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The Marginal Utility Theory of Price Determination and the Market for Money: A Comment on Barnett and Block

Is the price of money determined by supply and demand in a market just like every other good is? An article recently published in *Laissez-Faire* by Barnett and Block (2009) argues that it is not. Professors Block and Barnett have qualifications as consistent adherents to the praxeological method that are second to none. They have made numerous contributions to economics and political economy. But on this one issue, their argument is less compelling. Regardless of whether their bold conjecture is true or false, it merits a response. For if it is true, it would have wide ranging implications for the practice of economics, and these implications should be enumerated and adhered to. And if it is false, as this comment argues, then it is important to identify the source of the error and to correct it before any confusion spreads.

Barnett and Block argue that there is no single market for money and that there is no single objective exchange price of money determined within an economy by supply and demand. Instead they claim that there is a unique market for money that exists in relation to every other good for which it trades against, and that a unique price is determined by supply and demand in each of these separate markets.

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Barnett and Block begin their argument by noting that money constitutes one side of every exchange and does not itself have a price expressible in units of some other single good. In other words, money is the only *numeraire* in the economy, and there can be no *numeraire* for money itself. From this premise they conclude that the price of money is not determined by supply and demand in a single market, but instead a unique price for money must exist in relation to every non-money good in return for which it is exchanged. In the words of Barnett and Block, money does not have a single market, but rather it has many markets.

Block and Barnett's argument is most clearly expressed in the following key passage:

> Money *qua* money is one side of every monetary transaction. Therefore, in the market in which X trades for dollars, the price of money is in terms of X/$. Of course, in the market in which Y trades for dollars, the price of money is in terms of Y/$. There is then no "the" demand for money. Rather, in every market in which some good trades for money there is a demand for money; i.e., there are demand*s* for money, not *a* demand for money. Of course, the foregoing comments apply equally to "the" supply of money (emphasis in the original).

The premise that money does not have a price expressible in units of some other single commodity is of course true. But it does not follow from this premise that money has no single price. The argument is a non-sequitur. The price of all commodities, including money, may be expressed in terms of its exchange ratio against all other goods. In a money-using economy, however, money is the numerator in all cash transactions and is therefore useful for comparing the prices of all other goods. Money becomes a price index, to adopt the phrase of Menger.[1] Since money is the *numeraire*, however, the price of money itself is only expressible as the inverse of its exchange ratio in terms of all of the other goods that it can purchase. This inconvenience has spurred statisticians to search for the construction of indices to express the purchasing power of money (PPM).

In the construction of any given index the relative weighting of any particular good is arbitrary. But the price that the index is constructed to measure is an objective exchange price determined by supply and demand. The argument given by Barnett and Block to the contrary is not only false, it is at odds with the modern subjective theory of the price determination of money—a theory which the entire economics profession has accepted ever since it was first developed by Ludwig von Mises.

The great achievement of Mises in the *Theory of Money and Credit* (1981 [1912]) was to explain how the objective exchange price of money emerges as an outcome of individual choices in the marketplace. Mises was the first economist to place monetary theory on solid methodological ground by explaining how the price of money is determined by supply and demand in accordance with the marginal utility theory of price formation, i.e., that prices arise out of the subjective marginal valuations of individual market participants.

As Mises (1981 [1912], pp. 129-77) explains, the objective exchange price of money is determined by the interplay of the demand and supply for it: on the demand side by individuals choosing to hold an amount of money in accordance with their individual value scales; and on the supply side by the quantity of money in circulation.[2] The resulting objective exchange price of money is subject to the law of one price, just like any other good, and for the same reason—namely, that entrepreneurs arbitrage any price discrepancies away. This is the theory of money's price determination that is presented, with more or less precision, in the economics literature, as cited disapprovingly by Barnett and Block (2009, pp. 21-22).

Individuals demand money because it is useful for acquiring other goods in exchange. Each individual actor ranks the value of each unit of money subjectively on his own scale of value and will seek to acquire money until the marginal benefit of obtaining an additional unit no longer exceeds the marginal cost of doing so, given the opportunity cost of holding money and its objective exchange price on the market (i.e., PPM).[3] The market

[1]For a more detailed discussion of how money serves as a price index in this sense, see Mises (1981 [1912], pp. 61-62).

[2]And although it is not explicitly stated by Mises, the stock supply of money under a gold standard is ultimately reducible to the reservation demand of those who are in a position to own some of it, and is therefore endogenously determined on the market by supply and demand as well. See below for an elaboration of this point.

[3]Money, unlike other commodities, only has

demand for money is simply the sum of each individual's demand for money, *ceteris paribus*.

The market supply is given by the reservation demand of those capable of possessing a certain stock of it, *ceteris paribus*.[4] Under a gold standard the supply of money is primarily determined endogenously by two factors: 1) the amount produced in the flow market from gold mining, which increases with the purchasing power of gold, minus the amount lost from wear and tear; and 2) the amount of the stock of gold that individuals choose to use for monetary purposes instead of non-monetary purposes, which is also upward sloping with respect to the purchasing power of gold (White 1999, pp. 28-31).[5] Under a fiat system the money supply is primarily determined exogenously by the amount of base money supplied by the central bank. Of course, under both systems the supply of money is also influenced by the reserve ratio, by the "leakage" of currency drains of cash held by the public, and by the "leakage" of excess reserves held by banks, all of which influence the money multiplier.

Nothing in the above derivation of the market demand and supply for money logically requires that money can only be exchanged against a single other good in order for its price to be determined in a single market. This is fortunate, because the concept of the market for money is an essential component of economic theory. If it were suddenly revealed that market forces do not in fact determine the relative price of money in the economy, then honest economists would have to abandon much, if not most, of their theoretical and applied analysis. For if there really were no market for money, then there would be no market price of money, as represented by its purchasing power. Any attempt to make sense of the changes in the price of money as manifested in the

subjective use value because it can command a certain amount of other goods in exchange. Although technically the commodity that money is made out of may have some subjective value to the owner, in its capacity as money it only derives subjective use value from its exchange value. This adds an extra layer of complication to the supply and demand analysis of money because its subjective use value, which determines its objective exchange value, is also dependent upon its objective exchange value. This apparent circularity was solved by Mises (1981 [1912], pp. 131-36), who explained that the objective exchange value of money today can be regressed back to a time where its price was determined solely by its value as a commodity.

[4]In general demand and supply curves can either be represented by the total amounts people want to have on hand or by the amount they want to acquire (or dispose of) by current purchase. For goods such as money, which are durable, held in large stocks, and subject to resale, the demand and supply is more conveniently represented as the demand to hold and the stock in existence. The two different ways of representing demand and supply, however, are logically equivalent. See Alchian and Allen (1972 [1964], pp. 88-90, 220-25).

[5]The necessity of keeping track of both the flow and the stock supply and demand together is unusual and distinct to the analysis of money under a commodity standard. Money under a commodity standard, such as the classical gold standard, has a monetary and non-monetary use and therefore the stock supply curve is upward sloping and not vertical, as it usually would be using the stock demand and supply approach. Analysis under a commodity standard is therefore considerably simplified by making simultaneous recourse to the flow and stock supply and demand.

observable phenomena of inflation and deflation would be unfounded and in vain. Nor would it be possible to assess whether changes in the supply or demand of money are relevant causal factors of macroeconomic fluctuations. Yet these are precisely the implications of the position advocated by Barnett and Block.

Barnett and Block have not provided a compelling case for throwing out the traditional subjective theory of price determination for money. Their argument is based on a superficially plausible, but ultimately untrue, belief that rejecting the notion of the market price of money is required by a rigorous adherence to the tenets of praxeology. In this particular instance, however, the rigor of economic logic requires no such thing. There is a market price for money, and it is determined by supply and demand.

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