Reply to Comment by Murray N. Rothbard

Richard H. Timberlake, Jr.

Three main issues appear in Professor Rothbard's "Comment," all of which are related to a principal theme.[1] The issues are: (1) the Austrian circle and regression theorem, (2) the difference between money and other economic wealth, and (3) the measurability of economic activities, particularly monetary phenomena. Rothbard begins with the Austrian circle and regression theorem; he then brings in the difference between money and other economic things. His gravest oversight is on this latter point, so I begin this reply with an analysis of the difference between money and other things.

Rothbard observes that I use my reference to W.H. Hutt's classic article, "The Yield from Money Held," 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." Rothbard then explains the difference between money and other economic goods. All money is nominal, while all goods are real. Economic resources properly mixed with economic organization can result in greater production of goods and services, and no amount of such production can ever be "optimal"—that is, too much.

"But money," states Rothbard, "is totally different. It is the unique nature of money that its usefulness . . . *stops* as soon as it is in sufficient supply to be adopted as a general medium by the market. . . . There is never any social benefit to increasing the quantity of [nominal] money, for the increase only dilutes the . . . purchasing power of the money unit."

This argument has been expounded often in the past by many well-known economists (John Stuart Mill, for example, in his *Principles*, Book III, chapters 7 and 8). What, indeed, could be more obvious than the fact that money units are all nominal, and that doubling them changes nothing real?

Not only does the word *real* enter here, it must enter or the thought cannot be finished. If money exists and is used as an economic item for making exchanges, it is real as well as nominal. Unlike other real goods, however, the reality of money is conceptual. It can only be appreciated by an intellectual calculation of what the money unit can buy. Everyone makes this cal-

culation intuitively in deciding on how much money he will hold for the interval until his money stock is replenished. However, hardly anyone, most economists included, is aware enough of the existence of real money to bring it into a rational calculable analysis. This oversight manifests itself in remarks such as the ones by Jevons and Wicksell that I cited in my original article. Rothbard's discussion of the difference between nominal money and real goods is in this same vein. It is correct, but it does not even come to grips with the most important feature of money—its real value.

The real quantity, or stock, of money is the total purchasing power, or "objective exchange value," of the nominal quantity. This real quantity is estimable by reference to a price index (another Rothbardian no-no, which I shall discuss shortly). If the nominal quantity of money is fixed and real production increases by 10 percent so that prices generally fall by, say, 10 percent, then the real quantity of money is 10 percent greater than it was. It increases because all of the great complex of economic resources increases the real wealth and income of society by 10 percent. Included in this bounty are the fruits of the money industry. Indeed, the money-producing industry in a fully free market system would usually contribute to the real increase in total product by refining and economizing the payments system. If it did, the resources in this industry would have realized their appropriate marginal returns. In any event, holders of money wealth would enjoy a return on their capital—real money in this case—measured by the rate of decrease in the price level. An appropriate label for this return would be "implicit seigniorage." A money holder would get it by owning and holding money just as he would get a return from a stock certificate by owning and holding it.

This return, however, is not the end of the story. Money (as Hutt emphasized and as both Mises and Fisher sensed but did not fully explain) yields an implicit return to the holder regardless of who gets the seigniorage. Even if the monetary system is buffeted by inflation and hyperinflation, it has much more utility for making exchanges than bartering devices that would have to be used in its absence. That is, even if the money unit constantly suffers from a depreciation of its real value by excessive issues of its nominal quantity, it is abandoned only reluctantly—only when its cost in terms of price level depreciation overcomes its implicit yield rate as an economizing wealth item.

My conclusion here was not, as Rothbard asserts, that "there is no real difference between [nominal] money and other goods." It did not concern nominal money at all. Rather, the conclusion is that real money can be, should be, and must be treated analytically like all other economic wealth. To cite again the classic elegance of W.H. Hutt: "[*Real*] money assets are subject to the same laws of value as other scarce things and are equally productive in all intelligible senses." If each dollar has real value, people who own the dollars ascribe to them utility. If all the dollars have some total utility, successive dollars owned have declining marginal utility and enter into the

individual's calculation of whether he will hold dollars or get rid of them by purchasing other kinds of wealth. (See again the corrected version of my appendix to the original article at the end of this "Reply.")

This line of reasoning leads to the conclusion that a regression theorem is no more necessary for real money than it is for real automobiles. Do I, for example, get utility from my real 1965 Chrysler 300 because Carl Benz invented a real automobile in 1886? No more so do I get utility from my real dollar because my grandfather in 1886 used a gold Eagle to buy my grandmother an engagement ring. Carl Menger correctly inferred the evolution of a commodity money from commodity barter. That development, however, in no way affects the utility of the paper money in use today.[2] Modern day paper money is accepted by the public because of the coercive power of the state to enforce legal tender.[3] However, we as individuals determine its value—the *terms* on which we accept it—from an estimation of its transactional utility to us in conjunction with the number of units of it in our possession. The utility schedule of the real units is what is important to us. Once the reality of nominal money is recognized, the "Austrian circle" (which argues that the value and utility of money are isolated in an indeterminate tautology) disappears. If an Austrian circle is required for money it is also necessary for every other real good.

Behind these arguments on the real value of money and its utility lie the concepts of the price level and the price index as contrivances made to measure the price level. Rothbard objects to both. Such contentiousness, however, cannot be limited to prices, but must be extended to the averages for all collections of data. If one accepts Rothbard's view, grade point averages for a college student do not mean anything. How can one add a grade in, say, economics to a grade in calculus and to another grade in history, divide by three and come up with anything meaningful? Economics, calculus, and history are not summable. Furthermore, the various university administrators who peruse these grades have different perceptions about what they signify. So what can they mean? To a "pure" Austrian economist, nothing.

The same criticisms of statistical measures could be made about baseball batting averages, stock market values, and weather reports. In fact, in almost any walk of life, statistical measures of central tendency bring meaningful sense into random data. Market prices are not an exception. A burgeoning money supply makes most money prices rise. Austrian economists recognize the general rise in money prices as well as anyone (as I noted in volume 1 of the *Review of Austrian Economics*, pp. 89–90). To insist that the somewhat uneven rise of prices has different significance to different observers, all of whom may have somewhat different innate utility patterns, is a trivial argument. It is reminiscent of young boys who are so concerned about the rules of the game that they never play the game.

Worse yet, the categorical refusal to admit a price index as a measuring

device is to say that the value of the money unit is indeterminate and cannot be measured.[4] It could be anything depending on the utility that each individual has for it. The same argument could be made for the "value" of a jar of peanut butter. Suppose the market price for such an item is $1.29. To someone who likes peanut butter, this price is cheap. To someone else, a price of $1.29 may be barely acceptable. Therefore, this price and all other prices are meaningless if they must be married to the "subjective significance" attached to them by individual preferences. Any constraint or principle that applies to a real money unit must perforce apply to any other real wealth item.

The most valuable return from a reasonably well chosen price index construction is its derivative use in measuring the value of money. The jar of peanut butter has an explicit money value. So do thousands of other economic goods and services. To say that one cannot get from these prices a determinant measure of the value of the money unit is vain perfectionism. It places Austrian economic analysis into a straitjacket from which it is unable to respond to the many pernicious violations of its principles that occur ubiquitously in everyday affairs.

All averages can be used devilishly, but this trait is no case against them. Every manmade device and most of nature's can be judged on the same grounds. Obviously, an average sacrifices particulars in order to emphasize a central tendency. It has both costs and benefits, and it must be used in a way that maximizes its benefits while recognizing its costs.

Near the end of his "Comment," Professor Rothbard delivers a revealing passage that reflects what seems to be his overall theme—a holier-than-thou norm for Austrian economic theory. Economic theory, he writes, derives from the pure logic of "true" behavioral axioms. It "is the set of such true implications [from these axioms]. . . . 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."

Such a position invites scorn and ridicule from critics. (Who said those opinions are "axioms"?) It is also defeatist. It relegates Austrian economics to an ineffectual and largely ignored debating exercise and thereby renders it practically useless in a world going collectivist. Surely, a set of principles and doctrines as powerful as those developed by the Austrian school can afford to come down and slug it out with all comers on any grounds they wish. In doing so, Austrians should accept any allies available who have the same fundamental concern for a system of rules in which individual rights and actions are dominant and inviolate. All the monetarists I know hold such principles as firmly as Austrians.

Notes

1. Murray N. Rothbard, "Timberlake on the Austrian Theory of Money: A Comment," in this volume.

2. Perhaps one can argue that if Benz had not invented the real automobile, no one would have had the cultural capital required to impute utility to today's automobile, and likewise with money. This kind of inference is, however, untestable. It only confirms that money *originally* had to be a commodity.

3. This argument by no means supports or excuses the state for improperly and immorally entering into the production of money. Rather, the recognition that real money is real economic wealth, subject to economizing by means of real resources, argues for its complete privatization. If money were not of this nature—if it were a special case, the argument for privatization would be less compelling.

4. Rothbard and all other Austrian economists, however, *do* implicitly make such evaluations—for example, his last sentence in the quote in the third paragraph of this article.

Appendix: The Path to Static Equilibrium for Holdings of Money and Goods

This analysis assumes an economy that uses a nominal money of some simple form, say, paper currency. In the beginning, its real value is constant. That is, the price level as estimated by a price index is not changing, and everyone expects that it will remain as is.

This economy also produces and consumes goods and services, all of which have declining marginal utilities to the households and business firms (H and BF) that own them. Indeed, if all marginal utilities did not decline at some point, everyone would specialize his wealth holdings. He would own the first unit of whatever gave him the most utility; but if his marginal utilities for all goods and services were all increasing, he would acquire more of this "premium" good until he exhausted his income. Different people, however, might well have differing views on the item that had premium utility. So all would not specialize their purchases on the same thing. (This aside is to show by way of casual observation that, in a society of human beings whose patterns of ownership include many diverse composites of wealth items, marginal utilities *must* decline.)

Money units are exchanged in markets for all goods and services and thereby give rise to a pattern of relative prices. Every H and BF, in order to maximize utilities from purchasing goods with dollars of income, acquires goods and spends money until the last incremental utilities of the goods and services purchased relative to their prices equal the marginal utility of the last nominal money unit held relative to its "price." The price of the money unit is its purchasing power in terms of goods and services, and it may be estimated by means of a price index. Since a general rise in prices, no matter how ragged, implies a decline in the purchasing power of money, changes in the price of money are inverse to changes in money prices. That is,

$$p_m = \frac{1}{P},$$

where p_m is the price of money in terms of goods, and P is the average of money prices for all goods and services R.

In equilibrium, as just noted, the marginal utility of money relative to the price of money for each individual equals his marginal utility for goods relative to the prices of goods. That is,

$$\frac{MU_m}{p_m} = \frac{MU_R}{P}. \tag{1}$$

Since the price of goods, P, and the price of money, p_m, are inversely related, equation 1 can be reduced to three terms:

$$\frac{MU_m}{\left(\frac{1}{P}\right)} = \frac{MU_R}{P}, \tag{2}$$

and,

$$MU_m = \frac{MU_R}{P^2} \tag{3}$$

This last equation means that the wealth holder is in money–wealth equilibrium when the marginal utility of the *n*th money unit is equal to the marginal utility of goods divided by the price level *squared*. A "pure" price level inflation directly affects the utility of nominal money, but does not affect either the utility of real money or the utilities of real goods and services.

The value of this analysis lies in its ability to show how static equilibrium between holding money and holding goods develops in a market economy where prices are stable as well as in one that suffers from a monetary inflation. Some average of all money prices specifies a "price" for money. Let this average of money prices be 100 percent of itself, or "100," when monetary circumstances are benign and stable. Likewise, let the price of money also be 100 percent of itself, or "100," at the same time.

Let the government now print up twice the existing stock of paper money and bring this new money into existence by mailing it out as rebates on income taxes, so that everyone has three times as much money as he had originally. The stock of money has tripled, but no additional goods and services are being produced. All H and BF experience excess supplies of nominal money which they try to get rid of for other forms of wealth. In spending their money, they drive prices up to three times their original level, or to "300," and thereby reduce the *schedule* of the marginal utility of money to

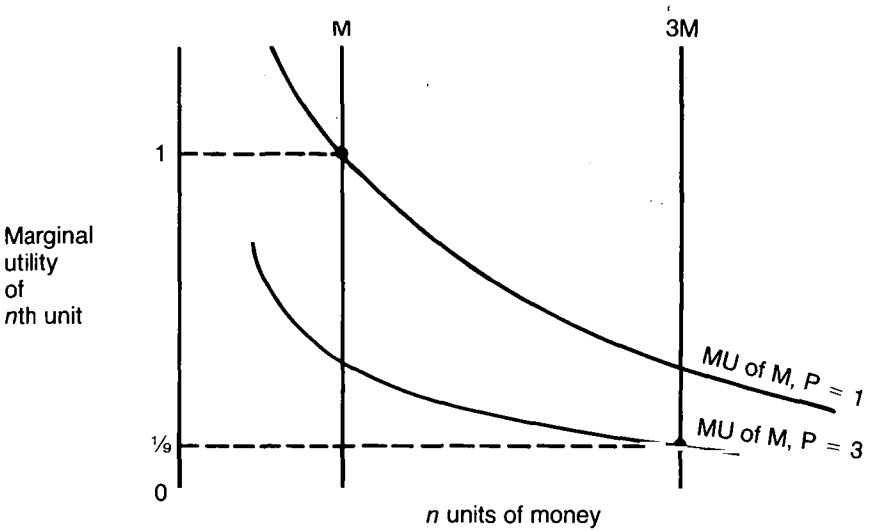

Figure 5. The Marginal Utility of Money

one-third its original value. The utilities of real goods remain constant. (An apple still tastes like an apple no matter what its money price.) However, the equilibrium marginal utility of the last unit of money would be one-ninth of its original value in accordance with equation 3. That is,

$$MU_m = \frac{MU_R}{P^2} = \frac{MU_R}{9}$$

(See figure 5.) If prices went up by a factor of 10, the marginal utility of the last dollar held would be one–one-hundredth of its original value, and so on.

The squared value for the marginal utility of the last dollar held is analogous to air resistance against a hard surface as a function of relative velocity. The resistance increases as the square of the speed because n times as many particles are hitting the surface per second, and each particle is making its impact at n times the original speed. Likewise in my example of inflated money, everyone must hold three times as many units of money, and each utility schedule of money has one-third the value of the original schedule. Equilibrium occurs, therefore, on a utility schedule that has been reduced by a factor of three at a point three times as far out on the money axis.

This simple analysis reflects the nature of monetary utility and its functional dependence on prices. It also implies how and why money is held and can reach an equilibrium with nonmoney wealth even under inflationary or

hyperinflationary conditions. Is it not phenomenal that as the German price level in 1923 burgeoned to a billion times its 1913 level, people continued to use the hyperinflated marks? This behavior dramatizes the efficacy of money, relative to the next-best transactional commodity, for fulfilling monetary functions.