

COMMODITY THEORIES OF THE ACCEPTABILITY OF MONEY

The medium of payment¹ typically is defined as that which is generally accepted in payment for goods and services or in the settlement of debt.² Perhaps because modern monetary systems function so well in providing media of payment, we seldom consider the question of why they enjoy the general acceptability by which they are identified. Yet, because monetary systems evolve and change, such basic questions warrant occasional re-examination to ensure that contemporary analysis does not, unwittingly, embody and foster the errors of an earlier time.

At the outset, we must establish the meaning of general ac-

¹ Although the terms "medium of payment" and "medium of exchange" usually are used interchangeably, we recognize that there exist instruments for effecting exchange which are not instruments with which payment can be made. A good example is the modern credit card. Throughout this essay, we shall refer to media of payment. Where the term "currency" is used for stylistic reasons, it is as a substitute for medium of payment. The distinction between media of payment and exchange is discussed more fully in the section on convertibility theory below.

² E. Shapiro, E. Solomon, W.L. White, in *Money and Banking*, 5th. ed., New York, Holt, Rinehart and Winston, 1968, write: "Money, therefore, may be defined as anything that has a fixed and unvarying price in terms of the unit of account and is generally accepted within a given society in payment of debt or for goods and services rendered," p. 9. See also the references in note 4, p. 9.

Commodity Theories

ceptability of the medium of payment. The dictionary says that to accept means “to take what is offered or given; to receive willingly.”³ This is generally in accord with the usage of economists although we might prefer to say that the medium of payment is taken when offered without question or hesitation.

In various places and times, different objects have been media of payment: coins, notes, bank deposits, etc. For the purposes of this article, we are mainly concerned with the reasons why all of them have enjoyed general acceptability; while the specific object or device changes over place and time, general acceptability is common to them all. In this essay, we examine the oldest and most familiar explanations of general acceptability, those which center on the commodity properties of medium of payment.

COMMODITY THEORIES OF MONEY

The various commodity theories assert that the power of the medium of payment to circulate, the explanation of its general acceptability, lies somehow in the commodity value of the medium itself.

The simplest version of the commodity theories states that a community will employ as its medium of payment some commodity which every member of the community values because it has a common non-monetary use. Thus, for example, Adam Smith notes that commerce may languish from lack of a concidence of wants and that to avoid this difficulty “... every prudent man... must naturally have endeavoured... to have a certain quantity of some one commodity or other, such as he imagined few people would be likely to refuse in exchange for the produce of their industry.”⁴ Smith then lists several commodities which have been so employed: nails, dried cod, tobacco, and sugar, among others. Every one of these commodities has a common non-monetary use and for this reason no man will refuse it when it is offered.

Another version of the same line of reasoning holds that the acceptability of the medium of payment arises from the intrinsic

³ *Webster's New World Dictionary, College Edition*, Toronto, Nelson, Foster, and Scott, 1966.

⁴ Adam Smith, *Wealth of Nations*, (1776), Homewood, Richard D. Irwin, 1963, p. 18.

value, as opposed to use value, of the material of which it is made or of the thing itself. Thus, it is argued, coins of precious metals are accepted willingly because men delight in gold and silver, find them intrinsically valuable, even though they have little or no practical use; similarly, some people prize cowrie shells or beads and so accept them without question or hesitation when offered.⁵

Still a third line of reasoning suggests that the material of which the medium consists, or the thing itself, has value as a result of its being scarce, and this high value confers upon it desirability and hence general acceptability. Scarcity may arise from the niggardliness of Nature, limitations of technology, or state policy.⁶

Finally, there are commodity theory explanations of general acceptability at one remove. This category includes all those arguments which base acceptability on convertibility into some valuable commodity like gold or silver.⁷

⁵ W.S. Jevons, in *Money and the Mechanism of Exchange*, New York, Appleton, 1900 (1875), writes: "In order that money may perform some of its functions efficiently... it is important that it should be made of a substance valued highly in all parts of the world, and, if possible, almost equally esteemed by all peoples. There is reason to think that gold and silver have been admired and valued by all tribes which have been lucky enough to procure them. The beautiful lustre of these metals must have drawn attention and excited admiration as much in the earliest as in present times." (p. 33), and, "Of gold and silver especially we may say, with Turgot, that, by the nature of things, they are constituted the universal money independently of all convention and law" (p. 52).

⁶ E.W. Kemmerer writes: "The fact, however, that, although gold is found almost everywhere throughout the world... it usually can be obtained in substantial quantities only by much effort and that nature is very niggardly in her offering of gold to man... makes gold a very scarce commodity. A universal demand for gold for ornament and a widespread demand for gold for monetary uses, *coupled with this very limited supply, spell scarcity and high values.*" (italics added), *Money*, New York, Macmillan, 1935, p. 76.

The same argument has been applied to token currencies: "Why are people willing to accept these coins in payment at values far above the value of the materials out of which they are made? The fundamental reason is that the quantity of these coins is deliberately limited by the government... By appropriate limitations on the supply of these coins it can maintain their monetary value well above their commodity value." Lester V. Chandler, *The Economics of Money and Banking*, 3rd. ed., New York, Harper, 1959, p. 21.

⁷ Or, as it is usually put, into a "true" money where acceptability derives from some other commodity theory. Historically, convertibility arguments have been concerned with the role of paper money and the possibility of replacing full-bodied coin currencies with paper. A detailed survey of English and

Commodity Theories

The distinctions between these various commodity theory explanations of general acceptability are somewhat artificial; generally they were mixed together in varying proportions as the argument or occasion warranted. For our purposes, however, the distinctions are useful; they permit identification of the valid and invalid components of commodity theory arguments.

USE - VALUE THEORY

The first commodity theory explanation of general acceptability has an obvious intuitive appeal. Since exchange requires that both (or all) parties to it be willing to take something offered by another, a simple way to insure a "coincidence of wants"⁸ is to have on hand a stock of some commodity so widely used that no person will refuse it when offered. The recipient can either use it in subsequent exchanges, consume it, or store it for future exchanges or consumption. Since the commodity in question can be used widely to make payment in exchanges it is properly called a medium or means of payment. Despite its intuitive appeal, however, the theory has several shortcomings.

One means by which a "true" commodity currency is distinguishable from a token currency is that the latter, unlike the former, is in no way valued or wanted for itself but only for its ability to be exchanged for things which are so valued. If this is correct, it implies that every person in a community employing an actual, useful commodity as the medium of payment must value that commodity *as a commodity* as well as for its usefulness in

French economic thought on the question is found in: Charles Rist, *History of Monetary and Credit Theory*, New York, Augustus Kelley, 1966 (1938). Rist's point of view is given by: "Convertible paper and inconvertible paper are merely legal claims; metallic money is a *good* desirable in itself... Being legal claims, paper money, like all claims, has only the value of the objects in which it is redeemed. Convertible paper can at any moment be exchanged against gold; it therefore has the value of the gold for which it can be exchanged, that value being fixed on the world market, where gold is always in demand." p. 148.

⁸ As Brunner and Meltzer point out, lack of coincidence of wants does not imply necessarily the need for money; barter credit can cope with a lack of want coincidence. Karl Brunner, Allan H. Meltzer, "The Uses of Money: Money in the Theory of an Exchange Economy," *American Economic Review*, Dec., 1971, pp. 784-805, especially note 4, p. 785.

payment. Any person who does not so value it, that is for whom the option of consuming or using it is not available on account of taste, should refuse to accept it in payment for other goods. If he does accept it, then for him it functions in the same manner as modern token currencies.

Of course, the response to this argument is that not everyone need have a taste for the commodity, only a sufficiently large number that any given person in a community knows that he will have no difficulty finding someone who wants it. Since the same logic applies to every individual, the monetary commodity will be generally accepted despite the fact that it is *not* universally valued as a commodity alone.

In a sense, however, this response betrays the logic of the use-value theory by appealing to social convention rather than to individual preferences. It is possible that, through a gradual shift of preferences away from the monetary commodity, very few persons actually value it for its non-monetary uses but nonetheless employ it as currency because each believes that the others value it as a commodity. Were this the case, the currency would circulate by virtue of a widely-held expectation about individuals' preferences and, contrary to the use-value theory, not by virtue of actual preferences at all.⁹

A second problem relates to the nature of the demand for the monetary commodity. If the medium of payment is employed in most of the transactions that take place in a community, and if its acceptability derives from its desirability as an actual commodity, then it follows that it must be desired in (rather) large quantities by many or most individuals. In fact, since payments are made in the commodity and incomes therefore received in the same form, many persons must be prepared to consume it to the limit of their incomes. This is clearly an absurd result, but one which follows logically from this particular commodity theory of general acceptability.

Furthermore, the meaning of demand for the monetary commodity in the context of the use-value theory is unclear. Would a demand function exist solely with regard to the commodity as a commodity, or with regard to both its monetary and non-

⁹ This is not to be construed as a definition of social convention but merely as one aspect thereof. Nonetheless, much of our behavior is predicated on expectations of certain patterns of behavior on the part of others.

monetary uses? If the former is the case then, contrary to the theory, a monetary role for the commodity is denied. If the latter is the case, it is impossible to identify a separate demand function for money for the system.¹⁰

Other difficulties with a medium of payment that is at the same time a common commodity are familiar but bear repetition because they too raise doubts about this basis for general acceptability. Problems of divisibility, and standardization for example, attach to almost any commodity that might be employed as a medium of payment.

Divisibility is frequently impossible to achieve without destroying the thing divided and, hence, its desirability as a commodity. And, if divisibility is impossible, it is necessary that the monetary commodity be one of the *lowest* valued commodities in the community if the prices of all other goods are to be expressed and paid in units of the monetary commodity.¹¹

Lack of standardization can lead to the results summarized by Gresham's Law—bad money drives out good. When the medium of payment is a non-standardized commodity, there is a tendency for the better examples to disappear from circulation leaving only the inferior examples as currency in circulation. Gresham's Law operates for straightforward reasons:¹² units of the exchange commodity must be perfect substitutes in exchange in order to be currency. If they are not perfect substitutes, the exchange value of each unit must be ascertained at each transaction with the result that the commodity is no longer a medium of payment but, at best, a preferred trading good. If each unit is treated as a perfect substitute for every other, recipients of the commodity

¹⁰ Such an economy would appear to an external observer to be a barter economy; all he could perceive would be commodity trades. Nothing would suggest to him that it was a money economy.

¹¹ Ideally, it should be the lowest valued commodity if we wish to avoid situations in which we must take more than one unit of a good, or none; two bubble gum for one cent may not be an optimal solution to a constrained utility maximization problem.

¹² For a discussion of the workings of Gresham's Law, see Jevons, *op. cit.*, pp. 79-84. Although typically employed to explain international specie movements, Gresham's Law is equally applicable to a closed economy. It is worth noting, furthermore, that economists are most familiar with the law in a truncated form; as Jevons points out (p. 80), the full formulation is "...that bad money drives out good money but that good money cannot drive out bad money."

will put the units yielding greater satisfaction (the “better” examples) to non-monetary uses and the poorer units will be used for payments. The result will be a depletion of the stock of media of payment, or at least a tendency thereto.¹³ There is, moreover, a paradox here: the more attractive or widespread the non-monetary uses of the commodity, the greater the tendency for the currency to vanish from circulation; the less attractive or widespread the non-monetary uses, the less there will be a tendency for Gresham’s Law to operate.

Each of these difficulties—the incidence of preferences, the nature of the demand for the commodity, standardization, and divisibility—calls into question the workability of a medium of payment which owes its acceptability to its desirability as a commodity; taken together, they constitute a strong case that such a system is very nearly an impossibility. Nonetheless, there is much evidence that common, useful commodities have formed part of many monetary systems in primitive, ancient, medieval, and even modern societies. In the light of the foregoing, a re-examination of such evidence is warranted.

A number of commodities are thought to have been media of payment; indeed, a list compiled by Einzig cites nearly one hundred and fifty such objects or materials.¹⁴ An examination of each or most of these would be pointless; therefore I shall confine the discussion to two of the most familiar and popular examples of commodity currencies: cattle and cigarettes.

Nearly all text books assert that cattle were once used as media of payment; frequently the assertion is accompanied by reference to the Latin *pecus*, meaning cattle, and the root of the modern word pecuniary.¹⁵ A glance at Einzig’s table of contents shows twelve examples of cattle money. A careful reading of his accounts of such monetary systems suggests, however, that the claim that cattle once served as media of payment is difficult to accept.

¹³ If diminutions of the money stock are offset by the monetary authority, rather than a decline in the stock of money there will be an overall decline in its quality.

¹⁴ Paul Einzig, *Primitive Money*, London, Eyre and Spottiswoode, 1948, pp. 507-9.

¹⁵ See, for example: Paul Samuelson, Anthony Scott, *Economics*, 3rd. Canadian Edition, Toronto, McGraw-Hill, 1971, p. 68.

Commodity Theories

What Einzig's work reveals is that cattle were used as a monetary unit and not as a medium of payment. Indeed, it appears that concurrent with the use of a "cattle standard" went the use of coins.¹⁶ While cattle were sometimes given in payment of taks or fines, regulations governing such things usually specified payment in coin, cattle, or other agricultural commodities. In other words, many statutory payments could be made in money or in kind.¹⁷

Einzig's accounts furnish ample support for the monetary unit, as opposed to currency, function for cattle. Consider, for example, his description of the situation in ancient Persia: "A doctor's fees were fixed in terms of animals or parts of animals..."¹⁸ While he takes this to mean that animals were used as a medium of payment, it is more likely, given the reference to "parts of animals," that animals were used as a monetary unit. Or, consider his notes on Ireland in the Middle Ages. He writes: "Bondmaids (*kumals*) also continued to be used as a medium of exchange and standard of value... The ratio between slave girls and cows was fixed at three cows per head. In the ancient law of service or tenancy... mention is made of half a *kumal* and a quarter of a *kumal*."¹⁹ Again we have reference to *parts* of cows (and parts of bondmaids), implying the use of both as monetary units and not as currencies.

Economists have deduced that cattle once were media of payment by reference to early agrarian societies in which cattle were the principal form of wealth; from this observation, it is wrongly deduced that cattle were a medium of payment. The faulty syllogism used to reach this conclusion goes as follows: wealth is held as cattle; cattle are a store of value; money is a store of value as well as a medium of payment; therefore, cattle are a medium of payment.

Finally, we should note that etymological evidence favors

¹⁶ Einzig, *op. cit.*, writes, with respect to medieval Ireland: "In documents it is often expressly stated that payment fixed in *kuġildi* (cattle) was actually to be made in metallic money or in other form." (p. 270).

¹⁷ For a discussion of the payment of blood money and tribute in various societies, see: *Ibid.*, pp. 386-91. For references to societies in which payments were made both in money and in kind, see: *Ibid.*, p. 227.

¹⁸ *Ibid.*

¹⁹ *Ibid.*, p. 263.

the monetary unit over the medium of payment function for cattle. Although the Latin for cattle, *pecus*, is the root of the English word “pecuniary,” this connection to media of payment is weaker than that furnished by another Latin word, *moneta*, meaning mint.²⁰

If it is accepted that cattle were used as a monetary unit we need to ask: what was the nature of the beast? The answer is that the “cow” must, at a minimum, be an average, representative cow, a *standard* cow, if it is to be a unit. If it is not, there can be no agreement on what is meant by such statements as: “I owe you ten cows,” or, “this hat is worth three cows.” In other words, for the “cow” to be a workable monetary unit, it must not be identified with any particular cow,²¹ a result which should be borne in mind when we examine another commodity currency, cigarettes.

One of the best known examples of a commodity money is the cigarette currency of POW camps in Germany during World War II. R.A. Radford’s account of the operation of this monetary system, price movements, and the general economic organization of a camp in which he was imprisoned makes fascinating reading for students of monetary theory and history. By his account, “Although cigarettes as currency exhibited certain peculiarities, they performed all the functions of a metallic currency as a unit of account, as a measure of value and as a store of value...”²²

²⁰ There are at least two explanations of the connection between the Latin *moneta* and the English word mint. One is furnished by E.V. Morgan: about 268 B.C., “...legend has it that the Roman authorities, in financial difficulties, sought the advice of the goddess Juno. They were assured that, if they waged war rightly, money would not fail and, in pious gratitude, they gave the goddess the title of ‘moneta,’ and installed a mint in her temple on the Capitol.” (*A History of Money*, Middlesex, Penguin, 1965, p. 16). Another, and more likely, explanation is that a mint was established in Juno’s temple following the successful defense of the Citadel against the Gauls whose attack caused the sacred geese of Juno to cackle, thereby warning the defenders. Prior to this, it is probable that, following Roman custom, a portion of the treasury was kept in the temple of Juno. See: *Livy*, Book V, XLVII, 2 - 7. Upon establishment of a mint in her temple, Juno was called Juno Moneta; *moneta* is a derivative of *monere*, meaning *to warn*.

²¹ For a further discussion of the nature of monetary units, see: Karl Olivecrona, *The Problem of the Monetary Unit*, New York, Macmillan, 1957, especially pp. 165-69 in which Turgot’s sheep unit is examined.

²² R.A. Radford, “The Economic Organization of a Prisoner of War Camp,” *Economica*, 1945, reprinted in: T.E. Reid, *Contemporary Canada: Readings in Economics*, Toronto, Holt, Rinehart & Winston, 1969, p. 118.

Commodity Theories

In previous pages, we have suggested that a “true” commodity currency is prone to difficulties which render it very nearly unworkable, and further, that useful commodities, should they have a monetary function, most likely will serve as monetary units and not as media of payment. Radford’s report tends to confirm these hypotheses but, at the same time, it shows that a rudimentary economic system may operate on commodity theory principles, albeit poorly and for a short period of time.

According to Radford, prices of exchangeable commodities in his POW camp were quoted in cigarettes, and cigarettes were the currency for most transactions. However, the cigarettes were an imperfect currency due to their high non-monetary demand and the ease with which they were debased. Whenever they were in short supply, due to late or small deliveries of Red Cross parcels, they tended to disappear from circulation, being replaced by such poor substitutes that “...prices could no longer be quoted in them with safety...”²³ Towards the end of the war, cigarettes became exceedingly scarce and ceased to function either as medium of payment or monetary unit.

For our purposes, the most important lesson to be learned from Radford’s experiences is that a strong non-monetary demand for the monetary commodity is a constant threat to its monetary status rather than a secure foundation of its general acceptability in payment.

INTRINSIC VALUE THEORY

According to the intrinsic value²⁴ explanation, certain objects or materials, more often the latter, are intrinsically valuable and consequently will be taken in exchange for goods and services valued for their utility in consumption or production. Intrinsic value, therefore, sustains the acceptability of coins of precious metals, cowries, and certain tool currencies. The only barriers

²³ *Ibid.*

²⁴ Intrinsic, correctly defined, means according to the dictionary, “... belonging to the real nature of a thing; not dependent on external circumstances; essential; inherent.” (*Webster’s New World Dictionary*). Intrinsic value, therefore, means value inherent in a thing and in no way dependent on something external to the thing itself; i.e., gold is valuable *because it is gold*.

to acceptability, given the intrinsic value of the material or object, are certain technical problems of ascertaining whether the medium of payment is genuine or not, i.e., counterfeit.²⁵

Of course, nothing has value intrinsically; value is placed upon things by man. To ascribe general acceptability to value intrinsic to something is, therefore, nonsense, and were there nothing more than this to intrinsic value theories, they would merit no further attention. Such is not the case, however. Once we dismiss the notion of, say, cowries being intrinsically valuable, we must explain why societies widely separated in time and place have employed them as a medium of payment.²⁶ Or, more interesting, why for nearly thirty centuries western civilizations have treated value and gold as virtually synonymous—the golden mean, good as gold.

Neither gold, silver, nor cowries are, or could be, intrinsically valuable yet societies have treated them as if they were, placing them at the center of monetary systems. Standard explanations of the special place accorded gold and silver, the pre-eminent monetary materials, in monetary systems—their durability, malleability, portability, cognizability, and high value²⁷—are unconvincing *ex poste* rationalizations at best, for other metals and materials could have met these requirements as well as gold and silver. Copper and tin, for example, are durable, malleable, easily recognized, and were in fact used for coinage.²⁸ Among non-metallic materials, leather is durable, cognizable,

²⁵ Although counterfeits usually are identified by their technical imperfections, the crime of counterfeiting consists in usurping the coinage prerogative of the state. The act of counterfeiting has, at various times, been described as sacrilege, treason, and, more recently, fraud. Possibly the most interesting counterfeiting episode is the Portuguese Banknote Case in which the illegal notes were in all technical aspects genuine, having been printed by the firm which supplied the Bank of Portugal on the misapprehension that the order for the illegal notes was placed by Portuguese officials. For a discussion of this case and laws pertaining to counterfeiting, see: Arthur Nussbaum, *Money in the Law*, Chicago, The Foundation Press, 1939, pp. 29-35, 93-99.

²⁶ For a brief history of the use of cowries, see: Karl Polanyi, "Archaic Economic Institutions: Cowrie Money," in George Dalton, ed., *Primitive, Archaic and Modern Economics, Essays of Karl Polanyi*, Garden City, Anchor Books, 1968, pp. 280-305.

²⁷ Jevons provides a classic statement of the desirable qualities of monetary materials in *Money and the Mechanism of Exchange*, *op. cit.*, pp. 29-39.

²⁸ *Ibid.*, pp. 43-4.

Commodity Theories

will take and hold an imprint, and was used for currency.²⁹

A further requirement for monetary status, said to be fulfilled by gold and silver, is high value per physical unit. Thus, an ounce of gold is far more valuable than an ounce of copper or leather; this high value renders gold an excellent monetary material and assures that another requirement for monetary status, portability, is satisfied. What needs to be explained, however, is the cause of this high value. In the next section of this essay, one explanation, scarcity, is examined and found lacking. In the following paragraphs, we look at some of the practices which have accompanied the use of precious metals for currency, and the position of the state in such practices.

The power to define and furnish the currency has nearly always been the prerogative of the state and, whether religiously or secularly constituted, evidence of its sovereignty.³⁰ Indeed, many puzzles of monetary history can be reduced to conflicts over sovereignty. For example, the abstention by the Christian princes of western Europe from striking gold coins during the eight centuries after the fall of Rome and their resumption of coining gold after the fall of Constantinople reflects the division of sovereignty between sacred and secular authorities during that period.³¹

Wherever there has been a metallic currency, the state has fixed its value (but not its purchasing power) by defining a given quantity of a metal to be worth so many monetary units, the quantity of metal being defined in units of weight such as the grain. As a consequence of early associations between weights and money, many modern monetary units bear the names of early units of weight even though the weight units—the mark, for example—are no longer used. A curious exception to this is the pound which today is both a monetary unit and a unit of weight whose early relationship is difficult to pin down.

²⁹ Einzig, *op. cit.*, pp. 268-9 cites several instances in the 12th and 13th centuries when European princes issued leather monies which he considers forerunners of modern paper currencies.

³⁰ "The right to coin money has always been and still remains the surest mark and announcement of sovereignty." Alexander Del Mar, *History of Monetary Systems*, New York, Augustus Kelly, 1969 (1895), p. 107.

³¹ *Ibid.*, pp. 113-19.

Until recently, no currency unit called the pound existed despite the long history of the pound of account and of coins, defined in grains, standing in a definite relation to the pound of account.³² Such coins could be summed by weight to yield weight equivalents of the pound of account but, owing to the bewildering variety of pounds of account and pound weights that frequently co-existed,³³ the meaning of such a calculation was limited. Summing coins by tale would yield even more problematical results given the frequent changes in the metallic content of coins by the state.

In light of the uncertain relationships between weight units and monetary units that plagued most metallic currencies it is remarkable that they possessed any power to circulate at all, for their widespread circulation on the basis of weight would require similarly widespread and skilled use of balances, an unlikely phenomenon,³⁴ plus the determination not only of weight but of fineness, which, before the advent of chemistry, required the use of calibrated touchstones (basanite).³⁵ Nevertheless, despite the considerable difficulties of assaying coin, it was done, at least by some people,³⁶ otherwise we would be

³² The £, s, d system, while associated with post-Norman British monetary history, is in fact much older, dating possibly from the first century A.D. See: Del Mar, *op. cit.*, pp. 133-50.

³³ With reference to the Medieval use of the Roman pound, or *Libra*, Elgin Groseclove writes: "The Roman pound, or *libra*, survived as a conception of weight,...and when it was revived the *libra* became different things in different localities." (New York, Frederick Ungar, 1961, p. 56). Groseclove cites two French versions of the pound, the *livre* of Paris and the *livre* of Tours and variations in them plus two English pounds, the pound avoirdupois and the pound tower (pp. 57-9). Einandi, *op. cit.*, provides details of the use of these terms as monetary units at the same time as they were employed as units of weight.

³⁴ Jevons, *op. cit.*, p. 77, writes: "By far the greater number of the people possess no means of learning the metallic, or even the legal, value of an unfamiliar coin. Few people have scales and weights suitable for weighing a coin, and no one but an assayer or analytical chemist can decide upon its fineness."

³⁵ The touchstone, used by money lenders and changers, was a stone on which streaks were made with coins of "known" fineness, the streaks differing in color. The color of streaks left by coins being assayed were then compared to the standard streaks.

³⁶ Jevons, *op. cit.*, notes: "It is those who are going to melt, export, hoard, or dissolve the coins of the realm... who carefully select for their purposes the new heavy coins... the standard coins, as issued from the mint, should be as

unable to explain the systematic, large-scale international movements of precious metals experienced by countries with gold and silver currencies. For some—bankers and goldsmiths, for example—international trade in precious metals was a common and profitable activity founded on international differences in gold and silver prices, both mint and market. To act upon such price differences required the ability to assay coin, plate, and bullion. To profit from the trade in precious metals required, of course, that gold and silver be converted at some point to a local currency and put into circulation beyond the “economy” of dealers in precious metals—which brings us nearly full circle, for it is necessary to determine on what basis shopkeepers, laborers, etc., would accept such coin.

Not because it was of proper weight and purity, for it is unlikely that they could determine those things. We must conclude that, either from ignorance or indifference, they passed coins by tale without regard to their precious metal content. But which was it—indifference or ignorance? If ignorance, then we have the suggestion of fraud by states against many of their citizens and by some members of communities against others; if indifference, then metallic currencies were effectively token and the question of their composition unimportant.³⁷

On one hand, we know that coin often circulated although underweight as a consequence of sweating, clipping, normal wear, and debasements. Jevons estimated that, in 1869, 31½ per cent of the sovereigns and about half the ten-shilling pieces in circulation in England were underweight.³⁸ An assay of coins called into the English Mint in 1695 revealed them to be underweight by almost fifty per cent.³⁹ That metallic currencies would circulate when so grossly underweight could indicate that, except for dealers in precious metals, the true metallic content of coins was a matter of indifference to most people and that currencies were token, passing by tale and circulating for reasons

nearly as possible of the standard weight, otherwise the difference will form a profit for the bullion-broker and exporter.”

³⁷ Except, of course, to those who dealt in precious metals.

³⁸ Jevons, *op. cit.*, p. 110.

³⁹ W.W. Carlile, *The Evolution of Modern Money*, New York, Augustus Kelly, 1969 (1901), p. 121.

unconnected with their particular composition—force of law, perhaps.⁴⁰

On the other hand, such a conclusion is difficult to reconcile with the long-established precious metal consciousness of most peoples. How this veneration of gold and silver arose is not well understood. Most likely it was through some early sacred association with the sun and moon which themselves have figured prominently in myth and religion.⁴¹ What is well-established, however, is the close connection in the past between mints, treasuries, and temples, the place of religious symbolism in coinage, and the use of gold and silver in religious artifacts, all of which served to nourish a belief in the preciousness of gold and silver.⁴²

Thus, if gold and silver acquired a sacred or semi-sacred status early in the history of man, then the explanation of their employment for coinage for nearly thirty centuries does not require appeal to their specific physical properties but merely to the staying power of belief, superstition, and custom and to the tendency for the roots of social practices to be forgotten. In this sense, gold and silver might be said to have intrinsic value if we mean by the term that people esteem and value them but do not know why. And, if so valuing gold and silver, most people accepted grossly underweight coins, it would seem reasonable that they did so from ignorance of their condition, a conclusion supported by the occasional public outcry against debasement on the one hand, and the finding, by Elizabeth I's advisers, that the public could not distinguish the new testons of the recoinage from the old.⁴³

To conclude this section, then, we may say that intrinsic value *per se* is no explanation of the general acceptability of the medium of payment, but a *belief* in intrinsic value might be.

⁴⁰ See: the section "Money and the State" in Nussbaum, *op. cit.*, pp. 23-36 for a discussion of the place of state authority and law in sustaining the circulation of currencies. Not surprisingly, there is an intimate connection between the obligation in law to accept money issued by the state and laws respecting counterfeiting.

⁴¹ Einzig, *op. cit.*, pp. 251-2, notes the discovery in India of crude coins dating from ancient times which bear sun, moon and star symbols.

⁴² Del Mar, *op. cit.*, pp. 107-32, devotes a chapter to "The Sacred Character of Gold."

⁴³ J.D. Gould, *The Great Debasement*, Oxford, Clarendon Press, 1970, p. 16.

Commodity Theories

THE SCARCITY THEORY

According to this commodity theory of acceptability, certain things are scarce and, consequently, have a high unit value. This high value renders them acceptable in payment, provided that technical questions of portability and authenticity are solved. Thus, acceptability is the result of high value which results from scarcity; scarcity, in turn, is attributed to the niggardliness of Nature, limitations of technology, or state policy.

The inadequacy of the scarcity theory becomes evident when we try to analyze the meaning of high value, a key point in the theory. To do this, we must know the relation between the unit of account and the medium of payment since value, high or low, must be expressed in some unit. If the medium of payment and the unit of account are considered identical, the idea of high or low value is without meaning because the value of the medium of payment in terms of the unit of account must always be *one*. If, on the other hand, the two are separate so that the unit of account is abstract, then the medium of payment is a commodity whose price per physical unit, expressed in terms of the unit of account, is deemed to be high. But how high is high, and how does scarcity enter the picture?

Of course, there is no answer to the first question. If the medium of payment is valued at (x) units of account at one time and (y) units at another, and circulates at both prices, then both values, x and y, must be "high" values. If so, then the condition "high value" really has no meaning.

Moreover, the place of scarcity in this analysis is difficult to pin down. If the medium of payment is synonymous with the unit of account, there is no way by which the value of the former, always one, can be affected by changes in the stock of the monetary commodity. If the two are separate, there is still no direct role for scarcity but there may be an indirect role, depending on how the price of the medium of payment is established. If it is by edict, as is nearly always the case, then there is no direct relation between the price of the medium of payment and supplies of the monetary commodity. If the price is not established by edict, then we need to know why the price of the monetary commodity should receive special attention, that is, why the medium of payment is one thing and not

another. And that, of course, is where we began. Thus, as a theory of general acceptability, the scarce commodity explanation is either empty or circular. Why, then, is general acceptability so often said to require that the value of the medium of payment be high?

It is because value in this context really means purchasing power and because the scarce commodity theory is actually a theory of the price level and not a theory of general acceptability; it is the Quantity Theory of Money in which the purchasing power of the medium of payment is an inverse function of its quantity. Whether the Quantity Theory is an adequate explanation of the price level is a matter of dispute; in any case, it is not a theory of the general acceptability of the medium of payment.

CONVERTIBILITY THEORY

The convertibility theory, by which something is acceptable in payment because it is convertible to some “higher” form of money, is question-begging and, as such, no theory of the general acceptability of the medium of payment; were we to accept the convertibility argument, we would then have to explain the acceptability of the “higher” medium into which the “lower” is convertible.

At the same time, however, the theory is not empty, for it draws attention to the need to differentiate media of payment from media of exchange. As noted earlier, there exist instruments which can be used to effect a transfer of goods but which are not sufficient to discharge the reciprocal claim to which the transfer gives rise. That is, they are not acceptable as instruments of payment. Thus, the use of a gasoline credit card is sufficient to effect a transfer of gasoline but not to make payment for it; payment must in this case be made by use of some other instrument.

In the context of theories of general acceptability, many debates over “true” and “substitute” monies—propositions that paper currency is only a receipt for metallic currencies come to mind—can be construed as disagreements over whether certain

Commodity Theories

media of exchange—paper money, for instance—were also media of payment.⁴⁴

The foregoing, however, is a digression; the fact remains that, as an explanation of general acceptability of media of payment, convertibility arguments merely shift the attention of our enquiry from one monetary object to another.

SUMMARY AND IMPLICATIONS

Of the four commodity theories, only the use-value and intrinsic value theories merit further discussion; the scarcity theory is not concerned with general acceptability, and the convertibility theory, although useful in other ways, begs the question of acceptability.

Both the use-value theory and intrinsic value theory (unmodified) fail to explain general acceptability but have merit nonetheless. The intrinsic value theory leads us to an analysis of the role of belief and authority in general acceptability;⁴⁵ the use-value theory prompts an examination of the theory of a money economy, a problem badly in need of clarification.

MONEY AND BARTER ECONOMIES

In our examination of the use-value theory, it was noted that the use of a common commodity as medium of payment implies the absence of a separate demand function for money. To review the argument briefly: according to the use-value theory, it is the fact that the monetary commodity is demanded for its non-monetary applications that sustains its general acceptability as a medium of payment. Lacking non-monetary applications, the monetary commodity would not function as a currency at all;

⁴⁴ Perhaps the most notable of these debates surrounded the Bullion Report of 1810. For a lively, if biased, discussion of the question of “real” versus “substitute” money, see the chapter “Thornton, Ricardo, and the Bullion Report” in Rist, *op. cit.*, pp. 131-79.

⁴⁵ On the role of authority, the classic work is: Georg Friedrich Knapp, *The State Theory of Money*, London, Macmillan, 1924 (original German edition 1905).

that is, it would be demanded neither for non-monetary nor monetary purposes.

Using, as an example, Adam Smith's nails, it is the demand for nails for building, etc., which permits nails to function as medium of payment; whatever nails are demanded for monetary uses must, *at the same time*, be demanded for non-monetary uses as well. If this is the case, we cannot separate the demand for nails for non-monetary uses from the demand for nails for monetary uses. In other words, our system does not contain a separate demand function for money; rather, we have only a set of equations representing the various commodity markets of the economy.

Thus, an economy in which the currency derives its acceptability, its power to circulate, from its non-monetary applications is in fact a barter economy, an economy in which goods are traded for goods in every transaction whether exchange be direct or indirect, and each and every good is desired for its utility in consumption or production. Furthermore, goods trade for goods whether or not one of them is, following Walras, designated as numeraire. By a different route, therefore, we reach the same conclusion as Patinkin, Clower and Hicks, namely, that the equations of general equilibrium in markets describe a barter economy, a situation not altered by calling one of the commodities in the system "money".⁴⁶

This, then, is the *coup de grace* to the use-value theory of acceptability: it purports to explain the acceptability of a medium of payment in an economy that does not possess one.

The intrinsic value theory is not prone to this difficulty. According to the theory, the acceptability of the medium of payment results from the monetary commodity or material being intrinsically valuable, which is to say that people value and accept it but do not know why. As a result, a demand for the commodity

⁴⁶ Don Patinkin, in *Money, Interest and Prices*, 2nd. ed., New York, Harper and Row, 1965, writes: "...the existence of a barter economy implies the existence of Say's Identity. For in such an economy it is physically impossible to 'sell' one commodity or bond without 'buying' another...". (p. 194). Sir John Hicks, *Critical Essays in Monetary Theory*, Oxford, Clarendon Press, 1967, writes: "The numeraire is not money; it is not even a partial money; it is not even assumed that it is used by the traders themselves as a unit of account." (p. 3). See also: Robert Clower, "A Reconsideration of the Microfoundations of Monetary Theory," *Western Economic Journal*, December, 1967, pp. 1-8.

is in fact a demand for its services as medium of payment, either immediately or later. In this case, the system of equations describing an economy contains a separate and identifiable equation which describes the demand for money.

Whether such a system is properly described as a money economy remains to be established, however. An external observer who was unaware that the monetary commodity was not valued for its utility in consumption or production might come to the same conclusion as we did with respect to Adam Smith's nail currency. All he would see is commodity trades amongst individuals. True, by comparison to some "pure" barter economy, one commodity would appear in all trades but our observer might well conclude that, for example, gold coins employed in payment were simply a preferred commodity utilized in some fashion unknown to him (curing headaches, for example, by placing them on the head). On the basis of observed exchanges, the economy would appear as a barter economy in which one commodity occupied a special place. Only with the additional information that the special commodity had no utility in consumption or production⁴⁷ could we describe the demand for that commodity as the demand for the medium of payment. It is not enough, therefore, to identify the medium of payment, as Clower does, by the observable fact that one commodity enters all trades in an economy.⁴⁸ In the absence of information that the commodity in question is *not* desired for its utility in consumption or production, such an economy might be a highly evolved barter economy.

This, then, is the most important finding of our examination of commodity theories of the acceptability of the medium of payment: an economy in which the medium of payment appears to be a commodity with non-monetary uses is not a fully-developed money economy at all but, rather, an economy in transition

⁴⁷ This is not to imply that gold or silver had absolutely no utility in consumption or production; to do so would be to fly in the face of the facts. Nonetheless, the non-monetary uses of the precious metals have not, until recently, been of much importance as a determinant of their demand. Indeed, many of the decorative uses of gold and silver, particularly by the Church, may have been a device for safekeeping; by reconstituting bullion as icons, its theft became something more than just theft, it became blasphemy. See: Del Mar, *op. cit.*, pp. 107-32.

⁴⁸ Clower, *op. cit.*

from pure barter to pure monetary. In a pure barter economy, goods yielding utility exchange for other goods yielding utility; in a pure monetary economy, such goods exchange for something incapable of yielding utility directly—the medium of payment.

In view of the fact that modern currencies are token, of what consequence is our finding that economies in which the currency seems to be a commodity with non-monetary uses are barter economies?

First, it may be necessary for historians attempting to distinguish “natural” from money economies to revise their primary criterion, whether or not a given community employs an identifiable medium of payment, since its application may cause them to confuse preferred trading commodities with currencies. Marc Bloch avoids this error when he argues that the use of pepper for payments in 12th century Genoa should not lead one to call pepper money but his grounds are not that useful commodities cannot be money but, rather, that pepper “..lacked the imprint of the public authorities.”⁴⁹ Presumably, had the state certified packets of pepper, Bloch would have called them money, an absurd designation in view of the fact that Genoa had a well-developed system of metallic currency.

Second, it may be necessary, as some economists have begun to suspect,⁵⁰ to abandon theoretical structures which are barter models to which a money commodity is added or in which one commodity is renamed to be money if they yield results inapplicable to “true” money economies. Clower and Leijonhufvud,⁵¹ for example, have claimed that the automatic tendency to full employment in pre-Keynesian models of markets arises because they are really models of “monetized” barter economies. Clower, particularly, argues that conventional theorems on transactors’ behavior derived from barter models can apply only coincidentally to true money economies, that quite different operating

⁴⁹ Marc Bloch, “Natural Economy or Money Economy? A False Dilemma,” in: Sylvia L. Thrupp, ed., *Early Medieval Society*, New York, Appleton-Century-Crofts, 1967, p. 199.

⁵⁰ Clower, *op. cit.*

⁵¹ R. Clower, “The Keynesian Counter-Revolution: A Theoretical Appraisal,” in F. Brechling, F. Hahn, eds., *The Theory of Interest Rates*, London, Macmillan, 1965, and Axel Leijonhufvud, *On Keynesian Economics and the Economics of Keynes*, London, Oxford, 1968.

constraints and outcomes characterize the exchange process in the two kinds of economy.

Beyond this lies the possibility that, in considering barter and money economies, we must deal with differences more of kind than of degree. The custom and ritual of primitive societies, for example, are charming at best and incomprehensible at worst if seen merely as appendages to crude pre-market, pre-monetization economies. Seen as complex arrangements for managing production and distribution, they make sense. Indeed, they furnish us with important clues to the evolution of money and markets and the societies of which they are a part.

Most non-market societies have in common, along with alternative ways of organizing production and distribution, social arrangements which tend to collectivize risk.⁵² By contrast, in market-centered societies, risk tends to be borne by individuals. This would suggest that, as markets emerge, social arrangements which collectivize risk give way to those which emphasize individual risk-bearing. Under the former, kinship relations particularly and political and religious status more generally serve to define patterns of commodity production, division of labor, and income distribution. Under the latter, economic relations tend to become anonymous and the terms, or prices, on which commodities and productive resources can be exchanged are not governed by custom or fiat but, rather, become a source of uncertainty and risk for the individual. Under such conditions, the development of an efficient and *impersonal* instrument for storing and transmitting command over resources becomes essential. That instrument is the medium of payment.

Adam Smith, and many others, speculated that money came into being because barter exchange was inefficient. On the basis of the foregoing, it seems more likely that money in its modern form emerged because barter exchange, and the social arrangements in which it was embedded, disappeared.

⁵² But not necessarily equalize risk. It is simply that the fortunes of individuals within a community fluctuate, while maintaining relative status, as the whole community's fortunes rise and fall.