Böhm-

Bawerk's faulty defense of time preference and replaced it by integrating it as a category of human action.

Mises changed Böhm-Bawerk's idea of time preference when he integrated it into the larger category of human action. Mises considered time preference to be the use of a good in the present more valuable than its future, counterfactual use. In Hülsmann's words:

When Böhm-Bawerk, Fetter, and Fisher used the term 'time preference,' they referred to an observable value differential between two physically similar goods existing at two different points of time. But when Mises uses the expression 'time preference,' he refers to a *counterfactual* value differential between two alternative uses of one and the same good. (Hülsmann 83)

This point is a spring board, not a trenchant attack, and does not need to be refuted. Mises's reformulation of time preference may have altered the theory so that it no longer applied to interest. If Mises was unable to successfully prove time preference, then economists must reject both Böhm-Bawerk and Mises's theories. Hülsmann builds on this in his fourth criticism.

<div align="center">Hülsmann's Second Point</div>

Hülsmann's second point considers Mises's 104 dollar challenge to those who reject time preference. As Mises says "Those contesting the universal validity of time preference fail to explain why a man does not always invest a sum of 100 dollars available today, although these 100 dollars would increase to 104$ dollars within a year's time" (1998 483). Mises implicitly assumes that the 104 future dollars are more valuable than the 100 present dollars (Hülsmann 81).

Hülsmann takes issue with the fact that 104 future dollars are more valuable than 100 present dollars. Time preference insists that other things equal the present use of a good is more

valuable than the future use of a good. Hülsmann explains all other things cannot be held constant in this case (Hülsmann 81). Just because the two goods are physically identical (barring quantity) does not mean they are economically identical. They are used for two different actions, or have different purposes in decision making, so they are different goods. In Menger's terms, they are used for satisfying different wants so they are not the same good (Menger 56). Hülsmann never says this, but he might conclude that the time value of a good is too fundamental to be abstracted away with *ceterus paribus* claims.

Mises makes two arguments that confirm this argument. First, Mises argues that humans value the use of certain goods at specific times. The example Mises uses is the classic ice in winter versus ice in summer (1998 486). Ice is a different good in different seasons because its usefulness changes between seasons. Böhm-Bawerk makes a similar claim "The very fact, however, that two goods exist at different places of time makes them heterogeneous goods" (1959b 327). Second, Mises's arguments on time preference are counterfactual; they deal with two possible uses of the *same* good. Misesian time preference deals with the same good, but Mises points out goods at different places in time are different goods! Time preference is untenable as long as these points are true.

If we cannot say 104 future dollars are more valuable than 100 present dollars, Mises's challenge loses its rhetorical bite. So, are 104 future dollars preferred to 100 present dollars? If the good were anything but money, time preference would be in trouble. Money has certain characteristics that prevent this critique from being problematic.

Before investigating money, there are two relevant ways human value with respect to time. The first has already been dealt with: actors value the timing of an action due to their subjective preference. Ice in the summer and in the winter service different ends, just like

enjoying fireworks on the Fourth of July in America serves a different end than enjoying

fireworks in the middle of November. They are separate satisfactions because time plays a

crucial role in determining their usefulness. The second refers to the actions futurity, or time

preference (Kirzner 158-9). The two are conceptually separate because they refer to separate

value processes. Consider the ice example again. The value of the ices is different, but the use of

ice in summer earlier in the summer is more valuable than its future use later in the summer.

More abstractly, even if they are different satisfactions there is some element of preference for

the present over the future. This second preference may be called the time discount, or the

general preference for present satisfactions over future satisfactions.

Frank Fetter points out that money as the general medium of exchange has a unique time

element (Fetter 83). The first valuation with respect to time implies humans could value different

satisfactions at later periods of time. This means some future goods are more valuable than

present goods. Fetter describes how money, as the common denominator of exchange expedites

this process and isolates the time discount.

When people exchange money across time, they are actually using money to compare

two satisfactions at different points in time (Fetter 83). They have already done the relevant time

value comparison. In other words, they have taken into account when they place their actions in

time. That is known since they are actually making the temporal exchange. Comparing the two

satisfactions to money has eliminated this issue, effectively isolating the time discount. The time

discount manifests itself as the now isolated premium of the present satisfaction over the future

satisfaction.

Perhaps this exposition is confusing. Consider the following example. A man compares

buying a dog in a month to money, and is willing to pay $50. He also compares buying a new

DVD in three months to money, and is willing to pay $50. By using money calculation, the preferences already include where he plans on spacing the actions in time. Now, when the two goods are compared against one another *in money terms*, the preference of the nearer satisfaction enters as a premium on the present. So the two types of time value may appear indistinct, but have different economic consequences.

How does this get Mises out of Hülsmann's 104 dollar problem? Humans take the time value of money into account when using it, so two amounts of money, even at separate times can be compared. For instance, say a woman is making the very decision to keep $100 today and spend it, or to loan it to a friend for $104 dollars in a year. She already calculated what she will use $100 for in the present and what she will use the $104 in the future. She is not comparing simply money, but the satisfactions the money can purchase. In doing so, the use of money has eliminated the general time value, as she only ranks the money against goods at specific locations in time. The time discount enters the monetary calculation separately as the premium on the present satisfaction.

In the abstract Hülsmann is right, money used at two different periods of time is really two separate goods. Mises's challenge proves he did not fully grasp the role of money in isolating the time discount. Instead of implying that $104 in the future is more valuable than $100 now, Mises should have said some element of the valuation process includes a preference for the present over the future satisfaction. This specific phenomenon leads to originary interest, not a general difference in the timing of goods.

Where does Mises's challenge fit in with his larger time preference arguments? The challenge is not attempting to explain how exactly interest rates come about, but rather to pose a difficult question to those who reject time preference. The challenge, even with its inaccuracy,

forces the reader to consider the fundamental discount. The general preference for present satisfactions over future satisfactions is relevant in action. The exact ratio for each individual is determined by their respective time preference.

<div align="center">Hülsmann's Third Point</div>

Hülsmann's third point challenges Mises's defense of time preference. Within the historical development of the time preference theory Böhm-Bawerk failed to integrate time preference into economics by rooting it in non-economic causes (Mises 1998 485). Part of Mises's contribution to the development of the theory is integrating time preference as a category of human action.

Mises's integration points out humans must consume goods in order to survive (Mises 1998 486). If humans are to survive at all, they must at some point demonstrate time preference by acting to consume. Eventually a man must eat, so in eating bread he demonstrates that he values present bread more than future bread. This is true even if he is offered more future bread. At some point the man has to eat bread in the present even if he could potentially have one hundred loaves of it in the future, else he would die.

Hülsmann poignantly observes that this defense rests on the supposition that humans are trying to survive in every action (Hülsmann 80). He even shows that Mises realized and dismissed this off-hand. Hülsmann raises the point that sometimes humans act specifically to die, not survive. He uses the examples of the suicide, the martyr, and the warrior as humans acting to achieve ends without the ultimate goal of survival. If people can act without the goal of surviving, they do not demonstrate positive time preference and Mises's integration falls apart. If true then time preference fails to always be positive and worse, fails to rigorously establish itself as a category of human action.

In defending (or more accurately, clarifying) Mises, consider two points. First, those seeking death also display time preference as Mises conceived of it. Second, Mises's brief comment acknowledging the problem does not serve as adequate grounds to pigeonhole Mises's time preference theory as a consumption theory.

Those actively seeking death or risking it may still exhibit time preference (Gunning 83). Take the example of the suicide. In killing himself, he displays positive time preference since he could have delayed his suicide. The martyr and the warrior similarly display time preference in their actions. This demonstrates that time preference is included even in actions geared towards death. A consumption defense of time preference appears odd if it can include those who choose death.

Dr. J. Patrick Gunning theorizes this is because Mises did not root his defense of time preference in a consumption theory (Gunning 82). Mises does not explicitly defend or identify the consumption theory anywhere else. He proposes a different interpretation of Mises, specifically focusing on Mises's point that actors must eventually act and not perpetually delay action. In Mises' words:

> 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, as the morrow would confront him with the same alternative (1998 481).

True, the underlying threat of death exists in that scenario, but more importantly the actor's ends are never satisfied. Gunning concludes that Mises's defense of time preference

focuses on ultimate action, or eventual satisfaction. More to Hülsmann's point, consumption does not necessarily entail consumption to survive, but achieving various ends.

The only claim Mises does make, the passage about 'vital energy' Hülsmann quotes does indicate some sort of consumption defense (Mises 1998 487). In context, perhaps it serves more as a further explication of time preference as a category of action. Mises uses the example to demonstrate that even misers display time preference. Granted, his other examples, a man who commits suicide in order to avoid an accident during the night and a man who refuses to eat from a fear of germs, only confuse the reader.

It makes some sense to use this single paragraph to describe Mises's theory as rooted in consumption. To Hülsmann's credit, Mises's argument here is wrong. In each case they are ultimately acting to achieve an end (however twisted) and in doing so demonstrate positive time preference for that satisfaction. Why Mises fails to observe this and state it simply is unclear.

Perhaps Mises says this specifically because he held a consumption theory of interest. The reader is allowed to doubt this seeing as Mises never says 'consumption theory.' Even if Mises held a consumption theory it would not destroy time preference. Hülsmann recognizes such (Hülsmann 81). All that would be necessary to establish a theory that avoids this fallacy is to develop the theory as Mises does until this questionable paragraph, and then explain that even people who desire death as in Hülsmann and Mises's examples still display positive time preference for death sooner rather than later.

In summation, Hülsmann's case is a slam-dunk against the consumption theory of time preference. His argument that Mises held such a view is weak in light of Gunning's comment. Again, even if this was the case, it is not catastrophic to time preference theory, which can be restated in a way that avoids these problems and remains a categorical feature of human action.

Hülsmann's Forth Point

Hülsmann's final criticism of the PTPT has the most potential to derail time preference, and culminates his introductory point. Time preference, the counterfactual type Mises conceived of, simply cannot explain the two actions necessary to answer the interest question. The answer to the interest question, as Hülsmann phrases it, must explain the gap between the values of factors of production and their products that cannot be arbitraged away as a result of entrepreneurial competition (Hülsmann 77). Any answer must explain both the purchase of the factors and the sale of the factors.

Counter-factual time preference only refers to a single action and its unrealized future use. As such, all time preference could explain is the preference to purchase factors now as opposed to later and the preference to sell products now as opposed to later. So the gap between these two actions are not connected by time preference, but must be explained by something else.

To quibble slightly, Hülsmann rephrases the classic interest question posed at the beginning of Böhm-Bawerk's classic *Capital and Interest* trilogy. In Böhm-Bawerk's words "Whence and why does the capitalist receive this endless and effortless flow of wealth? These words contain the problem of the theory of interest" (Böhm-Bawerk 1959a 1). Hülsmann's restatement certainly seeks to answer this question, but this difference leaves open the possibility that the value gap might be explained by a single action.

Can interest rates -made manifest in the price spread between factors and goods- be explained in a single action? The two actions are related in a manner that appeals to time preference. In Hülsmann's favor, to demonstrate how time preference can explain interest rates, it must start at the price spread between stages of production. A similar strain of thought it

developed by Rothbard when he claims that the productive loan market is entirely subsidiary to the time market fundamental in the structure of production (Rothbard 371).

What explains the value of the factors of production? Standard (Austrian) theory dictates that the value of the consumer good desired is imputed to the value of the factor of production. Another element is time, seen in the concept of the discounted marginal revenue product (DMRP). Because capital goods are durable (they are not consumed with a single use), their future productive capacity is taken into account in their present price (Rothbard 490). In other words, the present value of the factor takes into account the predicted revenue received from the sale of the products. Contra Hülsmann, the two specific actions that need to be connected are united by valuing the capital good in the present.

What happens if the present value of the future products is not the actual value when the future becomes present? This deviation of expected value from real value is captured by entrepreneurial profit and loss. The actor might entirely miss the mark and sell his products for much less than expected. Since superior future forecasting is rewarded by profit, this deviation can be chalked up to profit or loss, not interest. To answer the interest question economists must find the value gap that cannot be arbitraged away, and exists in the evenly rotating economy.

Dr. Hülsmann may simply point out that the value gap between the present value of the factor and the future value of the products 1) are two separate goods and thus time preference cannot be applied to them (recalling the 104 dollar question) and 2) not specifically explained by counterfactual time preference.

The first problem is the 104 dollar question dealt with earlier. Consider the two objects in question. The first is the present monetary value of the factor; the second is the future monetary value of the products themselves. The value of the products is the reason for valuing the factors,

and the interest question seeks to explain why entrepreneurs do not systematically force these two monetary values to be the same. Time preference offers a sensible explanation, as Rothbard says "It follows from the law of time preference that *present money is worth more than present expectations of the same amount of future money*" (Rothbard 376). This must be true if the two money prices are equal, since the isolated time discount must also be included.

If a person has the option between $100 now or $100 in the future, they would prefer the $100 now, since it could satisfy present desires. As an example, suppose the person wanted a nice steak dinner for two tonight that cost exactly $100. The alternative use of the $100 is buying a canoe in the future. Time preference makes the difference here as the preference for future desires over present desires, since money has already made the intertemporal satisfactions comparable. The person would take the money now and buy the steak dinner, not wait for a year and buy the canoe. He values both more than the $100, and the deciding factor is the desire for the present over the future satisfaction, others things made equal by the use of money.

The second problem is whether or not counterfactual time preference can explain this discounting process. What is the counterfactual use of the present money used to purchase or rent the factors of production? It is not readily apparent that the future monetary value of the products is the counterfactual.

Explore the nature of the demand for the factor though. It derives its value from the future monetary value of the products. So really it is a demand for future money. The future money itself will be used to purchase whatever the entrepreneur wants in the future. So why does the entrepreneur simply forget investing in the factors and use the money and spend it on his wants now? Phrased this way, it is not so hard to see how counterfactual time preference applies here. The present use of the money is more valuable than the future use of the same amount of

money, so there is a discount on the future, resulting in the positive money spread between the product and the factors. Counterfactual time preference must operate through money, after isolating the time discount.

So none of Hülsmann's criticisms of the PTPT fully repudiate the theory. The 104 dollar issue reveals Mises's failure to delineate between time-value and time-discount. A broader view of time preference that includes Fetter easily deals with this issue. The consumption theory of interest is wrong, but it is not clear that Mises espoused this view. Even if Mises did, time preference could be recast in remarkably similar terms, rephrasing the confusing paragraph found in *Human Action.* Finally, counterfactual time preference can explain the value relationship between the factors and products thanks to money. Even though Hülsmann's critique is ineffective, his paper has certainly drawn out Mises's failures in developing the PTPT.

<div align="center">Ends-Means vs. Time Preference</div>

The final discussion about the discount of factors engaged in a certain level of question begging. Hülsmann's own theory of interest also seeks to explain the discount. As such, one final criticism against time preference remains: Hülsmann's own theory may be superior in explaining the discount than time preference. Even if time preference can explain the permanent spread, what about Hülsmann's theory? If we do not reject it, than we would allow for two permanent discounts explaining interest rates.

Hülsmann's theory, the ends-means theory, explains originary interest as the value gap between ends and means. In Hülsmann's words "*Originary interest is the fundamental spread between the value of an end and the value of the means that serve to attain this end*" (Hülsmann 87). This approach has immense intuitive appeal. Although Hülsmann never states it this way, imagine the concept in terms of the discounting process, ignoring time preference. The present

money would never be as valuable as the future money since the present money is the means used to obtain the end, the future money. Hülsmann makes allowance for the fact some people use factors for the sheer pleasure, so originary interest only results in monetary interest if the end is monetary gain. Why would an entrepreneur seeking profit invest money in buying factors in the present, if all he would receive was the exact same amount of money in the future? It would be absurd. Why would someone act if they simply broke even after the action? So for Hülsmann, originary interest is the value spread necessary to induce action, without it humans would not act at all.

Now the struggle between the two theories becomes clear. An appeal to simplicity could perhaps be applied to award ends-means victory, as it provides a succinct explanation for factor discounting, while time preference requires a much longer, more complicated exposition.

<div align="center">Value Imputation</div>

In developing the ends-means theory, Hülsmann also criticizes standard value imputation theory. Value imputation is the basis for valuing higher order goods. Higher order goods derive their value from their products (Menger 149). For instance, a factory that produces ipads is only valuable because people value ipads, so they indirectly value the ipad factory. This treatment goes back to Carl Menger's *Principles of Economics* where he demolishes the classical economic paradigm of basing the prices of products on the price of their factors. Menger went on to show that the value of all the complementary factors in production will equal the value of what they produce (Menger 161). Menger argues that specific higher order goods are valued equal to the value they add in production (Menger 164). Suppose a factory that makes ipads has 12 machines that do the actual work. Each machine can be considered separately, and actors value them based on the value they add to the whole production process.

Böhm-Bawerk built on Menger's edifice, but slightly altered his analysis. He accepts the idea that higher order goods derive their value from lower order goods (Böhm-Bawerk 1959b 161). He also accepts that specific higher order goods are valued according to their specific addition to production (Böhm-Bawerk 1959b 143). Böhm-Bawerk differs significantly in his treatment of calculating the specific values. He uses numerical representations of value to show how a good's value is determined by value calculation (Böhm-Bawerk 1959b 162-67).

Friedrich von Wieser, who coined the term value imputation, took this analysis a step further. In his infamous *Natural Value* he claimed that humans could directly calculate values without the use of money prices. More pertinently, he reconstructed value theory and threw out Menger's notion that higher order goods derive their full value from lower order goods (von Wieser 84). For Wieser, higher order goods are always used with other goods, so when a unit of a higher order good is taken away, other factors suffer from the loss. Like Böhm-Bawerk, von Wieser made extensive use of numerical representations of value to prove his solution (von Wieser 86-9).

One of Mises's many contributions was ending the debate between the three previous economists. In *The Theory of Money and Credit* Mises entirely dismisses the idea of cardinal utility in value (38-49). The method (used by both Böhm-Bawerk and von Wieser) of assigning numbers to value as a measurement is rooted in cardinal, not ordinal, utility. Since there is no fundamental unit of value, there is no cardinal measurement, so there can only be rank orders (ordinal measurement). A further implication is that there can be no equality in the system, since values are only ranked. Mises expanded his point against von Wieser by showing there can be only price calculation to solve the imputation problem; there cannot be value calculation (2009 47).

When Hülsmann claims standard value imputation theory is wrong, he is certainly onto something. Menger's idea that the value of higher order goods equal the value of the lower order goods is based on a cardinal system! Goods can only be equal if there are units of value to assign to them, and value is ordinal. So Mises erred when he reformulated value theory on ordinal grounds by failing to apply the same reasoning to value imputation of higher order goods (Hülsmann 88).

What precisely does Hülsmann means when he claims that ends are always more valuable than means? To find the answer, we must go to the very foundations of economics and understand what value really is. Incidentally, Hülsmann gives a great summation of both his view and what value spreads are:

> The phenomenon we will call originary interest is a particular type of the familiar value spread that exists between different choice alternatives. In making his decisions, man demonstrates his preferences. He prefers what he does to what he could have done instead. This value spread is present in all human actions: the action preformed is more valuable, in the eyes of the acting man, than the unrealized alternative action. (Hülsmann 86)

There is no question that acting man chooses his ends. There is no question that acting man chooses his means. The question is whether acting man ever has to choose between them. Would they even appear on the same preference rank? As Hülsmann says, there is a value spread between choice alternatives, but when are the two choice alternatives?

Obviously ends are more valuable than means if they appear on the same preference rank. But why would they? Acting man never has to choose between the ends

and means. If a man is thirsty and his end (chosen among others) is to quench his thirst and his chosen means is drinking water, when does he choose between drinking water and quenching his thirst?

It is more coherent to say that acting man chooses his ends and means relative to one another. In the example about water, the man chooses the appropriate means to satisfy his end. Rothbard provides the counterpart. A man has an hour of time in which he can do several things: go for a drive, play bridge, or continue to watch the baseball game (Rothbard 18). In this case, acting man chooses his ends relative to his means. In both cases, however, man is never forced to choose between the ends and means themselves.

The man in Rothbard's example never has to choose between going for a drive and enjoying an hour of time, because the actor chooses that going for a drive *is* enjoying an hour of his time. Ends and means are choice variables within their categories, and this fundamental nature precludes any choice between the two.

<p align="center">Demonstrating Ends-Means</p>

Hülsmann provides a simple example to demonstrate his point (Hülsmann 91). Smith has an apple, Jones has a tomato. As chance has it, Jones wants an apple and Smith wants a tomato. Hülsmann argues that without the ends-means distinction, standard value imputation is insufficient to explain the market exchange. Smith and Jones each realize that their respective fruit is the appropriate means to attain their desired end. Apply value imputation and the means (higher order goods) are now as valuable as the ends (consumer goods).

The trade would not take place since the means necessary to obtain the fruit is now as valuable as the desired fruit! Why would Smith trade away his apple for the

tomato he wants, if he fully imputes the value of the tomato to the apple?   Why would Jones trade away his tomato for the apple he wants if he fully imputes the value of the apple to the tomato?

This example strains the notion of value imputation to its limits. A little clarification might be useful. The end for each actor is not simply an apple or a tomato. It is to obtain the apple or tomato. This is not explicit, but all ends have to relate to human satisfactions and the simple end of "an apple" or "a tomato" does not meet this criterion (Menger 55).

So the example is really a question of means. For Jones the means to fulfill his end is the apple, not the tomato. For Smith the means to fulfill his end is the tomato not the apple. The exchange is between the means, not the ends. The choice for Smith is not 'obtain a tomato' or 'keep your apple'; he has already decided that his end is obtaining a tomato and that his apple is not the suitable means. The same is true for Jones, but vice-versa. Smith and Jones are valuing the apple and the tomato against one another as means, not ends. So value imputation is not problematic here, because the full value of owning the fruit does not come into the picture. The choice for each actor here is not between obtaining the fruit and the fruit itself, but between which fruit best satisfies their end.

Hülsmann is aware of this in another example, the case of Brown and Black exchanging a kitchen for a garden (Hülsmann 90). Hülsmann uses the example to describe the difference between originary interest and gain in exchanges. In the example, the exchange leads to gain by both parties; they are each enjoying a more valuable end. Brown now enjoys many nice meals, Black now enjoys many nice evenings enjoying

flowers. The value gap between the ends Hülsmann classifies as gain. There is another value gap which Hülsmann labels originary interest between the ends and means. This gap is manifest, as Hülsmann states, "For Brown, the garden (the higher-order means) was less valuable than the kitchen (the lower-order means), and the kitchen was less valuable then the meals (the end)…" (Hülsmann 90).

Again the reader is left wondering when the actor must choose between the ends and means. Brown is not choosing between the kitchen and many nice meals, but choosing between each set of ends and means. The fact he already valued many nice meals more than many nice evenings enjoying flowers implies he values the kitchen more than the garden. So this exchange involves a choice between the means for ends that have already been valued, which impute themselves to their respective means.

Perhaps this is too much semantics, and that actors display a value gap between ends and means when they choose them relative to one another. Actors do not choose means that are more valuable than their appropriate ends. This fundamental choice might display the value gap.

The choice of means in light of ends and the choice between alternatives is different. What determines whether a means is more valuable than the end it might fulfill? The only thing that could explain this is the value of the higher-ranked end the means could satisfy. So the actor with means more valuable than his end would not simply choose a less valuable means to attain this end, he would act in favor of the higher ranked end that the means can attain!

Thus the ends-means theory has difficulties of its own. Before Hülsmann explains the factor-product discount by an ends-means discount, he must first demonstrate when

ends and means are choice variables. Value appears in the literature as an ordinal rank of choice alternatives, but actors do no choose between ends and means. It is not enough to say that every action demonstrates the value gap between ends and means, since the action incorporates both.

Naturally, the discount between higher and lower order goods derived from the ends-means discount faces similar problems. The decision between various means does not entail a decision between a set ends and means. For actors to satisfy the end of obtaining a certain amount of future money, they choose between various means, which are present investments in production processes.

Classifying Ends-Means

Despite the problem ends-means encounters, why would entrepreneurs ever undertake action that would have them break even in money terms? This problem is especially vexing when considering the evenly rotating economy. Why would producers continue this endless loop of action without the appeal of profits? Similarly, why would humans act at all without the promise of something more valuable after action?

Thankfully, this nagging doubt can be dealt with. Entrepreneurs receive wages for various reasons, foremost among them superior prediction. Hülsmann attributes profit wholly to this function (Hülsmann 92). Menger discredits the idea that risk-bearing is the only relevant factor which determines what entrepreneurs are paid (Menger 161).

Why would entrepreneurs not include the minimum return required to induce the action in the costs of production? Menger considered it "necessary to include in the sum [of the complementary higher order goods] not only goods of higher order technically

required for its production but also the services of capital and the activity of the entrepreneur" (Menger, 161).

Mises also

His [a judicious businessman's] notion of costs of production includes the potential market price on capital borrowed, and the potential interest he could earn, according to the conditions of the market, on how his own capital invested in the enterprise by lending in to other people (1998 532).

The return necessary to induce action could simply be added as a cost of production by entrepreneurs, and not necessarily be attributed to a value gap between ends and means. This fits in with Hülsmann's development of interest rates. Hülsmann describes how entrepreneurs who enjoy their labor might not demand a monetary return (Hülsmann 100). Hülsmann concludes this rate could be zero in an economy where all entrepreneurs simply enjoy their labor. Unfortunately, Hülsmann bases this rate on the value gap between ends and means. The idea that entrepreneurs require a specific return on investments can be included in the costs of production simply as another form of entrepreneurial wages. Finally, in light of our defense of the PTPT interest can also be seen as a guaranteed incentive for investment.

<div align="center">Restating Time Preference</div>

The points Hülsmann raises force time preference theorists to restate the theory in a satisfactory manner. If nothing else, Hülsmann is the catalyst for a restatement of time preference. How can time preference be restated?

Time preference must still be rooted in human action. Mises original explication of counter factual time preference in refutation of Bohm-Bawerk's conception is

appropriate. His further explanation of how man values different periods of time (before and after an action) and how this notion roots itself in human action are necessary. As discussed earlier any portion basing time preference in survival must be discarded. Time preference more fundamentally deals with how human actors prefer present satisfactions to future satisfactions.

From here capital/producer goods can be introduced, specifically focusing on the role they play in providing future incomes. Ultimately, the discussion of capital goods must lead how they are priced, where the proximate cause of interest resides.

The critical addition here is the relevance of money in isolating the discount and allowing counterfactual time preference to cause interest rates. The choice between the same amount of money at different times includes the normal time value. The actor will value the sooner more because of time preference. Next, time preference manifest through money must be applied specifically to the discount on capital goods. Rothbard's account in chapter seven of *Man, Economy, and State* is sufficient, barring the fact he fails to notice how money specifically combined with counterfactual time preference explains the discount.

From here, the standard development of interest rates can proceed, how originary interest eventually results in interest rates found in the market, adding in other relevant factors like uncertainty and the purchasing power of money (Rothbard 550,792).

Conclusion

Thus economists, even Austrian economists, must take issue with Hülsmann's criticisms of the PTPT and the ends-means theory. His arguments bear enough weight to reformulate and tighten time preference, but fail to destroy it. His ends-means theory

encounters various problems of its own, as does his critique of full value imputation. While the PTPT might be safe from Hülsmann's critiques, Dr. Murphy has another set of criticisms not yet dealt with.

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