

# Timberlake on the Austrian Theory of Money: A Comment

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In his interesting and commendable article on the Austrian theory of the value of money, Professor Timberlake grapples seriously with Ludwig von Mises' outstanding work and acknowledges Mises' many penetrating insights.<sup>1</sup> However, Timberlake unfortunately dismisses many of the most important aspects of the theory and, hence, can conclude that Austrian differences with monetarism are largely linguistic or mere practical cautions rather than deep theoretical disagreements. As a result, he can call for strengthening what he clearly considers to be a natural alliance between the two schools of thought.

## The Regression Theorem

The *pons asinorum* for every critic of Mises' theory has always been his "regression theorem," of which his critics have failed to grasp the nature and significance. Professor Timberlake is unfortunately no exception, although his dismissal of the problem of the "Austrian circle" solved by Mises is far superior to the standard approach of Patinkin and other neoclassical critics. Patinkin and the neoclassicists, trapped in their own circularity of mutually determining mathematical functions, brusquely charge Mises with making the schoolboy error of confusing demand schedules with the quantity demanded. Timberlake takes a higher ground provided by the important article by William H. Hutt: that money has its own "yield" in psychic terms from being held and therefore being available to make purchases. Timberlake uses this concept to conclude that there is no real difference between money and other goods, since each has its own direct utility and, therefore, there is no unique circularity to the utility of money that theorists need to solve.

Timberlake charges Mises with ambiguity and contradiction, citing passages where Mises clearly recognizes that money is held in cash balances pre-

cisely in order to have it ready for eventual use. In fact, Mises goes further, making it clear that money is held because of the basic uncertainty of the future that also gives rise to entrepreneurship.

What Timberlake fails to realize is that there is no contradiction here: money is indeed useful while it is being held, held to be available for eventual purchases of goods. But money is still different from all other valuable goods. Money has no utility apart from its usefulness in serving as a general medium of exchange, of exchange for other goods and services. Mises knew full well that such exchanges are not instantaneous; money indeed bridges action between the present and the uncertain future. But it is equally true that money has no utility apart from present *or future* purchases of other goods, and that without such utility, no one would hold on to cash balances.

Let me put it another way. All goods except money have no optimal supply. Production of goods and services is a way of reducing the nature-given scarcity of all goods. As consumer goods increase, that scarcity is diminished, and living standards rise. *Ceteris paribus*, an increase in the supply of a consumer good confers a social benefit because scarcity is being alleviated. Neither can the supply of capital goods or productive factors ever be optimal. Again, *ceteris paribus*, the greater the supply of a productive factor or resource, the better, since this means that the supply of consumer goods will rise in the future. Consumer goods are directly useful, and productive factors and resources are indirectly useful in increasing the production of consumer goods. In short, neither the supply of consumer goods nor of productive factors can ever be optimal short of the Garden of Eden of the superabundance of all goods.

But money, or the money-good, is totally different. It is the unique nature of money that its usefulness in facilitating production as a general medium of exchange, while enormous and crucial, *stops* as soon as it is in sufficient supply to be adopted as a general medium by the market. In short, beyond the minimal quantity needed to establish the money-commodity as money in the first place, “the marginal utility to society,” if I may use that phrase, of any increased amount of money is zero. Above the minimum, therefore, *any* supply of money is optimal. There is never any social benefit to increasing the quantity of money, for the increase only dilutes the “objective exchange value,” or purchasing power, of the money unit. Monetary calculations and contracts are distorted, and the early recipients of the new money, as well as debtors, gain income and wealth at the expense of later recipients and of creditors. In short, increasing the quantity of the money is only a device to benefit some groups in society at the expense of others.<sup>2</sup>

But if money has no use apart from present or future purchase of goods and, therefore, any quantity of money is optimal, we are left with the problem of the Austrian circle. Bread, milk, and TV sets have utilities of their own and consumers evaluate their uses; their utility is therefore logically evaluated

prior to considering their price. Their utility can explain their value. But what of “dollars”? How can the marginal utility of dollars explain their value or purchasing power, when that utility could not exist (i.e., no one would purchase or hold dollars) unless those dollars had a *previous* purchasing power, a previous value, on the market?<sup>3</sup> But how then can utility explain value in the case of money? In contrast to all other goods and services, money would have no utility to hold in cash balance unless it had already enjoyed a previous existence and a purchasing power as money. The problem of the Austrian circle is a very powerful one, and it is precisely because of this power that other Austrian theorists before Mises despaired of solving it.

Mises’ pathbreaking regression theorem solved the problem by engaging in what would later be called a “period analysis” when performed by D.H. Robertson. The Austrian circle can be solved, first, by realizing that there is a temporal dimension to the circle. The value, or purchasing power, of money in day  $n$  is determined by the demand for money to hold in day  $n$ , which in turn is determined by the marginal utility of money in day  $n$ .<sup>4</sup> But the circle appears when we realize that the demand for money in day  $n$  is completely dependent on the existence of the purchasing power of money in day  $n-1$ . But that purchasing power is in turn determined by the demand for money in day  $n-1$ , which in turn could not exist unless money had a purchasing power in day  $n-2$ . And so on we go, backward in time. But is not this regression infinite and, therefore, no solution at all? No, because it stops logically the day before the money-commodity became a medium of exchange. In short, it stops on the last day the money-commodity continued to be a simple nonmoney-commodity demanded for its direct use in barter. Or, in short, the demand for money on day 1 (the first day of its use as a medium of exchange) is determined by the existence of a purchasing power of the commodity in its last day in barter, day 0. Hence, the current value of money is fully explained, its historical dimension regressing logically until the money-commodity emerged out of barter, and, therefore, its last determinants are its supply and demand under barter.

The Austrian circle has now been surmounted, and the value of money, as in other goods, is reduced back ultimately to its utility and the stock available. Furthermore, the important conclusion of the regression analysis is that no money, and no money-unit, can ever emerge except through this process of beginning as a useful nonmonetary commodity in barter. Money *must* begin as a useful commodity in a market economy of barter. Otherwise, it could not have had a preexisting purchasing power so that people can evaluate and hold money.<sup>5</sup> Unfortunately, once a commodity is established as money, paper or bank deposits can begin as representations of, and redeemable in, genuine commodity money, but eventually the government can cut these claims loose from their original commodity moorings and the tokens can then continue indefinitely, although disastrously, as money.

## The Index Number Problem

One crucial difference between monetarists and Austrians is that the former believe that the supposed neutrality of money means that a price level exists and can be analyzed and measured, apart from relative prices—in short, that micro can be strictly segregated from macro. In comparing and contrasting the views of Ludwig von Mises and Irving Fisher (the father of monetarism and still its clearest and most profound thinker), Professor Timberlake states that Fisher, like Mises, acknowledged the nonneutrality of money, but only *in the short run*. The crucial point is that Fisher believed that in long-run equilibria, money is neutral, and, like all good neoclassicists, Fisher, as a theorist, was interested only in the long run. It is this alleged long-run neutrality that permits the monetarists, from Irving Fisher to Milton Friedman with his egregious “helicopter effect,” to act as if money is neutral to relative prices and to the structure of production.

Mises’ view, in contrast, is very different. He demonstrates that change in the money supply has important nonneutral effects on the “real” economy, in both short run and long. Money enters the system, not by helicopters showering an equiproportional increase on one and all, but at specific nodal points in the economy. An increase in paper money or bank credit, for example, will first increase the cash balances of government or bank, and then ripple out, in step-by-step micro fashion, from one set of cash balances to another, from government to defense contractor or from bank to debtor. In doing so, the distribution of money assets and incomes, as well as relative prices, will change permanently, in long run as well as short. In addition, some of the “short-run” effects will have dire economic consequences even if temporary, particularly the intervention by bank credit expansion into market signals of saving and interest rates, leading inevitably to a Mises-Hayek business cycle. As a result, there can be no separation between micro and macro. None of this is understood by the monetarists.

Hence, there is no price level apart from relative prices; and a change in price level will inevitably be attached to changes in relative prices.<sup>6</sup> And if there is no price level, it *a fortiori* cannot be measured. Timberlake points out that Mises indeed talks of the “objective exchange value of money,” but he charges that Mises’ refusal to believe that it cannot be measured is tied in with his alleged error of conflating value with subjective utility. But Mises is correct here as well, since it makes no sense to try to measure an aggregate or average price level that has different objective and subjective meanings to every individual.

Take, for example, Fisher’s attempt to arrive at a scientific index of the price level. Contrary to Timberlake, the problems here are not simply practical, but deeply fundamental and substantive. When “scientific” statisticians arrive at an index of price level inflation, for example, how do they combine the thousands of individual price indices into one aggregate price level figure?

The alleged solution of assigning fixed weights in accordance with aggregate physical purchases in a given base year cannot work. Of what relevance is the fixed physical purchase weights of the legendary blue-collar Dayton, Ohio housewife with 2.2 children to any of us who are not in that category? I will wager that the Dayton housewife purchases very few books per year. My own consumption weights, heavily inclined to books, are very different, so that my own inflation index is very different from hers. And by what right, by what “scientific” warrant, does the statistician presume to amalgamate 200 million individual inflation indices into one?

Professor Timberlake tries to hew a middle path between Irving Fisher’s “oversold” price index claims and Mises’ attacks, but he is evidently largely on Fisher’s side, with the Austrian contribution limited to stress on practical difficulties and cautionary warnings about excesses. Yet arguments by Mises that Timberlake, with uncharacteristic brusqueness, dismisses as “whimsical,” cut profoundly to the heart of the matter.<sup>7</sup> Thus, Timberlake points to Mises’ charge that “all index number systems” are based on “the quite nebulous and illegitimate fiction of an eternal human with invariable valuations.” But far from being whimsical, it is all too correct that the amalgamation of individual price indices into one and their continuance over many years involves precisely this indefensible fiction even if only implicitly.

But, Timberlake wonders, if Mises admits that an entity such as the “objective exchange value” of money exists, how can it not be quantifiable and measurable? Contrary to Timberlake, this position is not “paradoxical.”<sup>8</sup> He does not realize that there are two traditions in the history of thought on the purchasing power, or objective exchange value, of money. One is that it is in the form of a “level,” expressed at least in theory in a single index number; the other, adopted even by Ricardo and later by Mises, is that it is not a single level but an array of prices in all their specificity.<sup>9</sup> The purchasing power of the dollar today is an array of all the myriad alternative goods and services that can be purchased for a dollar. If the price of a hat is \$10, of a loaf of bread \$1, of a TV set \$90, and so on through all the array of available goods and services, then the “purchasing power of the dollar” is: one-tenth of a hat, or one loaf of bread, or one-ninetieth of a TV set, no more and no less. If one of these prices rises by 10 percent in one year, another rises by 5 percent, a third falls by 4 percent, and so on, there is no scientific way whatever in which all of these disparate changes may be combined to form one aggregate or average index number of change.<sup>10</sup>

## Methodology and Mathematics

Throughout his article, Professor Timberlake uses the term *methodological* as a synonym for *trivial* and the reverse of *important* and *substantive*. But the correct usage depends on one’s view of methodology in economics and

the disciplines of human action. To Mises, and to the present author, methodology is of crucial substantive importance, because some methodologies can be shown to be correct and others incorrect. In particular, Mises' economics is consciously grounded in what he has termed praxeology, which he deems to be the only correct methodology for economic theory. Praxeology grounds economic theory on a handful of self-evident and apodictically true axioms and then develops the logical (and, hence, absolutely true) implications from those axioms. Economic theory is the set of such true implications, which the applied economist, or economic historian of the contemporary or past scene, uses to try to explain the complexity of historical events. Since, contrary to the positivist method, economic theory need not and cannot be "tested" by empirical facts, the integrity and truth value of economics rests upon keeping its axioms and premises true and unsullied. Deliberately introducing false assumptions and premises into the theory, whether in the name of "simplification" or for any other reason, is fatal to both the veracity and the usefulness of economic theory. Yet, Professor Timberlake, in the positivist mode, asserts that it is proper and legitimate to make "the assumption of monetary neutrality and the specification of cardinal utilities," even though these assumptions are admittedly untrue, because they are "simplifications that clarify the analysis by showing it unadorned."<sup>11</sup> But, by doing so, he unwittingly succeeds only in introducing grave falsehood into economic theory, a falsehood that can only yield false and misleading conclusions. Thus, contrary to Professor Timberlake, methodology *is* substance.

Let us examine, for example, Professor Timberlake's exposition of marginal utility, where he asserts that utility may properly be treated *as if* it were cardinal. We take note of the fact that the doctrine of cardinal utility has long been the major "scientific" argument for the progressive income tax. For this reason alone, it ought to be rejected out of hand. However, let us confine ourselves to Timberlake's seemingly noncontroversial exposition. Thus, in his appendix on "The Equilibrium Value for the Marginal Utility of Money," Timberlake begins with the unexceptionable statement that "money exchanges for these [all other] goods and services at market prices until a typical individual maximizes his utility for money and goods relative to their prices."<sup>12</sup> But in his next sentence, he adds, "That is," in equilibrium "the marginal utility of money relative to the price of money equals the marginal utility of goods relative to the price of goods," a proposition that he proceeds to embody in the equation:

$$\frac{MU_m}{P_m} = \frac{MU_r}{P_r}$$

where *r* includes all goods other than money. As Timberlake recognizes, the *r* boldly amalgamates the prices and marginal utilities of all goods into *one*

mythical good via the price level construction, which we have seen to be illegitimate.

But this is scarcely the only problem with Timberlake's formulation. The major problem is that the sentence beginning "That is" does not follow at all; there is a vast and illegitimate leap from the first sentence to the second. For the fact that in equilibrium every individual has reached his maximum utility point for each good or for money in no way implies Timberlake's standard neoclassical conclusion about equal ratios of marginal utility to price.

The crucial point is that utility cannot be used in any ratio or fraction. Utility is not cardinal but strictly ordinal, a nonmeasurable ranking among goods and services on a person's ordinal value scale. The ranking is of the order "first, second, third, fourth, etc." and therefore cannot be added to, multiplied, or equalized, a point that would be made stronger if the ranking were in letters, rather than in misleading numbers, and thereby seen to be strictly lexicographic (*A, B, C, etc.*), which no one could claim to be subject to measurement. Standard micro texts state that utility is ordinal rather than cardinal but then quickly proceed to talking about "utils," units of utility which can be added, integrated, differentiated, etc. Contrary to those texts, there are no utils, no one has ever seen a util or will ever see one. Since there are no utils, it makes no sense to talk of a ratio between utils and prices. In fact, ratios must be in the same unit, and there is even no way to speak meaningfully about ratios of apples to oranges or of utils, even if they did exist, to prices.<sup>13</sup>

## Epilogue: The "Alliance"

Professor Timberlake concludes his stimulating article by urging us to abjure our "intellectual rent factors or vested interests" and instead cultivate the natural alliance between monetarists and Austrians.<sup>14</sup> But one may question whether or not such a natural alliance exists, either on a theoretical or public policy level. In the field of economic theory, there is no common ground at all, except for the simple proposition that "money matters," i.e., that the supply of money is an important determinant of prices. There is no other commonality of principle, from methodology to analysis. Politically, there tends to be a common devotion to free markets, but, paradoxically enough, in virtually every area *except* money, the subject, after all, of Professor Timberlake's article. In the field of monetary policy, monetarists are devoted to fiat money, central banking, and somewhere between a 3 to 5 percent money rule, i.e., a fixed monetary inflation of 3 to 5 percent per year in order to keep the long-run (though nonexistent) price level constant. Austrians, on the other hand, are devoted to a pure gold standard, 100 percent reserve banking, and the abolition of the central bank—in short, the total separation of money from the state. Since they believe that any supply of money is optimal, Aus-

trians oppose any increase of the money stock beyond the supply of gold, and they welcome the falling prices that will be brought about by the development of unhampered capitalism. Money is precisely the area where Austrians and monetarists are furthest apart.

## Notes

1. Richard H. Timberlake, Jr., “A Critique of Monetarist and Austrian Doctrines on the Utility and Value of Money,” *Review of Austrian Economics*, I (1987), 81–96. Mises’ theory is, of course, set forth in his *The Theory of Money and Credit* [1912] (4th ed., Indianapolis: Liberty Classics, 1981).

2. There is one exception: when the increased money consists of newly mined gold or other money-commodity. For while an increase of gold confers no *monetary* benefits on society, it *does* increase the amount of gold used in jewelry, dentistry, and other consumer and industrial uses. In short, new gold has the same effect as more of any other good when considered in its consumption or capital, i.e. its *nonmonetary*, uses. But of course, once money becomes paper or bank deposit, even that saving grace of increasing money ceases to exist.

3. Professor Timberlake repeatedly insists that utility is subjective and that value is objective—price or purchasing power. He charges Mises with error in speaking of value as subjective. Timberlake, “Critique,” p. 87. Actually, Timberlake himself has here fallen into the trap of confusing the semantic with the substantive. While one aspect of value is indeed objective (what Mises called “objective exchange value”), utility leads consumers to make subjective *valuations* of goods and services. “Subjective value” is an important Austrian concept of value as *valuation* by consumers.

4. In each day, of course, the purchasing power of money is determined by two factors: its demand and supply (or stock). I am omitting the stock of money in the text for purposes of exposition. For a fuller discussion of the regression theorem, see Murray N. Rothbard, *Man, Economy, and State: A Treatise on Economic Principles* [1962] (Los Angeles: Nash Publishing, 1970), I, 231–37.

5. Professor Timberlake scoffs at this proposition and claims that “fiat paper money” could be “dumped into a primitive barter economy and forced into existence by the impress of legal tender.” Timberlake, “Critique,” p. 87. But this has never happened in history, while there are many cases (e.g., the mighty Mongolian Empire) where governments, unhampered by the Bill of Rights, have done their best to force a new money upon a people and yet have failed dismally. All currencies in history began as useful commodities on the market of barter, and it was Menger’s historical explanation of this universal fact that inspired Mises to demonstrate its ineluctable logic as well.

6. Timberlake believes that Mises’ rejection of price level indexes would only carry “practical weight” if it is discovered empirically that relative prices change to a significantly greater degree during inflationary periods than in periods of stable prices. But Mises’ point is fundamental and philosophic rather than statistical-empirical. Price level indices are illegitimate in *all* periods if changes in price levels always carry with them systematically *any* changes in relative prices whatever. Timberlake, “Critique,” p. 89.



7. Timberlake, "Critique," p. 90.

8. Timberlake, "Critique," p. 88.

9. Thus Viner writes of the major classical economists that "when they speak of the value of money or of the level of prices without explicit qualification, they mean the array of prices, of both commodities and services, in all its particularity and without conscious implication of any kind of statistical average." Jacob Viner, *Studies in the Theory of International Trade* (New York: Harper & Bros., 1937), p. 314. Much of the excellent work by C.Y. Wu hinges on this crucial distinction. C.Y. Wu, *An Outline of International Price Theories* (London: George Routledge & Sons, 1939).

10. For more on the index number fallacy, see Rothbard, *Man, Economy, and State*, II, 737–44. Also see R.S. Padan, "Review of C.M. Walsh's *Measurement of General Exchange Value*," *Journal of Political Economy* (Sept. 1901), p. 609.

11. Timberlake, "Critique," p. 92.

12. Timberlake, "Critique," p. 93.

13. After engaging in mathematical manipulations of his first, fallacious equation, Timberlake ends with the equation:

$$Mu_m = \frac{MU_r}{P_r^2}$$

In trying to elucidate the economic meaning of the absurd idea that the marginal utility of money is equal to the marginal utility of goods "divided by" (how?) the price level *squared*, Professor Timberlake says, "To visualize this explanation, let the original equilibrium . . . occur when  $P_r$  and  $P_m$  are both 1." But what in the world can it *mean* to have the price level of goods "equal to 1"? p. 93

14. Timberlake, "Critique," p. 92.