

THE RATE OF TIME PREFERENCE: A PRAXEOLOGICAL OXYMORON

William Barnett II
Chase Distinguished Professor of International Business and Professor of
Economics

Joseph A. Butt, S. J. College of Business Administration
Loyola University New Orleans
6363 St. Charles Ave.
New Orleans, LA 70118
(504) 864-7950
wbarnett@loyno.edu

Dr. Walter Block
Harold E. Wirth Eminent Scholar Endowed Chair and Professor of Economics
College of Business Administration

Loyola University New Orleans
6363 St. Charles Avenue, Box 15, Miller 321
New Orleans, LA 70118
c.v.: <http://www.cba.loyno.edu/faculty.html>
office: (504) 864-7934
dept: (504) 864-7944
fax: (504) 864-7970
wblock@loyno.edu

Abstract: In ordinal utility analysis, one can but prefer or set aside. A person can choose option A or option B. Chalk or cheese, guns or butter. There cannot be any such thing as a *rate* at which a man engages in such activities. Cardinality cannot enter into the picture. No one prefers a given amount of chalk twice as much as cheese. This basic praxeological insight should not be lost sight of when we enter the more complex realm of time preference and interest rate determination. And yet, it commonly is. For we all speak of a “time preference *rate*.” This is an oxymoron and a praxeological monstrosity. The present paper is devoted to promoting clear thinking by attempting to purify economic language, so as to jettison the concept of a “time preference rate.”

Key words: Praxeology, choice, preference, time, discount, interest rates, ordinal and cardinal utility

JEL Category: E4

The Rate of Time Preference: A Praxeological Oxymoron¹

Mises (1996, 483-484) describes the phenomenon known as time preference as: “Satisfaction of a want in the nearer future is, other things being equal, preferred to that

¹ The authors of the present paper express a debt of gratitude to Lew Rockwell, Steve Berger and the Mises Institute for financially supporting two Katrina refugees.

William Barnett II, Walter Block

in the farther distant future;” and, “The very act of gratifying a desire implies that gratification at the present instant is preferred to that at a later instant. He then states that: “Time preference is a categorical requisite of human action.” All true. However, regardless of whatever else it is, time preference is necessarily a preference.

Although there are other perspectives² on time preference, it is with the praxeological that we are at present concerned. From that viewpoint preference exists only in the act of preferring; it consists in the choosing of A instead of B, or of course vice versa.³ Because praxeology is the science of human action and every act consists in preferring/choosing, this discipline has no place for the concept of indifference for if an individual were truly indifferent between alternatives A and B, he could not prefer/choose either one and therefore could not act. Similarly, praxeology is logically incompatible with any concept of a rate of time preference. A rate necessarily involves cardinality, whereas preferences may be only ordinal.

For example if Jones says that he prefers a red shirt twice as much as a blue shirt, we know that he is speaking nonsense. He may prefer a red shirt to a blue shirt, but there is no *rate* at which he makes this comparison. It is a non sequitur to say that he prefers the red to the blue at the rate of two to one, or 50%, or to utilize any other objective measure, which is required if this is to be done at a certain rate or other.

We offer in support of these contentions no less of an Austrian authority than Mises (1998, 13):

“We may say that action is the manifestation of a man's will. But this would not add anything to our knowledge. For the term will means nothing else than man's faculty to choose between different states of affairs, to prefer one, to set aside the other, and to behave according to the decision made in aiming at the chosen state and forsaking the other.”

And again Mises (1998, 121-122):

“To prefer and to set aside and the choices and decisions in which they result are not acts of measurement. Action does not measure utility or value; it chooses between alternatives. There is no abstract problem of total utility or total value.[1] There is no ratiocinative operation which could lead from the valuation of a definite quantity or number of things to the determination of the value of a greater or smaller quantity or number. There is no means of calculating the total value of a supply if only the values of its parts are known. There is no means of establishing the value of a part of a supply if

² Mises (1996, 486-487) considers the psychological and physiological.

³ Indifference is a not a praxeological, concept. That is to say, it cannot be reconciled with technical (praxeological) economics, because there is no way to *demonstrate* (Rothbard, 1956) it through human action. Choices can only be made by preferring one thing, and setting aside others. No indifference there. However, “indifference” is a perfectly good word in the English language. Everyone knows, precisely, what this means when it is used appropriately. It refers to a case where someone does not care, *much*, about a ranking of two different things. So, thymologically, as a matter of *history* (Mises, 1957), it is an entirely valid concept.

only the value of the total supply is known. There are in the sphere of values and valuations no arithmetical operations; there is no such thing as a calculation of values. The valuation of the total stock of two things can differ from the valuation of parts of these stocks. An isolated man owning seven cows and seven horses may value one horse higher than one cow and may, when faced with the alternative, prefer to give up one cow rather than one horse. But at the same time the same man, when faced with the alternative of choosing between his whole supply of horses and his whole supply of cows, may prefer to keep the cows and to give up the horses. The concepts of total utility and total value are meaningless if not applied to a situation in which people must choose between total supplies. The question whether gold as such and iron as such is more useful and valuable is reasonable only with regard to a situation in which mankind or an isolated part of mankind must choose between all the gold and all the iron available.”

Matters change by not one whit when we enter the more perilous waters of time preference and interest rate analysis. Here, we may well say that Jones prefers \$10 today to \$11 in a year from now, but that is *all* that can be inferred from a choice of his in this regard. It is a nonsense to maintain that Jones prefers money now, or in the future, at a certain *rate* compared to other choices; he merely prefers the one to the other.

Because time preference is necessarily a preference, there can be no such thing as a *rate* of time preference. There is no rate of preference of *anything*, time certainly included. A rate implies a cardinal value, while a preference can constitute, only, an ordinal choosing and a setting aside.

It is obvious that, among its many meanings, “rate” when used in the phrases “time preference rate(s)” or “rate(s) of time preference,” indicates a ratio (or proportion). Ratios are necessarily cardinal in nature. Moreover, save for ratios in pure mathematics, even if they have no units themselves, ratios are derived from quantities that do have units.⁴ Consider the ratios most often associated with time preference – interest rates. Although it is the usual practice to speak of interest rates as pure numbers; i.e., as unitless, such as 5% or 10%, in reality there is a unit involved; the reciprocal of time. It is only because it is customary to quote interest rates per annum that the unit is left unspoken. Even in cases in which the relevant time period is not a year, the interest rate is normally annualized when quoted. In cases in which it is not, the relevant unit (read “time period”) is explicitly stated. For example, the interest rate on a loan of \$100 for one year that requires interest in the amount of \$10 is: $(\$10/\text{year})/\$100 = 10\%/\text{year}$. Save in pure mathematics, it is reasonable when a rate (say, 10%) is quoted, to ask: “Ten percent of what?” In the illustration noted above, the answer is simple: “Ten percent of \$100.” What, then, would be the units of time preference? Certainly it makes no sense to say that someone’s time preference is 10% or 10% per year, unless there is an answer to the question: “Ten percent of what?” Yet, when it is time preference that is the subject, there is no valid answer. Which, of course, is as it should be, because rates are necessarily cardinal in nature whereas time preference is necessarily ordinal in nature, and never the twain shall meet.

⁴ On the importance of units and dimensions, see Barnett (2004).

Unfortunately, both Mises (1957) and Rothbard (2004) err on this point. For example, states Mises (1957, 141-142, emphasis added by present authors):

“But even if, for the sake of argument, we were to admit that there is uncertainty neither concerning the kind of goods people are asking for nor concerning the most expedient technological methods of producing them, there remains the conflict between interests in the short run and those in the long run. Here again the decision depends on ideas. It is judgments of value that determine the *amount* of time preference attached to the value of present goods as against that of future goods. Should one consume or accumulate capital? And how far should capital depletion or accumulation go?”

This is problematic because there can be no such thing as an *amount* of time preference. What would be the units? No numerical measure, such as 3.2 units of time preference, makes any sense. Suppose a man is willing to exchange \$10 now for \$11 a year hence. Would it then be reasonable to describe him as having an “amount” of time preference of 10%? No, it would not. Nor, even, is the objection, merely, to “amount.” The same problem would arise with regard to any other possibly even better word, such as “*level* of time preference,” or “time preference *rate*.”

And the reason “amount,” “level,” “rate,” or any other such nomenclature are all objectionable is that “preference” is an ordinal not a cardinal concept (Rothbard, 1997). In “preference” whether of time or anything else such as shirts, one prefers A to B, or B to A, or compares money to a good, and chooses one or the other. That is it. There is only choosing and setting aside; there is no rate, amount, or level of picking and setting aside, there is only the brute fact of choosing. If someone prefers \$1.10 receivable in a year from now to \$1.00 now, we can only say that he prefers \$1.10 receivable in a year from now to \$1.00 now. We cannot say by *how much* he does so, only that he does so.

In the view of Rothbard (2004, <http://www.mises.org/rothbard/mes/chap6a.asp>, bold emphasis added):

“In other words, capital goods have been advanced from an earlier, *more distantly future* stage toward the consumption stage, to a later or *less distantly future* stage. The time for this transformation will be covered by a **rate of time preference**. Thus, if the market time preference rate, i.e., interest rate, is 5 percent per year, then a present good worth 100 ounces on the market will be worth about 95 ounces for a claim on it one year from now.”

This, too, is problematic. Whether it is rate of time preference, time preference rate, amount of time preference, or time preference level, all these phrases hark toward a cardinal scale. However, it is *preference* that is now under discussion. And, given this type of human action, there can only be ordinal ranking, not cardinal measurement or ranking.

In addition to Mises and Rothbard,⁵ several lesser lights are also guilty of this type of error. Much to the consternation of the second mentioned author of the present paper, he must be included on this list. Block (1977, 272; 1978, fn. 10; 2001, 68) refers to “time preference rates.” Egger (1992, 39) speaks of a “...natural rate implicit in people’s preferences...” Other offenders in this regard include Bagus (2003, 25), DiLorenzo (1999), Garrison (1985), Gordon (1999), Hoppe (1992), Kirzner (1997), Murphy (undated) and Shostak (2000). In like manner Bostaph (2001) uses the expression “the rate of future discount,” and Corrigan (1999) “degree of time preference.”⁶

Mulligan (forthcoming) is certainly to be included on this list. He has an exceedingly interesting take on this matter. He states:

“Not only are individual time preference rates subjective and unique,... Though subjective, time preference must have generally been extremely high in primitive non-capital-using societies.”

This leads us to a comparison of the two pairs of concepts, subjective and objective, on the one hand, and ordinal and cardinal on the other. For we have emphasized that there can be no such thing as a preference rate of anything, since preference is ordinal and a rate must necessarily be cardinal.

Perhaps the relationships between these two sets of concepts can best be elaborated upon by use of a two by two matrix. Accordingly, we offer table 1, where we attempt to fill in all the boxes, with four different statements, A, B, C and D:

	subjective	objective
ordinal	A	B
cardinal	C	D

A: Jones prefers a pretty to a plain woman

Because this is a statement of preferences it is necessarily ordinal and because whether a woman is pretty or plain is a subjective valuation by A, it is also subjective.

⁵ See also in this regard Rothbard (undated, 1987, 1994, 2004A)

⁶ These instances are but the tip of the iceberg. Google shows 12,400 hits for "time preference rate" (<http://www.google.com/search?hl=en&lr=&q=%22time+preference+rate%22&btnG=Search>). For “rate of time preference,” there are 59,500 entries: (<http://www.google.com/search?hl=en&lr=&q=%22rate+of+time+preference%22&btnG=Search>). But this is all irrelevant, since these phrases are only oxymorons for Austrians, not neo-classicals, who, one suspects, are heavily represented on Google. The by far more relevant collation is a search on the Mises web, which is almost entirely directed at Austrian publications. Here “time preference rate” garners 37 entries (<http://www.google.com/u/Mises?hl=en&lr=&ie=ISO-8859-1&q=%22time+preference+rates%22&btnG=Search>), while “rate of time preference” registers 211 (<http://www.google.com/u/Mises?hl=en&lr=&ie=ISO-8859-1&q=%93rate+of+time+preference%94+&btnG=Search>).

William Barnett II, Walter Block

B. Jones prefers a taller woman to a shorter woman.

Because this is a statement of preferences it is necessarily ordinal; however, which of any two women is the taller is an objective matter, it is also objective.

C. The null set

It is our claim that this category must necessarily be an empty one, since a statement cannot at one and the same time be both cardinal and subjective. The one precludes the other.

D. Jones is six inches taller than Smith

This statement is objective in that the heights of Jones and Smith are objective and cardinal because the difference between their heights is measurable.

Now, let us apply this analysis to Mulligan's statement: "Not only are individual time preference rates subjective and unique,... Though subjective, time preference must have generally been extremely high in primitive non-capital-using societies."

In our view, the mistake of Mulligan is akin to an argument over whether a square circle is painted red or blue. The color is beside the point. The primordial fact is that there cannot be any such thing as a square circle, a veritable contradiction in terms, whether red or blue. Similarly, our disagreement with Mulligan is not over the subjectivity of time preference. We accept this with alacrity and enthusiasm. Where we part company from him concerns the phrase "preference rate," whether concerning time or anything else. This we see as a contradiction in terms, since preference is inherently subjective *and* ordinal, while a *rate* can be neither.

In terms of our matrix, any statement about preferences must land in the first row (either cell A or cell B) while any statement about rates must land in second row, second column.(cell D).

	subjective	objective
ordinal	A	B
cardinal	C	D

In contrast Shostak (2005) speaks of the "The lowering of time preferences..." We accept this as an eminently reasonable statement, but one within the bounds of thymology, not praxeology.⁷ Again, strictly or praxeologically speaking, there can be no higher or lower preferences, nor any raising or lowering of them. However, these claims are unexceptionable as a matter of ordinary language. Similarly, Salerno (2001) speaks of

⁷ A similar occurrence takes place with regard to the usage of the word "indifference." As a matter of ordinary language, or thymology, it is unexceptionable. But it is incompatible with praxeology. On this see Block, 1999, 2003, 2005; Caplan, 1999, 2000, 2001, 2003; Hulsmann, 1999.

“time preference scales.” We interpret this as compatible with ordinal considerations, and thus justified.

What of the phrase “decrease (or increase) in time preferences?” Our touchstone is that if parallel language would be acceptable in reference to other preferences, then it passes muster, and if not, not. So, would it be reasonable to speak in terms of a “decrease (or increase) in preferences for red shirts vis-à-vis blue ones? If all that is meant by such admittedly awkward language that a person has changed his behavior as far as selecting a red or blue shirt, then this is unexceptionable. If it is interpreted as anything more than that, e.g., as implying cardinality, always a danger when time preferences are being considered, then it is indeed problematic.

Let us consider an objection to our thesis. We do want to be able to distinguish between the saving and investment decisions on the part of those who “save for a rainy day,” and those whose motto it is “wine, women and song, now!” or “live for the moment.” Ordinarily, using the cardinal language we are criticizing in this paper, we would simply say that the former group has a low time preference rate and the latter a high time preference rate. But, without using such expressions, is there any way we can convey the information (seemingly) imparted by the time preference rate language? That is, is there any way we can have our cake (ease of expression) and eat it too (be able to articulate this important distinction)?

Yes, there is. In order to see this, let us once again resort to the analogous case we have been utilizing. How can we easily distinguish between those who like red shirts more than blue ones, and those with inverse tastes? Why, simply by saying that there are some people who favor red shirts to blue ones, and others who exhibit the opposite preferences. *Rates* need not enter the picture at all. Just as there is no *rate* at which shirts are chosen vis a vis one another, there is also no rate at which some are present oriented, and others future oriented. But jettisoning rate or cardinal language does not leave us tongue-tied either.

Conclusion

It may be thought that the present authors have no more than a verbal dispute with the “mainstream Austrian economists”⁸ view on this matter. After all, our intellectual opponents might state that they fully agree with us, but merely use different words to convey the same identical message. All they mean, they might say, by a time preference rate is what we mean by time preferences. Against this, we conclude with two points. First, the people we criticize are extraordinary wordsmiths, whether writing in their native tongues or not. For them to make this linguistic error, some of them time and time again, indicates that there is more than a verbal dispute separating us. Second, a necessary but of course not sufficient condition for economics attaining the scientific status of a chemistry or a physics or a mathematics is to use some care in terminology. There is certainly more homogeneity of language in these disciplines than in the dismal science. You don’t find, for example, a physicist using the same words or phrases to convey mass,

⁸ We cannot help but admit that we very much like that particular phrase.

William Barnett II, Walter Block

or weight or work or power. The plain fact of the matter is that there is no such thing in Austrian economics as a time preference rate. There is only time preference. And, not to insist upon clarity in this matter is to needlessly reduce the scientific status of our calling.

References

Bagus, Philipp. 2003. "Deflation? When Austrians Become Interventionists." *Quarterly Journal of Austrian Economics*. Vol. 6, No. 4, Winter, pp. 19-35
http://www.mises.org/journals/qjae/pdf/qjae6_4_3.pdf

Barnett II, William 2004. "Dimensions and Economics: Some Problems." *Quarterly Journal of Austrian Economics*. Vol. 7, No. 1, Spring, pp. 95-104.
http://www.mises.org/journals/qjae/pdf/qjae7_1_10.pdf

Block, Walter. 1977. "Austrian Monopoly Theory -- a Critique," *The Journal of Libertarian Studies: An Interdisciplinary Review*, Vol. I, No. 4, fall, pp. 271-279;
http://www.mises.org/journals/jls/1_4/1_4_1.pdf

Block, Walter. 1978. "The Negative Rate of Interest: Toward a Taxonomic Critique," *The Journal of Libertarian Studies: An Interdisciplinary Review*, Vol. II, No. 2, summer, pp. 121-124; http://www.mises.org/journals/jls/2_2/2_2_4.pdf

Block, Walter. 1999. "Austrian Theorizing, Recalling the Foundations: Reply to Caplan," *Quarterly Journal of Austrian Economics*, Vol. 2, No. 4, winter, pp. 21-39;
http://www.mises.org/journals/qjae/pdf/qjae2_4_2.pdf; errata:
http://www.mises.org/journals/qjae/pdf/qjae2_4_9.pdf

Block, Walter. 2001. "Yes, We Have No Chaff: A Reply to Wagner's "Austrian Business Cycle Theory: Saving the Wheat While Discarding the Chaff," *Quarterly Journal of Austrian Economics*, Vol. 4, No. 1, Spring, pp. 63-73.
http://www.mises.org/journals/qjae/pdf/qjae4_1_4.pdf

Block, Walter. 2003. "Realism: Austrian vs. Neoclassical Economics, Reply to Caplan," *Quarterly Journal of Austrian Economics*, Vol. 6, No. 3, Fall, pp. 63-76;
http://www.mises.org/journals/qjae/pdf/qjae6_3_4.pdf

Block, Walter. 2005. "Rejoinder to Caplan on Bayesian Economics," *Journal of Libertarian Studies*. Vol. 19, No. 1, Winter, pp. 79-95;
<http://blog.mises.org/blog/archives/003654.asp>

Bostaph, Samuel. 2001. "Greenspan's Austrian Roots." *The Free Market*. January, Vol. 19, No. 1;
http://www.mises.org/freemarket_detail.asp?control=338&sortorder=articledate

Caplan, Bryan. 1999. "The Austrian Search for Realistic Foundations," *Southern Economic Journal*, April, Vol. 65, No. 4, pp. 823-838

William Barnett II, Walter Block

Caplan, Bryan, 2000. "Probability, Common Sense, and Realism: A Reply to Hulsmann and Block," Quarterly Journal of Austrian Economics

Caplan, Bryan. 2001. "Probability, Common Sense, and Realism: A Reply to Hulsmann and Block," Quarterly Journal of Austrian Economics; Vol. 2, No. 4, summer, pp. 69-86; http://www.mises.org/journals/qjae/pdf/qjae4_2_6.pdf

Caplan, Bryan. 2003. "Probability and the Synthetic *A Priori*: A Reply to Block." *Quarterly Journal of Austrian Economics*; Vol. 6, No. 3, fall, pp. 77-83

Corrigan, Sean. 1999. "Will the Bubble Pop?," October 18; <http://www.mises.org/story/317>

DiLorenzo, Thomas J. 1999. "Monopolistic Competition and Macroeconomic Theory by Robert Solow." *Quarterly Journal of Austrian Economics*. Vol. 2, No. 4, Winter, 83-88 http://www.mises.org/journals/qjae/pdf/qjae2_4_6.pdf

Egger, John. 1992. "Fiscal Stimulus: An Unwise Policy for Recover." *Dissent on Keynes: A Critical Appraisal of Keynesian Economics*. Mark Skousen, ed. Westport, CT: Praeger

Garrison, Roger W. 1985. "West's 'Cantillon and Adam Smith': A Comment." *The Journal of Libertarian Studies*. Vol. 7 No. 2, pp. 287-294 http://www.mises.org/journals/jls/7_2/7_2_7.pdf

Gordon, David, 1999. "Paul Krugman and the Hangover Theory." *The Mises Review*. Spring. http://www.mises.org/misesreview_detail.asp?control=53&sortorder=issue

Hoppe, Hans-Hermann. 1992. "The Misesian Case Against Keynes." in *Dissent on Keynes, A Critical Appraisal of Economics*. Edited by Mark Skousen. pp.199-223. The Ludwig von Mises Institute, New York, Westport, Connecticut: Praeger <http://www.mises.org/etexts/hoppekeynes.pdf>

Hülsmann, Jörg Guido. 1999. "Economic Science and Neoclassicism." *Quarterly Journal of Austrian Economics*, Vol. 2 Num. 4, pp. 1-20; http://www.mises.org/journals/qjae/pdf/qjae2_4_1.pdf

Kirzner, Israel M., 1997. "Between Mises and Keynes; An Interview with Israel M. Kirzner." *The Austrian Economics Newsletter*, Vol. 17, No. 1, Spring. http://www.mises.org/journals/aen/aen17_1_1.asp

Mises, Ludwig von. 1957. *Theory and History*, New Haven: Yale University Press; <http://www.mises.org/th/chapter7.asp>

William Barnett II, Walter Block

Mises, Ludwig von. [1949] 1998. *Human Action*, Scholars' Edition. Auburn: Mises Institute. <http://www.mises.org/humanaction.asp>

Mulligan, Robert F. Forthcoming. "Property Rights and Time Preference," *Quarterly Journal of Austrian Economics*. <http://paws.wcu.edu/mulligan/www/property.htm>
<http://www.mises.org/asc/2003/asc9mulligan.pdf>

Murphy, Robert P. undated. "A Study Guide to Murray Rothbard's *Man, Economy, and State*, with *Power and Market*." <http://www.mises.org/rothbard/mes/guidechap6.asp>

Rothbard, Murray N. Undated. "Biography of A. R. J. Turgot (1727-1781) Brief, Lucid, and Brilliant." <http://www.mises.org/content/turgot.asp>

Rothbard, Murray N. 1987. "Breaking Out of the Walrasian Box: The Cases of Schumpeter and Hansen." *The Review of Austrian Economics*, Vol. 1, pp. 97-108. Reprinted in *The Logic of Action Two: Applications and Criticism from the Austrian School*. Glos, UK: Edward Elgar Publishing Ltd., 1997, pp. 226-240.

Rothbard, Murray N. 1994. "The Consumption Tax: A Critique." *The Review of Austrian Economics*, Vol. 7, No. 2, pp. 75-90; http://www.mises.org/journals/rae/pdf/rae7_2_4.pdf

Rothbard, Murray N. 1997 [1956]. "Toward a Reconstruction of Utility and Welfare Economics." reprinted in "The Logic of Action" Vol. I. Lyme, NH: Edward Elgar. pp. 225-227; <http://www.mises.org/rothbard/toward.pdf>

Rothbard, Murray N. 2004. *Man, Economy, and State with Power and the Market*. Scholar's Edition. Auburn: The Mises Institute. <http://www.mises.org/rothbard/mespm.pdf>

Rothbard, Murray N. 2004A. "Repudiating the National Debt." The Mises Institute. January 16. <http://www.mises.org/fullstory.asp?control=1423>
<http://www.mises.org/story/1423>

Salerno, Joseph. 2001. "Does the concept of secular growth have a place in capital-based macroeconomics?" *The Quarterly Journal of Austrian Economics*. Vol. 4, No. 3, Fall, pp. 43-61; http://www.mises.org/journals/qjae/pdf/qjae4_3_5.pdf.

Shostak, Frank.. 2000. What's With the Yield Curve? The Mises Institute. February 15. Institute.<http://www.mises.org/story/382>

Shostak, Frank. 2005. "China Does Not Determine U.S. Interest Rates." June 3. <http://www.mises.org/story/1837>